Personality disorders in adolescents: prevalence, burden, assessment, and treatment

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Personality disorders in adolescents:
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prevalentie, ziektelast, diagnostiek en behandeling

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Chapter 1

General introduction

In adults, personality disorders are among the most common mental disorders in the general population (Torgersen, Kringlen, & Cramer, 2001) and patient samples (Zimmerman, Rothschild, & Chelminski, 2005). Prevalence rates vary from 13.4% in the general population, to 56.5% in treated addicted patients, and 60.4% in psychiatric outpatients (Verheul & van den Brink, 1999). Furthermore, among adults seeking specialized treatment, personality disorders are associated with low quality of life (Soeteman, Verheul, & Busschbach, 2008) and high societal costs (Soeteman, Hakkaart-van Roijen, Verheul, & Busschbach, 2008). Since the inclusion of personality disorders in the DSM-III in 1980, much research has been conducted investigating the effectiveness of treatments for these patients. Based on this literature, psychotherapy is generally considered the treatment of choice for adult patients with personality disorders (Landelijke Stuurgroep Richtlijnontwikkeling in de GGZ, 2008). Much less is known about personality disorders in adolescents. To the best of our knowledge, the study of Grilo and colleagues (1998) is the only published prevalence study among adolescent patients. Most research on personality disorders in adolescents is derived from the Children in the Community study (CIC; see for example Chen, Cohen, Kasen, & Johnson, 2006; Johnson et al., 2000; Johnson, Chen, & Cohen, 2004; Kasen et al., 2007), which was carried out in the general population. Valuable information to yield arguments in favor of reimbursing treatments for this particular patient group, like the burden of disease or costs, is virtually non-existing. Furthermore, there are almost no outcome studies available in this particular group of patients. This thesis aims to address these above mentioned issues, thereby filling in the existing gap.

Personality disorders

Personality disorders are defined as “an enduring pattern of inner experience and behavior that deviates markedly from the expectations of the individual’s culture, is pervasive and inflexible, has an onset in adolescence or early adulthood, is stable over time, and leads to distress or impairment” (DSM-IV-TR; American Psychiatric Association, 2000). The current general diagnostic criteria for personality disorders are presented in Table 1.1. Personality disorders can be classified in three clusters. The odd or eccentric cluster A includes schizoid, schizotypal, and paranoid personality disorder. The dramatic, emotional, or erratic cluster B includes narcissistic, histrionic, borderline, and antisocial personality disorder.

Finally, the anxious or fearful cluster C includes avoidant, dependent, and obsessive-compulsive personality disorder.

Table 1.1 General diagnostic criteria for a DSM-IV Axis II Personality Disorder (APA, 2000)

A. An enduring pattern of inner experience and behavior that deviates markedly from the expectations of the individual's culture. This pattern is manifested in two (or more) of the following areas:
   1. cognition (i.e., ways of perceiving and interpreting self, other people, and events)
   2. affectivity (i.e., the range, intensity, lability, and appropriateness of emotional response)
   3. interpersonal functioning
   4. impulse control
B. The enduring pattern is inflexible and pervasive across a broad range of personal and social situations.
C. The enduring pattern leads to clinically significant distress or impairment in social, occupational, or other important areas of functioning.
D. The pattern is stable and of long duration and its onset can be traced back at least to adolescence or early adulthood.
E. The enduring pattern is not better accounted for as a manifestation or consequence of another mental disorder.
F. The enduring pattern is not due to the direct physiological effects of a substance (e.g., a drug of abuse, a medication) or a general medical condition (e.g., head trauma).

Personality disorders in adolescents

Clinicians have long been hesitant to diagnose personality disorders in adolescents (Allertz & van Voorst, 2007; Chanen & McCutcheon, 2008). However, according to DSM-IV-TR (American Psychiatric Association, 2000) personality disorders can be classified in children and adolescents when "the individual's particular maladaptive personality traits appear to be pervasive, persistent, and unlikely to be limited to a particular developmental stage or an episode of an Axis I disorder" (see p. 687). Recent studies have provided convincing evidence that personality disorders are common in adolescents (e.g., Grilo et al., 1998; Johnson et al., 2000; Westen, Shedler, Durett, Glass, & Martens, 2003). Furthermore, research shows that adolescents with personality disorders are at a greater risk for having a broad range of problems than adolescents without personality disorders (e.g., Braun-Scharm, 1996; Johnson et al., 2005; Kasen et al., 2007; Lavan & Johnson, 2002; Serman, Johnson, Geller, Kanost, & Zacharapoulou, 2002;

Westen et al., 2003). Moreover, these adolescents have a greater risk than adolescents without personality disorders at developing problems in adulthood (Chen et al., 2006; Daley et al., 1999; Daley, Rizzo, & Gunderson, 2006; Johnson et al., 1999; Johnson et al., 2004; Johnson et al., 2005; Levy et al., 1999). Nevertheless, adolescents are often ignored in clinical guidelines for assessment or treatment of personality disorders. This omission is partly due to the fact that little is known about the effectiveness of treatments for personality disorders in adolescents, and partly because of an attitude of ignorance or resistance toward diagnosing personality disorders in this group.

TRAP study

This thesis is part of a long-term outcome and process study in Treatment Refractory Adolescents with Personality disorders (TRAP). The TRAP study was implemented to investigate the prevalence, structure and treatability of adolescent personality disorders. This study was conducted at the adolescent department of de Viersprong, National Institute of Personality Disorders, the Netherlands. De Viersprong is a mental health care center specialized in the assessment and treatment of adolescents and adults with severe and complex personality pathology. The adolescent department offers outpatient, day hospital and inpatient treatment programs for adolescents aged 14 to 19 years. Two hundred fifty-seven adolescents were included in this study. They were referred to de Viersprong from May 2006 to March 2008. One hundred thirty-three of these adolescents (51.8%) were admitted to Inpatient Psychotherapy for Adolescents (IPA), and were followed for two years.

Content of this thesis

The aim of this thesis was to investigate the prevalence, structure and treatability of adolescent personality disorders. Research questions included the following: 1) What is the prevalence of personality disorders in an adolescent treatment sample?, 2) What is the burden of personality disorders in these adolescents?, 3) Is the structure of core components of (mal) adaptive personality functioning in adolescents similar to the structure reported in adults?, 4) Can treatment provide relief for these adolescents?, and 5) What are the long-term treatment effects? The topic of personality disorders in adolescents is introduced by a case study

presented in Chapter 2. This chapter illustrates the diagnostic process of adolescent personality pathology as being used in de Viersprong. The other Chapters address the research questions described above. Chapter 3 addresses the issue of prevalence of personality disorders in adolescents, as assessed by semi-structured interviews. In Chapter 4, burden and costs of adolescent personality disorders are presented. Chapter 5 presents the psychometric properties of a self-report questionnaire measuring the core components of personality pathology (SIPP-118). In Chapter 6, the issue of treatment for adolescents with personality disorders is addressed. This chapter presents short-term outcome of IPA, an intensive inpatient program for treatment refractory adolescents with personality pathology. Furthermore, predictors of treatment outcome are investigated and presented. Chapter 7 reports on the long-term outcome of IPA, and explores predictors of long-term outcome. Finally, in Chapter 8 the findings are being summarized and discussed. Also some implications for clinical practice and recommendations for further research are given.

REFERENCES

Allertz, A., & van Voorst, G. (2007). Personality disorders from the perspective of child and adolescent psychiatry. In B. van Luyn, S. Akhtar, & W.J. Livesley (Eds.), *Severe personality disorders: everyday issues in clinical practice* (pp. 79-92). New York: Cambridge University Press.

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th edition, text revision). Washington, DC: American Psychiatric Association.

Braun-Scharm, H. (1996). Suicidality and personality disorders in adolescence. *Crisis: Journal of Crisis Intervention & Suicide, 17,* 64-68.

Chanen, A.W., & McCutcheon, L.K. (2008). Complex Case. Personality disorder in adolescence: the diagnosis that dare not speak its name. *Personality and mental health, 2*, 35-41.

Chen, H., Cohen, P., Kasen, S., & Johnson, J.G. (2006). Adolescent Axis I and personality disorders predict quality of life during young adulthood. *Journal of Adolescent Health, 39,* 14-19.

Daley, S.E., Hammen, C., Burge, D., Davilla, J., Paley, B., Lindberg, N., & Herzberg, D.S. (1999). Depression and Axis II symptomatology in an adolescent community sample: Concurrent and longitudinal associations. *Journal of Personality Disorders, 13,* 47-59.

Daley, S.E., Rizzo, C.J., & Gunderson, B.H. (2006). The longitudinal relation between personality disorder symptoms and depression in adolescence: The mediating role of interpersonal stress. *Journal of Personality Disorders, 20,* 352-368.

Grilo, C.M., McGlashan, T.H., Quinlan, D.M., Walker, M.L., Greenfeld, D., & Edell, W.S. (1998). Frequency of personality disorders in two age cohorts of psychiatric inpatients. *American Journal of Psychiatry, 155,* 140-142.

Johnson, J.G., Cohen, P., Kasen, S., Skodol, A.E., Hamagami, F., & Brook, J.S. (2000). Age-related change in personality disorder trait levels between early adolescence and adulthood: a community-based longitudinal investigation. *Acta Psychiatrica Scandinavica, 102,* 265-275.

Johnson, J.G., Chen, H., & Cohen, P. (2004). Personality disorder traits during adolescence and relationships with family members during the transition to adulthood. *Journal of Consulting and Clinical Psychology, 72,* 923-932.

Johnson, J.G., First, M.B., Cohen, P., Skodol, A.E., Kasen, S., & Brook, J.S. (2005). Adverse outcomes associated with personality disorder not otherwise specified in a community sample. *American Journal of Psychiatry, 162,* 1926-1932.

Johnson, J.G., Cohen, P., Skodol, A.E., Oldham, J.M., Kasen, S., & Brook, J.S. (1999). Personality disorders in adolescence and risk of major mental disorders and suicidality during adulthood. *Archives of General Psychiatry, 56,* 805-811.

Kasen, S., Cohen, P., Skodol, A.E., First, M.B., Johnson, J.G., Brook, J.S., & Oldham, J.M. (2007). Comorbid personality disorder and treatment use in a community sample of youths: A 20-year follow up. *Acta Psychiatrica Scandinavica, 115,* 56-65.

Landelijke Stuurgroep Multidisciplinaire Richtlijnontwikkeling in de GGZ. (2008). *Multidisciplinaire*

richtlijn persoonlijkheidsstoornissen [Multidisciplinary guideline for personality disorders]. Utrecht: Trimbos-instituut.

Lavan, H., & Johnson, J.G. (2002). The association between Axis I and Axis II psychiatric symptoms and high-risk sexual behavior during adolescence. *Journal of Personality Disorders, 16,* 73-94.

Levy, K.N., Becker, D.F., Grilo, C.M., Mattanah, J.J., Garnet, K.E., Quinlan, D.M., Edell, W.S., & McGlashan, T.H. (1999). Concurrent and predictive validity of the personality disorder diagnosis in adolescent inpatients. *American Journal of Psychiatry, 156,* 1522-1528.

Serman, N., Johnson, J.G., Geller, P.A., Kanost, R.E., & Zacharapoulou, H. (2002). Personality disorders associated with substance abuse among American and Greek adolescents. *Adolescence, 37,* 841-854.

Soeteman, D.I., Hakkaart-van Roijen, L., Verheul, R., & Busschbach, J.J.V. (2008). The economic burden of personality disorders in mental health care. *Journal of Clinical Psychiatry, 69*, 259-265.

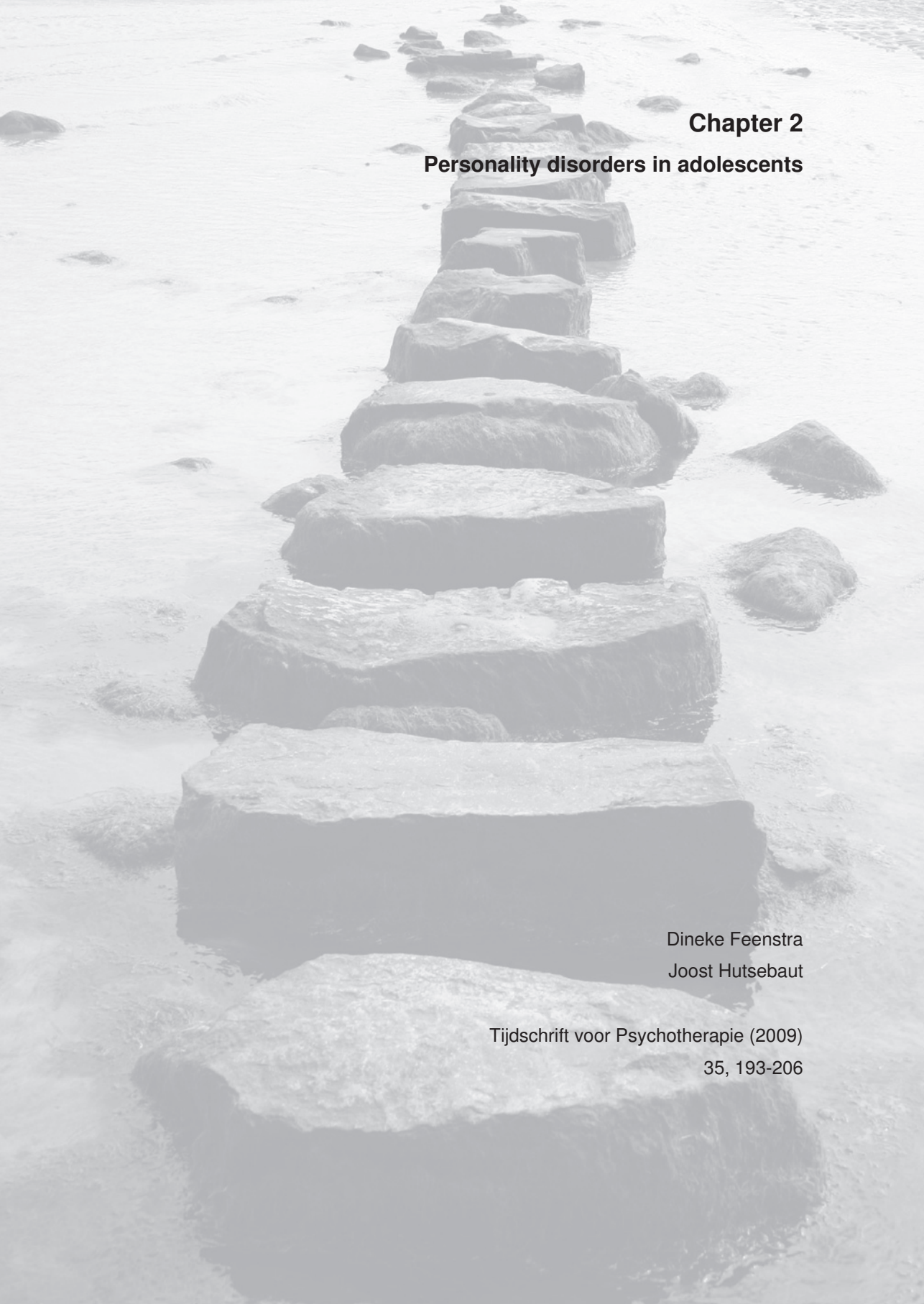
Soeteman, D.I., Verheul, R., & Busschbach, J.J.V. (2008). The burden of disease in personality disorders: diagnosis-specific quality of life. *Journal of Personality Disorders, 22*, 259-268.

Torgersen, S., Kringlen, E., & Cramer, V. (2001). The prevalence of personality disorders in a community sample. *Archives of General Psychiatry, 58,* 590-596.

Verheul, R., & Brink, W. van den (1999). Persoonlijkheidsstoornissen. In A. de Jong, W. van den Brink, J. Ormel, & D. Wiersma (Eds.), *Handboek psychiatrische epidemiologie* [Handbook psychiatric epidemiology] (pp. 347-378). Maarssen: Elsevier/ De Tijdstroom.

Westen, D., Shedler, J., Durett, C., Glass, S., & Martens, A. (2003). Personality diagnoses in adolescence: DSM-IV axis II diagnoses and an empirically derived alternative. *American Journal of Psychiatry, 160,* 952-966.

Zimmerman, M., Rothschild, L., & Chelminski, I. (2005). The prevalence of DSM-IV personality disorders in psychiatric outpatients. *American Journal of Psychiatry, 162,* 1911-1918.



Chapter 2

Personality disorders in adolescents

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ABSTRACT

Personality disorders can be diagnosed in adolescents in a reliable way. Clinicians however, seem to be cautious when diagnosing this disorder in adolescents. This article is intended to stimulate discussion on this topic. By presenting a case study, we hope to illustrate a diagnostic process that can be used when adolescent personality pathology is suspected. This process could lead to a clear and understandable dynamic diagnostic formulation, where the interaction between developmental history, personality disorder, environment, and developmental phase is demonstrated.

INTRODUCTION

DSM-IV-TR (American Psychiatric Association, 2000) states that adolescents as well as children can suffer from personality disorders (p. 687). Furthermore, recent research provides evidence that the diagnosis of a personality disorder is also valid in adolescents. Personality disorders can be reliably classified in adolescents; prevalence rates range from 10 to 15% in this age group (Grilo et al., 1998; Johnson et al., 2000). These adolescents are, more than adolescents without personality disorders, at a higher risk of developing a broad range of other problems. These problems include: suicidal thoughts and attempts (Braun-Scharm, 1996; Westen, Shedler, Durrett, Glass, & Martens, 2003); problems at school (Westen et al., 2003); behavioral problems (Johnson et al., 2005); substance abuse (Serman, Johnson, Geller, Kanost, & Zacharapoulou, 2002); deviant sexual behavior (Lavan & Johnson, 2002), and emergency admissions (Kasen et al., 2007). Furthermore, these adolescents are more likely to develop into vulnerable adults. Compared to adolescents without a disorder or adolescents with only an Axis I disorder, adolescents with a personality disorder have an increased risk of: failing at school (Johnson et al., 2005): mood- (Daley et al., 1999); anxiety- , and substance use disorders (Johnson et al., 1999; Levy et al., 1999). They are also more likely to have: financial and health problems (Chen, Cohen, Kasen, & Johnson, 2006a); more setbacks in life (Chen et al., 2006b); more familial conflicts (Johnson, Chen, & Cohen, 2004), and interpersonal difficulties and stress (Daley, Rizzo, & Gunderson, 2006).

However, most clinicians seem to be cautious when diagnosing personality disorders in adolescents. Of the last twenty admissions to our centre – which is specialized in the assessment and treatment of patients with personality disorders – no adolescent has been diagnosed on admission with an Axis II disorder. For two adolescents, a specific referral to possible personality pathology was made in the referral letter. Most adolescents were referred with mood or anxiety disorders or with life phase problems, such as identity problems. After an extensive intake procedure, including a semi-structured interview, eleven of the twenty adolescents were classified with a personality disorder. In six other adolescents, one or more personality disorder traits were observed. Only three adolescents seem to have had no personality disorder or personality disorder traits. These findings illustrate

that, despite the cited research, most clinicians tend not to diagnose personality disorders in adolescents.

In this article, we would like to stimulate the discussion on personality disorders in adolescents. We will discuss the experience of Amy, a seventeen year old girl, who was referred to our centre. It is not the most unusual or most extreme case - we also see adolescents with hundreds of scars, a past history of (child) prostitution, severe substance abuse etcetera. We believe however that youngsters like Amy are encountered in many mental health settings and might not be receiving appropriate diagnoses. Using the case of Amy, we also would like to illustrate a diagnostic process that can be used when personality pathology is suspected.

CASE AMY

Amy is a seventeen year old girl. She attracts attention through her black clothes, black make up and flamboyant jewellery, e.g. a necklace with spikes. She is severely overweight. Amy says. 'I am depressed since I was three years old'. Lately, her feelings of depression have become worse. Her psychiatrist thinks that she has bipolar disorder. Amy feels lost; she does not know what it is she is suffering from. She has been in and out of therapy from the age of four, starting with play therapy when she was a little girl. When she was ten years old, she returned to a therapist because she was feeling very depressed. But her therapist concluded that she was only trying to attract attention. She also attended a social skills training group. At fourteen, she again went to a therapist: first for individual sessions, later also group sessions. Amy seems demoralized by the fact that all the professional help that she received over the years never seemed to really help her. It seems to her that the therapists always know better, and that she and her mother are wrong. 'They were all biased', she says. 'Nobody seems to be able to believe that we, my mother, my brother and I, are a happy little family, even without a dad. They all think that it has to go wrong.' When she talks about this, she becomes more and more angry.

This is a first impression of Amy. Before we share more information about her, we will first briefly illustrate the process of information gathering that will help in

constructing a diagnostic formulation. This process is based on several recommendations from the literature.

Information gathering and the construction of a dynamic diagnostic formulation

There is no evidence-based protocol for the assessment of personality pathology in adolescents. Based on literature however, we can formulate the following recommendations (see Kernberg, Weinberg, & Bardenstein, 2000; Freeman & Reinecke, 2007; Hutsebaut, 2009):

- *Recommendation 1*: Interview parents and adolescent thoroughly on the developmental history of the adolescent. This interview should be aimed at mapping the developmental history (including temperamental factors and developmental milestones and tasks), (traumatic) life events, early antecedents of the present symptoms, the course of the symptoms, psychiatric disorders in the family, general development of the adolescent (including school achievements, friends and other important life areas for the adolescent) etcetera. This information offers a context for the presented symptoms and can help to place the symptoms presented in a framework of possible personality pathology. A developmental interview gives insight into the antecedents of the existing problems and can provide an idea about the long term persistence of the problems. (Personality disorder traits can be classified in adolescents if the traits are present for at least 1 year, according to DSM-IV-TR (American Psychiatric Association, 2000).)
- *Recommendation 2*: Use multiple informants. The use of multiple informants is the corner-stone of assessment of personality disorders in adolescents (McCloskey, Kane, Champ Morera, Gipe, & McLaughlin, 2007; Tyrer, Casey, & Ferguson, 1991). Youngsters are sometimes less capable of reporting their own behavior, thinking and relationships (Crick, Woods, Murray-Close, & Han, 2007). Collecting data from parents, brothers and sisters, teachers, previous professionals etc is essential in making a reliable and valid diagnosis.
- *Recommendation 3*: Use a semi-structured interview to classify personality disorders. The structure of these interviews ensures that all criteria are systematically and thoroughly questioned. However, they have the

disadvantage that they assume that the adolescent will answer openly and honestly, something that is not always the case in adolescents. In general, it can be observed that the younger the child is, the less reliable the information will be (McCloskey et al., 2007). For this reason connecting the information from the interview to information gained in other ways is essential.

- *Recommendation 4*: Complement these data with information from personality assessment. These data can help work out the classifying diagnosis into a more individualistic and dynamic formulation, in which the personality patterns, defense mechanisms, object relations etcetera, are integrated. The information gathered depends on the theoretical model that is used in the treatment of personality pathology.

The collected information forms the basic ingredient for the construction of a diagnostic formulation. We suggest that a diagnostic formulation comprises two elements: the classifying diagnosis (e.g., a DSM diagnosis), to ensure the same language is spoken as other professionals and to compare research data, and a dynamic formulation, in which for this individual patient, the interaction between developmental history, personality pathology, developmental phase and environmental reactions are described in a working hypothesis. It is important that this formulation is understandable for the adolescent and his or her family and that it maps out treatment goals and pitfalls in a way that the adolescent and the family are motivated to start treatment. This diagnostic formulation may change during treatment. In constructing such a formulation we have distinguished six steps:

1. Personality pathology: We start the diagnostic formulation with a short analysis of personality patterns. We try to make an understandable analysis, for both adolescent and parents, of the core themes in relationships and self-image and the associated mental states that often precede the problem behavior.

2. Developmental history: These personality patterns are connected to the developmental history. Themes in the developmental history are identified that are now presenting themselves in personality patterns. The reason for not starting with

this step is to prevent that a too simple causal connection is made between developmental history and personality patterns.

3. Developmental phase: Subsequently, it is important to work out the interaction with the developmental phase: why is it that the described personality patterns escalate during adolescence? How do the personality disorder traits interact with the developmental tasks of adolescence, through which adolescence becomes a catalyst for maladaptive personality patterns?

4. Interaction with environment: Fourth, we try to describe the interaction between the personality patterns of the adolescent and the environmental reactions. In comparison with adults, adolescents with personality pathology will mostly live in the original environment in which this personality has been shaped. The maladaptive personality patterns often will continue to exist through environmental reactions.

5. Identification of treatment goals and pitfalls: Treatment goals can be identified at different levels. In the treatment of personality disorders the following general treatment goals are usually contended (Oldham et al., 2001): commitment, reducing suicidal and parasuicidal behavior, reducing psychiatric symptomatology and problems, improving relationships and self-image. For adolescents, we like to add developmental tasks. Because of the high number of dropouts in the treatment of people with personality disorders, it seems important to take in 'commitment' as a separate goal.

6. Treatment selection: Regarding the choice of treatment, there are no evidence-based guidelines. For adults with a personality disorder, an intensive treatment is usually considered. An intensive treatment (day-hospital, inpatient) is usually considered when chronic and severe parasuicidal behavior is present which cannot be treated sufficiently in an outpatient setting, or when severe co morbid Axis I disorders are present (e.g. eating disorder, substance dependence), when outpatient treatment did not give sufficient results or when severe personality pathology is present (Landelijke Stuurgroep Richtlijnontwikkeling in de GGZ, 2008). It should be added that in adolescents, the lack of a safe haven (school or

home) can also be an inclusion criterion for inpatient treatment. When an adolescent has no place to calm down and charge his or her batteries, the risk of escalation is high, then an inpatient setting can function as a safe haven.

There are few guidelines for choosing a treatment for an adolescent with a personality disorder (Hutsebaut, Catthoor, Op 't Veld, & Hartman-Faber, 2007). As far as we know, there has not been a study investigating the effectiveness of treatment models in adolescents with personality disorders. In the literature, two models have been described: an adjustment for adolescents of the dialectical behavior therapy (Miller, Rathus, & Linehan, 2007) and a relational approach based on attachment theory (Bleiberg, 2001).

The information gathering process relating to the case

Case Amy: Developmental history

Amy's mother says that the relationship with Amy's father was very problematic. She became pregnant when she was nineteen years old and her partner physically abused her. She did not want the pregnancy. Furthermore, they were not married, so her pregnancy was considered a disgrace by her family. This led to a break with her brothers and sisters. Until she was three years old, Amy and her mother went into hiding, out of fear of her father. Her father however, still made unwanted visits to Amy, which were always accompanied by violence towards her mother. A few years later, her father moved to the other side of the country so contact between father and daughter was less frequent. Her mother and father however, continued to argue about various issues including child support. When Amy was two years old, her mother became involved with another man and had a second child, a boy. But she ended the relationship with the father of Amy's stepbrother shortly before he was born.

The first years at school were pleasant for Amy and she handled the transition to school quite well. In the last years of primary school however, Amy was teased and bullied severely. Her mother searched for another school, and when Amy transferred to the new school, things improved. After primary school Amy went to high school. She had difficulties with reading, but, according to the school, this was a question of Amy 'not wanting' to read. Eventually, Amy was tested and diagnosed with a severe form of dyslexia. After this, Amy felt she was misunderstood and received little support from the school. In addition, there were

frequent conflicts between Amy and her teachers. When she entered her last year of high school she was suspended because of the conflicts with several teachers. Afterwards, it was not easy to find a new school to complete her high school education.

The developmental history of Amy is characterized by experiences of loss, being witness to severe abuse, harassment and other issues such as the transgression of boundaries. Amy's problems have been present from a very young age both at home and at school and present in both internalizing (depressive feelings and anxiety) as well as externalizing (behavior problems, conflicts with authorities) problems.

Case Amy: Use of different informants

Whereas Amy reports mainly internalized problems on the Youth Self-Report (YSR; Achenbach, 1991b; translated by Verhulst, van der Ende, & Koot, 1997), such as depressive feelings, her mother reports on the Child Behavior Checklist (CBCL; Achenbach, 1991a; translated by Verhulst, van der Ende, & Koot, 1996) also externalized problems. She mentions conduct problems and aggressive behavior. Her mother says that Amy has a big mouth and that this leads to conflicts at home. Teachers at school report that Amy has problems with accepting authority. Amy fiercely resists authority, which leads to behavior problems at school. Her problems form a complex entity of internalizing and externalizing problems that manifest themselves in diverse domains of her life.

Case Amy: Administering a semi-structured interview

In the admission phase, the following interviews were administered: both the SCID I (Structured Clinical Interview for DSM-IV Axis I Disorders: First, Spitzer, Gibbon, & Williams, 1997; translated by van Groenestijn, Akkerhuis, Kupka, Schneider, & Nolen, 1998) as the SCID II (Structured Clinical Interview for DSM-IV Axis II Personality Disorders: First, Spitzer, Gibbon, Williams, & Benjamin, 1996; translated by Weertman, Arntz, & Kerkhofs, 2000). Based on the SCID I, Amy was diagnosed with dysthymic disorder and an eating disorder not otherwise specified (binge eating). Based on the SCID II, borderline personality disorder was classified. Five traits of the borderline personality disorder were identified. Amy

presents a pattern of unstable and intense personal relationships (trait 2). During the interview she talks about her difficulties in making friends because she has difficulty in trusting new people. Maintaining relationships is also hard for Amy. Sometimes Amy thinks of a friend as the best friend in the entire world, at other times she thinks very negatively about this friend. Amy talks about cutting herself (in different frequencies) and says that she often thinks about killing herself (trait 5: recurrent suicidal behavior, gestures, or threats, or self-mutilating behavior). Amy also suffers from mood swings. She can feel very happy and than, at once, depressed and angry. She does not recognize the cause of these mood swings (trait 6: affective instability). We also noticed that Amy has difficulties controlling her anger. Sometimes she feels intensely angry, even though there is no reason to be. This anger can result in scolding. Sometimes she also breaks things, throws things (trait 8: inappropriate, intense anger or difficulty controlling anger). Finally, Amy recognizes that when stressed, she becomes very suspicious towards other people. She says that she can 'space out' at those times (trait 9: transient, stress-related paranoid ideation or severe dissociative symptoms).

Case Amy: Personality assessment

Amy reports many problems on the Minnesota Multiphasic Personality Inventory-2 (MMPI-2: Butcher, Dahlstrom, Graham, Tellegen, & Kaemmer, 1989; translated by Derksen, de Mey, Sloore, & Hellenbosch, 1995), including somatic problems. She has difficulties in adjusting in regard to her behavior as when emotional, she has a tendency to lose control. When stress increases, her capacity to control her impulses fails. Aggression is mostly shown in passive ways. The profile shows that Amy is a vulnerable girl; she easily becomes afraid and paranoid, and then becomes overwhelmed by emotion. To control this emotional over-arousal, she tries to be rational, but because of her vulnerability, this attempt at rationality fails causing her to act out.

The projective tests (Thematic Apperception Test, drawings, writing a story) show a few recurring patterns. In Amy's view, other people are mostly unreliable. This leads to a lot of negativity in interpersonal contacts. Amy's thinking tends to be black-and-white. Splitting and denial are frequently used defense mechanisms. Amy has an incongruent self-image: she says 'I am a cat who is sweet and soft, but I can also be a monster'.

Personality assessment tests confirm that Amy's problems are rooted in personality problems, e.g. she is incapable of making and maintaining stable relationships/ friendships, has a negative self-image, and fails to regulate emotions properly. She also has difficulties in managing her behavior. The meanings that Amy gives to her perceptions are often related to disapproval and rejection ('everybody dislikes me, nobody believes me') and in the interaction between Amy and her environment, negative qualities (unmotivated, lazy, and trying to get attention) seem to play an important role.

Elaboration of the case: dynamic formulation

Case Amy: Personality patterns

The core component of Amy's problem is rooted in a feeling of distrust of others. Her distrust is strongly related to the fear of not being believed and accepted. Other people often think that Amy is just trying to get attention or that Amy is exaggerating. Amy feels that she constantly has to fight for the understanding of others. This keeps Amy constantly on her guard, ready to protect and defend herself against hurtful comments from others. She does this by being harsh and keeping her distance from other people. In this way, she prevents herself from becoming too vulnerable in interpersonal situations. The reverse of this is however, that other people only see the callous side of Amy and not the underlying insecurity and anxiety. Contact with other people therefore often ends up in arguments and conflicts, and Amy feels misunderstood and rejected. She then becomes short-tempered and says unpleasant things to others, but afterwards she feels sad and alone. Sometimes she feels guilty about everything that goes wrong, resulting in her feeling that she is some kind of monster. This in turn makes her even more insecure. She does not show this to other people, because she is again afraid of being caught out. Instead of showing her feelings, she regulates her stress by cutting herself, by eating too much and by developing somatic symptoms.

Case Amy: Developmental history

Suspiciousness towards outsiders has presumably evolved very early in Amy's development. For most of her life, Amy grew up with her mother and stepbrother. During the first years of her life, Amy and her mother were threatened by her

father, which let them to hide frequently. The family, especially her mother, probably felt criticized and distrusted by outsiders and so protected herself against feeling that she was a bad mother. Because her mother was probably preoccupied with these emotions, she might not have been able to recognize Amy's vulnerability. Amy's suspiciousness became more intense because of her experiences with bullying, through which she learned how callous and unkind her peers could be.

Case Amy: Developmental phase

During adolescence Amy developed further problems. Because of her insecurity and distrust she had difficulties fitting in. She felt very unsafe at school and had difficulties making friends. Because of this, she also felt she did not have a safe haven outside the house, which meant she continued to depend on her mother in times of stress. This made it difficult for Amy to become more independent and to separate from her mother. She often feels misunderstood by her mother though, who says she just has to go on and stop feeling sorry for herself. This leads to conflicts at home. Amy becomes frightened that her mother will leave her after such a conflict but she also feels stuck. Amy wants to protect her mother against criticism from outsiders so she takes the blame, although she is also mad at her mother.

Because of the difficulties at school, her school career suffers which in turn makes it difficult for Amy to think about which school to go to and to think about the future. Her negative self-image and the fact that she is overweight make intimacy a burdensome topic and make her wary of becoming involved in a relationship with a boy.

Case Amy: Interaction with the environment

Amy's growing up is also difficult for Amy's mother. She wants to prepare Amy for being independent and gets annoyed when Amy struggles with this. When Amy relapses into passivity or vulnerability, her mother feels she has failed Amy and tries to defend herself by saying that Amy should not give up so quickly. Amy then feels misunderstood and does not feel supported by her mother, causing her to become furious and to blame her mother. Blame increases her mother's feelings of failure so she in turn also hardens, and the conflict escalates. Afterwards, her

mother tries to make up by defending her daughter in front of other people or by taking over practical tasks. This makes Amy feeling guilty about blaming her mother and intensifies her feeling of guilt about everything that is going wrong, strengthening her negative self-image that she is some kind of monster.

Case Amy: Treatment goals and pitfalls

Commitment to the treatment program can become a difficulty when Amy feels misunderstood or rejected by the therapist or by group members. When she feels she is not being taken seriously, or feels that others laugh at her or think that she is exaggerating, the treatment setting becomes an unsafe place for Amy, which makes her turn towards home again. It is therefore a treatment goal to be alert to signals of distrust and rejection and to test these signals in contact with others. It is also very important to win the trust of Amy's mother. Her mother tends to defend Amy because she (the mother) feels a failure. This intensifies Amy's hostile attitude.

Suicidal and parasuicidal behavior, as well as binge eating, seem to be mechanisms Amy uses to regulate the immense tension that emerges when she feels rejected or guilty in important attachment relationships. It seems that these are her ways of coping with thoughts of being bad (a monster) and feelings of abandonment The treatment will have to address moments of (upcoming) self-harm and suicidality to identify the precursors (thoughts, feelings, mental states) and the resulting psychic state or interaction. The treatment has to determine alternative ways, together with Amy to regulate her tension.

Somatic symptoms seem to correlate with tension. It is on the one hand important to identify the causes, accompanying feelings and thoughts. On the other hand, it is important to investigate the resulting interaction: somatic complaints are used as a mechanism when someone feels misunderstood and can therefore influence the relationships between Amy and therapists and fellow patients. The depressive mood of Amy seems to be related to tension and conflicts in the relationship with her mother and peers. Amy seems to be vulnerable to depressive thoughts when she feels guilty and becomes afraid that her mother will leave her.

Amy's suspiciousness often results in her relationships failing. When Amy feels that others don't believe her and do not take her emotions or opinion seriously, she will harden herself to protect herself from hurtful comments. This leads to

others misunderstanding her and reacting only to her callous side. Another treatment goal is to make sure that in contact with others, the environment will be sufficiently secure to also discuss Amy's underlying feelings of insecurity and fear. Hopefully this will lead to more understanding. Within the family, the goal will be to let her mother understand the underlying feelings of Amy. Letting go of her mother will not be easy for Amy, because Amy fears that there will then be no bond with her mother. It will also be a goal, together with mother, to investigate the interactions between her mother and Amy and to explore Amy's independence on the one hand and support on the other. Exploring whether and to what extent, contact with her father is desirable, will also be a goal of treatment.

Case Amy: Treatment selection

In Amy's case there are a couple of arguments that call for (at least short) inpatient treatment. In Amy's life, there has been a great deal of unsuccessful treatment. Her problems are now escalating and are heading towards a crisis (e.g. self-harm and possibly suicide); and an important source of the tension are the problems at home.

DISCUSSION

In this article we have tried to stimulate the discussion about diagnosing personality disorders in adolescents. Moreover, we tried to give an example of a diagnostic process when personality pathology has been assumed. It is important that the diagnosis will inform the treatment. We believe that a treatment that is grafted on the diagnosis of a personality disorder will have a different design and course than a treatment that is based on an Axis I diagnosis or life phase problems. When, as in Amy's case, the treatment was designed for a mood disorder, the treatment could not fully deal with the complexity of her condition and could not sufficiently provide the specific pathogenesis. Unilateral termination of the treatment by the patient or by the therapist would then presumably be the largest risk. Adolescents with personality problems are indeed not capable of forming long-term constructive working alliances. This will inevitably lead to treatment cessation, as the patient, is labeled as unmotivated. In this way, personality pathology will be reinforced rather than treated, a phenomena of iatrogenic harm that is seen by Bateman and Fonagy (2004) as one of the most

important causes of the longstanding idea that these patients are not treatable. When a diagnosis of a personality disorder is being classified (in an adolescent), the following aspects are essential:

- The treatment integrates the difficulties of these patients to form constructive relationships in the treatment model. Ruptures in the working alliance are the commodity of the therapy, as is the negotiation about the responsibility of change.
- The treatment asks for a sounding board, for example in the form of a team or an intervision group, in which the therapist constantly reflects upon his own functioning in relation to the youngster. The intense emotions and impulsivity and the difficulties in attachment relations can cause a high burden and can lead to harmful interaction- or intervention patterns when not properly being reflected upon. Impotence and helplessness are feelings of counter transference that occur frequently and that can lead to interventions that are not thought trough thoroughly.
- We think that it should be recommended that the family and sometimes even the school is involved in the treatment. The described destructive interaction- and intervention patterns have probably existed for years at home, but also at school. Changes in the personality of the youngster can also be built upon changes in the interaction patterns with the environment of the adolescent. Involving the family also can have a preventive effect for (younger) brothers and sisters.
- The therapy takes into account a long and difficult process of change, in which moments of relapse will occur when stressful life events are present or when the therapeutic relationship is strengthened.

These aspects are no more than general points to start from in a treatment of a difficult population. In the next years more elaborate treatment manuals for adolescents with personality disorders can be expected.

REFERENCES

Achenbach, T.M. (1991a). *Manual for the Child Behavior Checklist/4-18 and 1991 Profile*. Burlington, VT: University of Vermont, Department of Psychiatry.

Achenbach, T.M. (1991b). *Manual for the Youth Self-Report and 1991 Profile*. Burlington, VT: University of Vermont, Department of Psychiatry.

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders text revision (4th ed.).* Washington, DC: American Psychiatric Association.

Bateman, A.W., & Fonagy, P. (2004). *Psychotherapy for borderline personality disorder: Mentalization-based treatment.* Oxford: Oxford University Press.

Bleiberg, E. (2001). *Treating personality disorders in children and adolescents: A relational approach.* New York: Guilford Press.

Braun-Scharm, H. (1996). Suicidality and personality disorders in adolescence. *Crisis: Journal of Crisis Intervention & Suicide, 17,* 64-68.

Butcher, J. N., Dahlstrom, W. G., Graham, J. R., Tellegen, A., & Kaemmer, B. (1989). *The Minnesota Multiphasic Personality Inventory-2 (MMPI-2): Manual for administration and scoring*. Minneapolis, MN: University of Minnesota Press.

Chen, H., Cohen, P., Kasen, S., & Johnson, J.G. (2006a). Adolescent axis I and personality disorders predict quality of life during young adulthood. *Journal of Adolescent Health, 39,* 14-19.

Chen, H., Cohen, P., Kasen, S., Johnson, J.G., Berenson, K., & Gordon, K. (2006b). Impact of adolescent mental disorders and physical illnesses on quality of life 17 years later. *Archives of Pediatrics & Adolescent Medicine, 160,* 93-99.

Crick, N.R., Woods, K., Murray-Close, D., & Han, G. (2007). The development of borderline personality disorder: Current progress and future directions. In A. Freeman & M.A. Reinecke, M.A. (Eds.). *Personality Disorders in Childhood and Adolescence* (pp. 341-384). Hoboken: Wiley & Sons.

Daley, S.E., Hammen, C., Burge, D., Davilla, J., Paley, B., Lindberg, N., & Herzberg, D.S. (1999). Depression and Axis II symptomatology in an adolescent community sample: Concurrent and longitudinal associations. *Journal of Personality Disorders, 13,* 47-59.

Daley, S.E., Rizzo, C.J., & Gunderson, B.H. (2006). The longitudinal relation between personality disorder symptoms and depression in adolescence: The mediating role of interpersonal stress. *Journal of Personality Disorders, 20,* 352-368.

Derksen, J.J.L., Meij, H.R.A. de, Sloore, H., & Hellenbosch, G. (1995). *MMPI-2TM, Handleiding bij afname, scoring en interpretatie* [MMPI-2TM, Manual for administration, scoring, and interpretation] (2nd ed.). Nijmegen: PEN Test Publishers.

First, M.B., Spitzer, R.L., Gibbon, M., & Williams, J.B.W. (1997). *Structured clinical interview for DSM-IV axis I disorders (SCID I).* Washington, DC: American Psychiatric Press.

First, M.B., Spitzer, R.L., Gibbon, M., Williams, J.B.W., & Benjamin, L. (1996). *Structured clinical interview for DSM-IV axis II personality disorders (SCID II).* Washington, DC: American Psychiatric Press.

Freeman, A., & Reinecke, M.A. (2007). *Personality disorders in childhood and adolescence*. Hoboken: Wiley & Sons.

Grilo, C.M., McGlashan, T.H., Quinlan, D.M., Walker, M.L., Greenfeld, D., & Edell, W.S. (1998). Frequency of personality disorders in two age cohorts of psychiatric inpatients. *American Journal of Psychiatry, 155,* 140-142.

Groenestijn, M.A.C. van, Akkerhuis, G.W., Kupka, R.W., Schneider, N., & Nolen, W.A. (1998). *SCID I: Gestructureerd klinisch interview voor de vaststelling van DSM-IV as I stoornissen* [SCID I: Structured clinical interview for DSM-IV Axis I disorders]. Lisse: Swets & Zeitlinger.

Hutsebaut, J., Catthoor, K.C.E.E.R., Op 't Veld, N.J.M., & Hartman-Faber, S.H. (2007). Borderline persoonlijkheidsstoornis bij jeugdigen. In F. Verheij, F.C. Verhulst, & R.F. Ferdinand (Eds.). *Kinder- en jeugdpsychiatrie. Behandeling en begeleiding* [Child and youth psychiatry: Treatment and guidance] (pp. 371-396). Assen: van Gorcum.

Hutsebaut, J. (2009). Persoonlijkheidsstoornissen bij adolescenten. In E.H.M. Eurelings-Bontekoe, R. Verheul, & W.M. Snellen (Eds.), *Handboek persoonlijkheidspathologie* [Handbook of personality pathology] (pp. 539-562). Houten: Bohn Stafleu van Loghum.

Johnson, J.G., Chen, H., & Cohen, P. (2004). Personality disorders traits during adolescence and relationships with family members during the transition to adulthood. *Journal of Consulting and Clinical Psychology, 72,* 923-932.

Johnson, J.G., Cohen, P., Skodol, A.E., Oldham, J.M., Kasen, S., & Brooks, J.S. (1999). Personality disorders in adolescence and risk of major mental disorders and suicidality during adulthood. *Archives of General Psychiatry, 56,* 805-811.

Johnson, J.G., Cohen, P., Smailes, E., Kasen, S., Oldham, J.M., Skodol, A.E., & Brooks, J.S. (2000). Adolescent personality disorders associated with violence and criminal behavior during adolescence and early adulthood. *American Journal of Psychiatry, 157,* 1406-1412.

Johnson, J.G., First, M.B., Cohen, P., Skodol, A.E., Kasen, S., & Brook, J.S. (2005). Adverse outcomes associated with personality disorder not otherwise specified in a community sample. *American Journal of Psychiatry, 162,* 1926-1932.

Kasen, S., Cohen, P., Skodol, A.E., First, M.B., Johnson, J.G., Brooks, J.S. & Oldham, J.M. (2007). Comorbid personality disorder and treatment use in a community sample of youths: A 20-year follow-up. *Acta Psychiatrica Scandinavica, 115,* 56-65.

Kernberg, P.F., Weiner, A.S., & Bardenstein, K.K. (2000). *Personality disorders in children and adolescents*. New York: Basic Books.

Landelijke Stuurgroep Richtlijnontwikkeling in de GGZ. (2008). *Multidisciplinaire richtlijn persoonlijkheidsstoornissen* [Multidisciplinairy guideline for personality disorders]. Utrecht: Trimbos-instituut.

Lavan, H., & Johnson, J.G. (2002). The association between axis I and II psychiatric symptoms and high-risk sexual behavior during adolescence. *Journal of Personality Disorders, 16,* 73-94.

Levy, K.N., Becker, D.F., Grilo, C.M., Mattanah, J.J., Garnet, K.E., Quinlan, D.M., Edell, W.S., & McGlashan, T.H. (1999). Concurrent and predictive validity of the personality disorder diagnosis in adolescent inpatients. *American Journal of Psychiatry, 156,* 1522-1528.

McCloskey, G., Kane, P., Champ Morera, C., Gipe, K., & McLaughlin, A. (2007). Assessment of personality disorders in childhood. In A. Freeman & M.A. Reinecke (Eds.), *Personality disorders in childhood and adolescence* (pp. 183-227). Hoboken: Wiley & Sons.

Miller, A.L., Rathus, J.H., & Linehan, M.M. (2007). *Dialectical behavior therapy with suicidal adolescents*. New York: Guilford Press.

Oldham, J.M., Gabbard, G.O., Goin, M.K., Gunderson, J., Soloff, P., Spiegel, D., Stone, M., & Phillips, K.A. (2001). Practice guideline for the treatment of patients with borderline personality disorder. *American Journal of Psychiatry, 158,* 1-52.

Serman, N., Johnson, J.G., Geller, P.A., Kanost, R.E., & Zacharapoulou, H. (2002). Personality disorders associated with substance abuse among American and Greek adolescents. *Adolescence, 37,* 841-854.

Tyrer, P., Casey, P., & Ferguson, B. (1991). Personality disorders in perspective. *British Journal of Psychiatry, 159,* 463-471.

Verhulst, F.C., Ende, J. van der & Koot, H.M. (1996). *Handleiding voor de CBCL/ 4-18* [Manual for the CBCL/ 4-18]. Rotterdam: EUR/ AZR/ Sophia Kinderziekenhuis, afd. Kinder- en jeugdpsychiatrie.

Verhulst, F.C., Ende, J. van der, & Koot, H.M. (1997). *Handleiding voor de Youth Self-Report (YSR)* [Manual for the Youth Self-Report (YSR)]. Rotterdam: EUR/ AZR/ Sophia Kinderziekenhuis, afd. Kinder- en jeugdpsychiatrie.

Weertman, A., Arntz, A., & Kerkhofs, M.L.M. (2000). *SCID II: Gestructureerd klinisch interview voor DSM-IV as II persoonlijkheidsstoornissen* [SCID II: Structured clinical interview for DSM-IV axis II personality disorders]. Lisse: Swets & Zeitlinger.

Westen, D., Shedler, J., Durrett, C., Glass, S., & Martens, A. (2003). Personality diagnoses in adolescence: DSM-IV axis II diagnoses and an empirically derived alternative. *American Journal of Psychiatry, 160,* 952-966.

Chapter 3

Prevalence and comorbidity of Axis I and Axis II disorders among treatment refractory adolescents admitted for specialized psychotherapy

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ABSTRACT

Research shows that approximately half of the adolescents in a clinical setting suffer from a personality disorder. This finding has not yet been replicated in Europe. To test whether this finding also applies to Europe, structured diagnostic interviews for both Axis I and Axis II disorders were used in 257 adolescents who were admitted to a highly specialized mental health setting in the Netherlands. In this study we found that 40.5% of the adolescents were diagnosed with at least one personality disorder. Most adolescents with a personality disorder (78.9%) also suffered from one or more Axis I disorders. These results are comparable to rates found in previous prevalence studies of personality disorders in both adolescents and adults. Our results provide further evidence to support the cross-national generalizability of the diagnosis of personality disorder in adolescents.

INTRODUCTION

Personality disorders in adults are associated with high societal costs (Soeteman, Hakkaart-van Rooijen, Verheul, & Busschbach, 2008) and a low quality of life (Soeteman, Verheul, & Busschbach, 2008). There is no reason to assume that costs and quality of life are not similarly affected when personality disorders are present in adolescents. These high societal costs and low quality of life reflect the severity of the illness and are strong arguments in favor of accurately diagnosing personality disorders to ensure the most effective treatment.

Although DSM-IV-TR (American Psychiatric Association, 2000, p. 687) suggests that the diagnosis of a personality disorder may be applied to children and adolescents, clinicians seem cautious about diagnosing personality disorders in these groups (Allertz & van Voorst, 2007) and they are reluctant to even use the label personality disorder (Chanen & McCutcheon, 2008).

Recent research however, offers convincing evidence that personality disorders are far from unusual in adolescents. Estimates based on the Children in the Community Study (CIC-study; see for example Johnson et al., 2000) show that 14.4% of adolescents met the criteria of a personality disorder: 5.9% cluster A , 7.1% cluster B, and 4.9% cluster C personality disorder. Data about inpatient adolescents based on the Personality Disorder Examination show that 64% met the criteria of a personality disorder: 12% cluster A, 51% cluster B, and 28% cluster C personality disorder (Grilo et al., 1998). In the study by Westen, Shedler, Durett, Glass, and Martens (2003), in which diagnoses were based on the description of clinicians, 75.3% of the adolescents who were in treatment met criteria of a personality disorder: 36.8% cluster A, 54.4% cluster B and 41.2% cluster C personality disorder. These results are similar to adult prevalence studies, both for patient samples (Grilo et al., 1998) and for the community (Verheul & van den Brink, 1999).

High quality data about the co-occurrence of personality disorders and Axis I disorders in adolescents are scarce. As far as we know, the CIC-study is the only general population-based study that did measure both Axis I and Axis II disorders in early adolescence. From this study, it was reported that the co-occurrence of Axis I and Axis II disorders present a high risk for negative prognosis (Crawford et

al., 2008). They did however not use a semi-structured interview to assess Axis II personality disorders. In a patient sample, Grilo, Walker, Becker, Edell, and McGlashan (1997) used structured diagnostic interviews to assess both Axis I and Axis II disorders. They investigated the co-occurrence of Axis I and Axis II disorders with separate Axis I disorders such as substance use disorders (Grilo et al., 1995), major depression (Grilo et al., 1997) and conduct disorder (Fehon et al., 1997). Grilo et al. (1998) suggested that more research was needed with DSM-IV-defined disorders. According to our knowledge, there are no comparable results published in Europe about the co-occurrence of Axis I and Axis II disorders. This raises the issue of whether the observed co-occurrence ratios can be generalized to countries outside North America. The aim of this study was to investigate the frequency of Axis I and Axis II disorders in adolescents who were admitted to a highly specialized mental health setting in the Netherlands. This study therefore contributes to the discussion about diagnosing personality disorders in adolescents and co-occurrence of Axis I disorders. As it is also the first study outside North America, it also might provide evidence for the cross-national generalizability of personality disorders in adolescence. Axis I and Axis II disorders were systematically assessed through a series of semi-structured interviews.

METHOD

Participants

This study was part of a long term outcome and process study 'TRAP': Treatment Refractory Adolescents with Personality disorders. The study was conducted at the adolescent psychotherapy department of de Viersprong, National Institute of Personality Disorders, the Netherlands. De Viersprong is a mental health care center specialized in the assessment and treatment of adolescents and adults with complex personality pathology. The adolescent department offers outpatient, day hospital and inpatient treatment programs for adolescents aged 13 to 19 years.

All 257 participants were referred to the adolescent department of De Viersprong from May 2006 until March 2008. In general, patients are referred from all over the country because of complex pathology that appears to be refractory to outpatient treatment. The largest group of adolescents (54.5%) was referred by a mental health center or by youth welfare, 21.0% of the adolescents by a psychiatrist, psychotherapist or psychologist with a private practice, 18.3% by their General

Practitioner and 6.2% by a general hospital. Of the 257 adolescents admitted, 215 were female (83.7%) and 42 were male (16.3%). Participants were aged 13-19 years, with a mean age of 16.3 (SD = 1.39).

From the 257 participants, 123 adolescents (47.9%) were admitted to the inpatient unit, 22 (8.6%) were admitted to day hospital, 13 (5.1%) to outpatient care, 8 (3.1%) to family day hospital care, 11 (4.3%) to the forensic unit, 73 (28.4%) to a treatment center elsewhere, 2 (0.8%) to the adult department and 2 (0.8%) were second opinions. Three adolescents (1.2%) did not finish the intake procedure and were therefore not admitted to a treatment program.

Measures

As part of the standard intake procedure, all adolescents administered a routine assessment battery, including semi-structured interviews to assess both Axis I and Axis II disorders. Interviewers were masters-level psychologists, who were trained thoroughly by the first author (Anoek Weertman) in the Dutch version of the SCID II. The interviewers received two-weekly booster sessions to avoid drifting from the interview guidelines.

The Anxiety Disorders Interview Schedule for DSM-IV Child Version – Child interview (Adis-C; Silverman & Albano, 1996; translated by Siebelink & Treffers, 2001) was used to diagnose anxiety and mood disorders. The Adis-C is a semi-structured interview designed to measure anxiety and other Axis I disorders in children and adolescents. Research shows that the Adis-C is reliable across time, informants and in comparison with other forms of assessment. Also, interrater reliability appeared to be good in a sample of children and adolescents aged 7-16 (κ = .92) (Lyneham, Abbott, & Rapee, 2007). The Adis-C was supplemented by section E, G, and H of the Structured Clinical Interview for DSM-IV Axis I disorders (SCID-I: First, Spitzer, Gibbon, & Williams, 1997; translated by van Groenestijn, Akkerhuis, Kupka, Schneider, & Nolen, 1999) to diagnose substance-related disorders, somatoform disorders and eating disorders, respectively. The SCID-I is a semi structured interview to measure Axis I disorders in adults. The SCID-I appears to have good interrater reliability (κ = .85), especially when interviewers received a training (Ventura, Liberman, Green, Shaner, & Mintz, 1998).

The Structured Clinical Interview for DSM-IV Axis II Personality disorders (SCID-II; First, Spitzer, Gibbon, Williams, & Benjamin, 1996; translated by Weertman, Arntz,

& Kerkhofs, 1996) was used to diagnose Axis II personality disorders. Criteria were scored if they were pathological, pervasive and persistent and if they were present for one year, according to the guideline of the DSM-IV-TR. Because DSM-IV-TR does not allow for antisocial personality disorder to be diagnosed in adolescents under the age of 18, this section was left out of the interview for adolescents under 18. Previous research has shown (see for example Maffei et al., 1997; Weertman, Arntz, Dreessen, Van Velzen, & Vertommen, 2003) that the DSM-IV version of the SCID-II has a good interrater reliability and test-retest interrater reliability for the presence or absence of a personality disorder diagnosis in adults. Although the SCID II is primarily designed for measuring personality disorders in adults, previous studies including adolescent samples have shown that the SCID-II is a useful instrument in an adolescent age group (Tromp & Koot, 2010).

Statistical analyses

Chi-square tests were used to examine the impact of gender and age on the prevalence. To examine the impact of age, the sample was divided into four age groups (quartiles): quartile 1: age 13 thru 15; quartile 2: age 16; quartile 3: age 17; and quartile 4: age 18 and 19.

RESULTS

Prevalence of Axis I disorders

As shown in Table 3.1, 165 adolescents (64.2%) had one or more diagnoses on Axis I. Social phobia was most frequently diagnosed, followed by dysthymic disorder, posttraumatic stress disorder, major depressive disorder, generalized anxiety disorder, eating disorder not otherwise specified and obsessive compulsive disorder. The other Axis I disorders were diagnosed in less than 5% of the adolescents (see Table 3.1). No differences were found between age groups or between male and female adolescents for the presence of an Axis I disorder.

Table 3.1 Axis I disorders at intake

	N	%
Anxiety disorders		
Separation anxiety disorder	1	0.4
Social phobia	52	20.2
Specific phobia	11	4.3
Panic disorder	6	2.3
Agoraphobia	2	0.8
Generalized anxiety disorder	25	9.7
Obsessive compulsive disorder	14	5.5
Posttraumatic stress disorder	32	12.5
Mood disorders		
Dysthymic disorder	51	19.5
Major depressive disorder	26	10.1
Substance use disorders		
Alcohol abuse	3	1.2
Alcohol dependence	0	0
Substance abuse	6	2.3
Substance dependence	7	2.7
Eating disorders		
Anorexia nervosa	11	4.3
Boulimia nervosa	4	1.6
Eating disorder not otherwise specified	17	6.6
Somatoform disorders		
Conversion disorder	1	0.4
Undifferentiated somatoform disorder	1	0.4
Hypochondriasis	1	0.4
Other disorders		
Enuresis	2	0.8
Any Axis I disorder	165	64.2

Prevalence of Axis II disorders

Table 3.2 shows that 104 adolescents (40.5%) had one or more Axis II personality disorders. The most prevalent personality disorder was borderline personality disorder, followed by avoidant personality disorder and personality disorder not otherwise specified (PDNOS). Other specific personality disorders were diagnosed in less than 5% of the adolescents. For the presence of an Axis II disorder, no

differences were found between the different age groups. However, we found that girls met significantly more often criteria for an Axis II disorder than boys did.

Table 3.2 Axis II personality disorders at intake

	N	%
Cluster A personality disorders		
Paranoid personality disorder	0	0
Schizotypal personality disorder	0	0
Schizoid personality disorder	0	0
Cluster B personality disorders		
Histrionic personality disorder	0	0
Narcissistic personality disorder	0	0
Borderline personality disorder	58	22.6
Cluster C personality disorders		
Avoidant personality disorder	32	12.5
Dependent personality disorder	1	0.4
Obsessive-compulsive personality disorder	7	2.7
Other personality disorders		
Depressive personality disorder	7	2.7
Passive-aggressive personality disorder	0	0
Personality disorder not otherwise specified	14	5.5
Any Axis II personality disorder	104	40.5

Co-occurrence of Axis I and Axis II disorders

As can be seen in Table 3.3, most adolescents with an Axis II personality disorder also had one or more Axis I disorders. Cluster B personality disorders were mostly accompanied by mood disorders. Cluster C personality disorders and personality disorders not otherwise specified coexisted mostly with anxiety disorders.

Impact of a lower threshold for PDNOS

Of the 257 participants, 153 adolescents (59.5%) had no diagnosis on Axis II. Of these 153 adolescents, 32 (20.9%) met none of the criteria of a personality disorder. The other 121 (79.1%) met one or more criteria of a personality disorder, 38 adolescents (24.8%) met 3 or 4 criteria of a personality disorder and 40 adolescents (26.1%) met between 5 and 9 criteria of a personality disorder. Because we used a cut-off point of 10 criteria for PDNOS, this last group of

adolescents did not receive a formal PDNOS diagnosis. However, Verheul, Bartak, and Widiger (2007) provided some appealing evidence that using a cut-off point of 5 criteria for PDNOS would add a large group of personality disordered patients with a similar level of functional impairment as the patients diagnosed with PDNOS using 10 or even 15 criteria as a cut-off point. In this study, using a cut-off of 5 criteria for PDNOS, would add 40 patients (15.6%) to the group with a personality disorder, leaving only 57 participants without any Axis I or Axis II diagnosis (22.2%). In that case, 56 adolescents (21.8%) would have only one or more Axis I disorders, 35 adolescents (13.6%) would have only one or more Axis II disorders, and 109 adolescents (42.4%) would have both one or more Axis I and one or more Axis II disorders.

Table 3.3 Co-occurrence of Axis I and Axis II disorders

	Anxiety disorders (n = 100)	Mood disorders (n = 77)	Substance use disorders (n = 15)	Eating disorders (n = 31)	Somatoform disorders (n = 3)	Any Axis I disorder (n = 165)
	N (%)	N (%)	N (%)	N (%)	N (%)	N (%)
Cluster A PD (n = 0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)	0 (0)
Cluster B PD (n = 58)	17 (29.3)	24 (41.4)	10 (17.2)	10 (17.2)	0 (0)	41 (70.7)
Cluster C PD (n = 37)	31 (83.8)	16 (43.2)	0 (0)	7 (18.9)	0 (0)	34 (91.9)
Cluster NOS (n = 20)	16 (80.0)	10 (50.0)	0 (0)	5 (25.0)	0 (0)	18 (90.0)
Any PD (n = 104)	55 (52.9)	43 (41.4)	10 (9.6)	18 (17.3)	0 (0)	82 (78.9)

Footnote: PD = personality disorder; NOS = not otherwise specified.

DISCUSSION

Results from this study indicate that almost half of adolescent referrals to a highly specialized mental health setting meet criteria of a personality disorder. These results are quite similar to estimates reported from other prevalence studies of personality disorders in adolescents (cf. Grilo et al., 1998). They are also quite similar to adult prevalence studies of personality disorders (cf. Verheul & van den

Brink, 1999). The similarity of prevalence estimated between European sample and North American adolescent samples provides further evidence for the cross-national generalizability of the diagnosis of personality disorder in adolescents, as we used the translated version of the Structured Clinical Interview for DSM-IV Axis II Personality Disorders (Weertman et al., 1996). Our results indicate that personality disorders are common among adolescent patients. A high proportion of our sample did not meet the formal criteria of a categorical personality disorder, but nevertheless met 5 to 9 diagnostic criteria for personality disorder. As in adults (Verheul et al., 2007), this group might display a similar level of functional impairment which, might influence treatment significantly. Furthermore, most adolescents who met the criteria of a personality disorder (78.9%) also suffered from one or more Axis I disorders. This co-occurrence adds to the complexity of the psychopathology in this particular group of adolescents.

This study has a number of strengths and limitations. Clear strengths of this study are the relative large sample size and the thorough assessments using semi-structured interviews for assessing both Axis I and Axis II disorders. Limitations include limited sample representativeness, and the exclusion of antisocial personality disorder. First, it is unclear to what extent the results of this study, that was conducted in a highly specialized center, can be generalized to other inpatient units treating adolescents. However, this limitation is somewhat mitigated by the similarity between our findings and international published data. Gathering data from multiple settings across the nation might enlarge the generalizability of our results. We suggest that further research is needed, incorporating data from different mental health settings. Second, this study included significantly more girls than boys. Interestingly, research on the prevalence of personality disorders in adults shows that some personality disorders are more frequently diagnosed in women than in men, such as borderline personality disorder. Other personality disorders seem to be slightly more common in men, such as schizoid, schizotypal, and narcissistic personality disorder (American Psychiatric Association, 2000). The overrepresentation of girls in the sample might therefore have caused an overestimation of some personality disorders (e.g., borderline personality disorder), and an underestimation of other personality disorders (e.g., schizoid and schizotypal personality disorder). Finally, antisocial personality disorder was

excluded from the study, because DSM-IV-TR does not allow for an antisocial personality disorder to be diagnosed in adolescents under 18. However, lack of these data might limit the external validity of our findings. Future research is suggested, incorporating data on antisocial personality disorder. Finally, conduct disorders were not systematically assessed due to the lack of information provided by parents. The strengths of this study are the relatively large sample-size and the systematic use of semi-structured interviews for assessing both Axis I and Axis II disorders.

In conclusion, our results provide evidence for the cross-national generalizability of the diagnosis of personality disorder in adolescents using an instrument based on adult personality disorder criteria. Personality disorders in adolescents seem far from unusual and will need attention in clinical practice.

REFERENCES

Allertz, A., & van Voorst, G. (2007). Personality disorders from the perspective of child and adolescent psychiatry. In B. van Luyn, S. Akhtar, & W.J. Livesley (Eds.), *Severe personality disorders: everyday issues in clinical practice* (pp. 79-92). New York: Cambridge University Press.

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th edition, text revision). Washington, DC: American Psychiatric Association.

Chanen, A.W., & McCutcheon, L.K. (2008). Complex Case. Personality disorder in adolescence: the diagnosis that dare not speak its name. *Personality and mental health, 2*, 35-41.

Crawford, T.N., Cohen, P., First, M.B., Skodol, A.E., Johnson, J.G., & Kasen S. (2008). Comorbid Axis I and Axis II disorders in early adolescence. *Archives of General Psychiatry, 65*, 641-648.

Fehon, D.C., Becker, D.F., Grilo, C.M., Walker, M.L., Levy, K.N., Edell, W.S., & McGlashan, T.H. (1997). Diagnostic comorbidity in hospitalized adolescents with conduct disorder. *Comprehensive Psychiatry, 38,* 141-145.

First, M.B., Spitzer, R.L., Gibbon, M., & Williams, J.B.W. (1997). *Structured clinical interview for DSM-IV axis I disorders (SCID-I).* Washington, DC: American Psychiatric Press.

First, M.B., Spitzer, R.L., Gibbon, M., Williams, J.B.W., & Benjamin, L. (1996). *Structured clinical interview for DSM-IV axis II personality disorders (SCID-II).* Washington, DC: American Psychiatric Press.

Grilo, C.M., Becker, D.F., Walker, M.L., Levy, K.N., Edell, W.S., & McGlashan, T.M. (1995). Psychiatric comorbidity in adolescent inpatients with substance use disorders. *Journal of the American Academy of Child and Adolescent Psychiatry, 34*, 1085-1091.

Grilo, C.M., McGlashan, T.H., Quinlan, D.M., Walker, M.L., Greenfeld, D., & Edell, W.S. (1998). Frequency of personality disorders in two age cohorts of psychiatric inpatients. *American Journal of Psychiatry, 155*, 140-142.

Grilo, C.M., Walker, M.L., Becker, D.F., Edell, W.S., & McGlashan, T.H. (1997). Personality disorders in adolescents with major depression, substance use disorders, and coexisting major depression and substance use disorders. *Journal of Consulting and Clinical Psychology, 65*, 328-332.

Groenestijn, M.A.C. van, Akkerhuis, G.W., Kupka, R.W., Schneider, N., & Nolen, W.A. (1999). *Gestructureerd klinisch interview voor de vaststelling van DSM-IV as I stoornissen* [Structured clinical interview for DSM-IV axis I disorders]. Amsterdam: Harcourt Test Publishers.

Johnson, J.G., Cohen, P., Kasen, S., Skodol, A.E., Hamagami, F., & Brook, J.S. (2000). Age-related change in personality disorder trait levels between early adolescence and adulthood: a community-based longitudinal investigation. *Acta Psychiatrica Scandinavica, 102*, 265-275.

Lyneham, H.J., Abbott, M.J., & Rapee, R.M. (2007). Interrater reliability of the Anxiety Disorders Interview Schedule for DSM-IV: Child and Parent Version. *Journal of the American*

Academy of Child and Adolescent Psychiatry, 46, 731-736.

Maffei, C., Fossati, A., Agostini, I., Barraco, A., Bagnato, M., Donati, D., Namia, C., Novella, L., & Petrachi, M. (1997). Interrater reliability and internal consistency of the structured clinical interview for DSM-IV Axis II personality disorders (SCID-II), version 2.0. *Journal of Personality Disorders, 11*, 279-284.

Siebelink, B.M., & Treffers, Ph.D.A. (2001). *Anxiety disorders interview schedule for DSM-IV child version, Kindinterview* [Anxiety disorders interview schedule for DSM-IV child version, child interview schedule]. Lisse: Swets & Zeitlinger B.V.

Silverman, W.K., & Albano, A.M. (1996). *Anxiety disorders interview schedule for DSM-IV child version, child interview schedule*. San Antonio: The Psychological Corporation.

Soeteman, D.I., Hakkaart-van Roijen, L., Verheul, R., & Busschbach, J.J.V. (2008). The economic burden of personality disorders in mental health care. *Journal of Clinical Psychiatry, 69*, 259-265.

Soeteman, D.I., Verheul, R., & Busschbach, J.J.V. (2008). The burden of disease in personality disorders: diagnosis-specific quality of life. *Journal of Personality Disorders, 22*, 259-268.

Tromp, N.B., & Koot, H.M. (2010). Dimensions of normal and abnormal personality: elucidating DSM-IV personality disorder symptoms in adolescents. *Journal of Personality, 78,* 839-864.

Ventura, J., Liberman, R.P., Green, M.F., Shaner, A., & Mintz, J. (1998). Training and quality assurance with the Structured Clinical Interview for DSM-IV (SCID I/P). *Psychiatry Research, 79*, 163-173.

Verheul, R., Bartak, A., & Widiger, T. (2007). Prevalence and construct validity of personality disorder not otherwise specified (PDNOS). *Journal of Personality Disorders, 21*, 359-370.

Verheul, R., & Brink, W. van den (1999). Persoonlijkheidsstoornissen. In: A. de Jong, W. van den Brink, J. Ormel, & D. Wiersma (Eds.), *Handboek psychiatrische epidemiologie* [Handbook psychiatric epidemiology] (pp. 347-378). Maarssen: Elsevier/ De Tijdstroom.

Weertman, A., Arntz, A., Dreessen, L., Van Velzen, C., & Vertommen, S. (2003). Short-interval test-retest interrater reliability of the Dutch Version of the Structured Clinical Interview for DSM-IV Personality Disorders (SCID-II). *Journal of Personality Disorders, 17*, 562-567.

Weertman, A., Arntz, A., Kerkhofs, M. (1996). *Gestructureerd klinisch interview voor DSM-IV as II persoonlijkheidsstoornissen* [Structured clinical interview for DSM-IV axis II personality disorders]. Amsterdam: Harcourt Test Publishers.

Westen, D., Shedler, J., Durett, C., Glass, S., & Martens, A. (2003). Personality diagnoses in adolescence: DSM-IV axis II diagnoses and an empirically derived alternative. *American Journal of Psychiatry, 160*, 952-966.

Chapter 4

The burden of disease among adolescents with personality pathology: quality of life and costs

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ABSTRACT

In adults, personality disorders are associated with a low quality of life and high societal costs. To explore whether these findings also apply to adolescents, 131 adolescent patients were recruited from a mental health care institute in the Netherlands. Axis I and Axis II disorders were diagnosed using semi-structured interviews. The EuroQol EQ-5D was used to measure quality of life, costs were measured by the Trimbos and Institute for Medical Technology Assessment Questionnaire on Costs Associated with Psychiatric Illness. The mean EQ-5D index value was 0.55. The mean direct medical cost in the year prior to treatment was €14,032 per patient. The co-occurrence of Axis I and Axis II disorders was a significant predictor of a low quality of life. Direct medical costs were higher for the depressive personality disorder. This study shows that the burden of disease among adolescents with personality pathology is high. This high burden provides evidence to suggest that further research and development of (cost-) effective treatment strategies for this population may be worthwhile.

INTRODUCTION

Personality disorders are among the most prevalent mental disorders in the adult population (Torgersen, Kringlen, & Cramer, 2001). Moreover, they are associated with a low quality of life (Soeteman, Verheul, & Busschbach, 2008) and high societal costs (Soeteman, Hakkaart-van Roijen, Verheul, & Busschbach, 2008). This evidence is increasingly being used to inform policy debates about the necessity and reimbursement of treatment strategies for the adult population with personality disorders.

Little is known about personality disorders in adolescents. One reason for this is the relative lack of data on adolescent personality pathology. Moreover, clinicians seem to have ambiguous feelings about diagnosing personality disorderss in this population (Allertz & van Voorst, 2007). Recent studies suggest however, that personality disorderss can indeed be classified in adolescents, and that the prevalence in both the general population (Johnson et al., 2000) and patient populations (Feenstra, Busschbach, Verheul, & Hutsebaut, 2011; Grilo et al., 1998; Westen, Shedler, Durett, Glass, & Martens, 2003) is comparable to that in adults.

The main focus of quality of life research among adolescents has been on physical disorders. One of the studies that considered mental disorders found that adolescents with a mental disorder have poorer quality of life than those without, and even lower quality of life than adolescents with physical disorders (Bastiaansen, Koot, Bongers, Varni, & Verhulst, 2004). Studies investigating the costs of child and adolescent mental health problems in general, in for instance the United States and the Netherlands, showed that the economic burden is substantial (Lynch & Clarke, 2006; Hilderink & van't Land, 2009). However, no studies have investigated the quality of life and economic burden among adolescents with personality disorders, and the impact of co-morbidity of Axis I disorders and medical disorders on the burden is also unknown.

Health care interventions for both mental and physical disorders have a competing interest in the limited resources available. In the priority-setting process for reimbursement, the burden of disease of the patient population is one of the

issues considered (Stolk, Pickee, Ament, & Busschbach, 2005). Therefore, it is important to provide evidence about the burden of disease using generic measures such as quality of life and costs which allows for comparison among different mental and physical disorders.

The aim of this study is to investigate the burden of disease among treatment-seeking adolescents with personality pathology in terms of quality of life and costs, and to explore the impact of co-morbid Axis I disorders and medical disorders on these outcomes.

METHOD

Participants

From June 2006 to January 2009, 133 adolescents were consecutively admitted to the inpatient unit of de Viersprong, National Institute of Personality Disorders, a mental health care institute in the Netherlands offering specialized outpatient, day hospital, and inpatient psychotherapy for adolescent and adult patients with personality disorders. Inclusion criteria for this study and admission to the inpatient unit were the presence of severe, chronic and multiple complaints, leading to clinically significant distress and impaired social and school functioning, and for which previous outpatient treatment has not resulted in significant improvement of functioning. The exclusion criteria for this study and admission were psychotic disorders (e.g., schizophrenia), organic cerebral impairment, and mental retardation. Two patients did not complete the assessment battery as part of the formal admission procedure, leaving 131 patients for the current sample. Of these patients, 111 were female (85%). The mean age was 16.6 (SD = 1.28, range 14-19).

In the inpatient treatment program, patients are offered psychotherapy combined with psychosocial nursing and non-verbal therapies over a period of 12 months. Patients reside in the treatment center five days per week and attend school for approximately four hours per day at the property of the treatment center.

Measures

Quality of life was measured using the EuroQol EQ-5D (Brooks, Rabin, & de Charro, 2003). The EQ-5D measures quality of life in five dimensions, including

mobility, self-care, usual activities, pain/discomfort, and anxiety/depression. The dimensions are divided into three response levels: no problems, some or moderate problems, and extreme problems or unable to. The combination of scores are weighted to arrive at a single index score between -0.33 (worst imaginable health state) and 1.00 (best imaginable health state). Dutch norm scores were used to calculate the mean EQ-5D index values (Lamers, Stalmeier, McDonnel, Krabbe, & Busschbach, 2005).

The Trimbos and Institute for Medical Technology Assessment (iMTA) Questionnaire on Costs Associated with Psychiatric Illness (TiC-P) was used to collect data on direct medical costs i.e., costs due to health care consumption (Hakkaart-van Roijen, 2002). The first part of the TiC-P consists of questions on: (1) the number of visits to e.g., a general practitioner, psychiatrist, medical specialist, physiotherapist, and alternative health practitioner; (2) the day care/hospital lengths of stay; and (3) the use of medication in the four weeks prior to filling out the questionnaire. Bottom-up methodology was used to calculate the total direct medical costs; that is, the total number of medical visits was multiplied by the 2003 unit prices of the corresponding health care services (Oostenbrink, Bouwmans, Koopmanschap, & Rutten, 2004; College voor zorgverzekeringen, 2005). The reference unit prices of health care services of 2003 were adjusted to prices in 2005 by using the consumer price index (Consumentenprijsindex, 2007). The mean direct costs per four weeks were multiplied by 13 to calculate the annual costs.

Additionally, the TiC-P includes a list of 28 chronic medical disorders, e.g., rheumatic disease, diabetes, asthma, migraine, cancer, and burnout/ severe tension. The adolescents were requested to indicate which of the chronic medical disorders they had experienced in the past year.

The Anxiety Disorders Interview Schedule for DSM-IV Child Version – Child interview (Adis-C; Silverman & Albano, 1996; translated by Siebelink & Treffers, 2001) was used to diagnose anxiety disorders and mood disorders. In addition, the Structured Clinical Interview for DSM-IV Axis I disorders (SCID I: First, Spitzer, Gibbon, & Williams, 1997; translated by van Groenestijn, Akkerhuis, Kupka, Schneider, & Nolen, 1999) was used to diagnose substance use disorders, somatoform disorders, and eating disorders.

The Structured Clinical Interview for DSM-IV Axis II Personality disorders (SCID II; First, Spitzer, Gibbon, Williams, & Benjamin, 1996; translated by Weertman, Arntz, & Kerkhofs, 1996) was used for diagnosing Axis II personality disorders. Criteria were scored if they were pathologic, pervasive, and persistent and if they were present for at least one year, consistent with the DSM-IV-TR general diagnostic criteria for the presence of a personality disorder (American Psychiatric Association, 2000). Because DSM-IV-TR does not allow for antisocial personality disorder to be diagnosed in adolescents younger than 18, this section was omitted from the interview.

Timing of measures

The Structured Clinical Interview for DSM-IV Axis I and II Personality disorders and the Anxiety Disorders Interview Schedule for DSM-IV Child Version were administered to the adolescents as part of the formal admission procedure. Both the EQ-5D and the TiC-P were administered in the first week of their stay at the inpatient unit.

Statistical analysis

Multiple regression main effect analyses were conducted in order to explore the impact of personality pathology and co-morbid Axis I disorders on the quality of life and cost outcomes. Age and gender are associated with quality of life and costs and were therefore entered in the multiple regression models (Brooks et al., 2003). Chronic medical disorders are expected to induce high costs due to elevated use of both mental and somatic health care services. Therefore, an additional regression analysis was performed to explore the impact of chronic medical disorders on the health care consumption of adolescents. To investigate the relation between severity of personality pathology and quality of life, we observed the trend in EQ-5D scores with an increasing number of personality disorder traits.

RESULTS

Participants

In the sample of 131 treatment-seeking patients, 62 adolescents (47.3%) were diagnosed with a DSM-IV personality disorder diagnosis. Borderline personality disorder was most frequently diagnosed (25.2%), followed by avoidant personality

disorder (16.0%), personality disorder not otherwise specified (PDNOS; 5.3%), depressive personality disorder (3.8%), and obsessive-compulsive personality disorder (3.8%). Paranoid, schizoid, schizotypal, narcissistic, histrionic, dependent, and passive-aggressive personality disorder were not diagnosed in this population of adolescents. The majority of the adolescents with a diagnosis of personality disorder had a co-occurring Axis I disorder (N = 52; 83.9%). Dysthymic disorder was most frequently diagnosed (26.7%), followed by social phobia (24.4%), and major depressive disorder (12.2%).

Quality of life

The mean EQ-5D index score among the total group of adolescents was 0.55 (SD = 0.27). Table 4.1 shows the EQ-5D values for the different personality disorder diagnoses, suggesting depressive personality disorder to be the most severely impaired disorder with an EQ-5D index score of 0.34. The results of the linear regression analysis (see Table 4.1) show however that no specific personality disorder diagnosis significantly predicted an impaired quality of life in this sample of adolescents ($p<0.05$); only gender ($p = 0.031$) had a significant impact on quality of life, with girls having a lower quality of life than boys.

Table 4. 1 EuroQol EQ-5D index scores for DSM-IV Axis II personality disorders (n = 131)

					Analysis	
	N	%	EQ-5D	SD	ß	p
Age					-.030	.739
Gender					.198	.031
Borderline PD	33	25.2	.49	.28	-.074	.417
Avoidant PD	21	16.0	.49	.27	-.084	.350
Obsessive-compulsive PD	5	3.8	.50	.33	-.022	.799
Depressive PD	5	3.8	.34	.20	-.107	.235
Personality disorder NOS	7	5.3	.70	.23	.106	.230
Any PD	62	47.3	.51	.28		
No PD	69	52.7	.59	.26		

Footnote: The sum of the number of patients in the different diagnostic groups is higher than the total number of patients because patients can have more than one personality disorder. PD = personality disorder, NOS = not otherwise specified.

Table 4.2 EuroQol EQ-5D index scores for DSM-IV Axis I and Axis II disorders (n = 131)

					Analysis	
	N	%	EQ-5D	SD	ß	p
Age					-.026	.793
Gender					.212	.031
Anxiety disorders						
Social phobia	32	24.4	.47	.31	-.158	.221
Specific phobia	7	5.3	.57	.36	.082	.401
Panic disorder	2	1.5	.55	.42	.003	.972
Agoraphobia	2	1.5	.71	.08	-.044	.726
Generalized anxiety disorder	11	8.4	.35	.33	-.160	.122
Obsessive compulsive disorder	8	6.1	.57	.27	-.003	.972
Posttraumatic stress disorder	13	9.9	.47	.27	-.025	.787
Mood disorders						
Dysthymic disorder	35	26.7	.45	.26	-.194	.049
Major depressive disorder	16	12.2	.55	.23	-.054	.592
Substance use disorders						
Alcohol abuse	3	2.3	.61	.31	.050	.572
Alcohol dependence	1	0.8	.77	-	.155	.237
Substance abuse	1	0.8	.81	-	.052	.571
Substance dependence	6	4.6	.47	.26	-.123	.204
Eating disorders						
Anorexia nervosa	9	6.9	.57	.26	.062	.498
Bulimia nervosa	2	1.5	.61	.33	.022	.805
Eating disorder not otherwise specified	12	9.2	.56	.26	.029	.758
Somatoform disorders						
Conversion disorder	1	0.8	.81	-	.061	.488
Hypochondriasis	1	0.8	.25	-	-.110	.205
Other disorders						
Enuresis	1	0.8	.25	-	-.060	.495
Personality disorders						
Borderline PD	33	25.2	.49	.28	-.092	.342
Avoidant PD	21	16.0	.49	.27	.010	.934
Obsessive-compulsive PD	5	3.8	.50	.33	-.005	.961
Depressive PD	5	3.8	.34	.20	-.062	.539
Personality disorder NOS	7	5.3	.70	.23	.190	.043
Total group	131	100.0	.55	.27		

Footnote: The sum of the number of patients in the different diagnostic groups is higher than the total number of patients because patients can have more than one disorder. PD = personality disorder, NOS = not otherwise specified.

The mean EQ-5D values for the different Axis I disorder diagnoses are presented in Table 4.2. When Axis I disorders were included in the regression analysis, gender (p = 0.031), dysthymic disorder (p = 0.049), and PDNOS (p = 0.043) appeared to be significant predictors of quality of life (see Table 4.2). Girls and adolescents with dysthymic disorder experienced a significantly lower quality of life within the current sample, whereas adolescents with PDNOS experienced a higher quality of life.

Finally, a third regression model investigated the predictive value of having no disorder, only having an Axis I disorder, only having an Axis II disorder or having both an Axis I and Axis II disorder on quality of life. The analysis showed that, besides gender (p = 0.021), having both an Axis I and an Axis II disorder (p = 0.019) was a significant predictor of an impaired quality of life, with the results shown in Table 4.3.

Table 4.3 EuroQol EQ-5D index scores (n = 131)

					Analysis	
	N	%	EQ-5D	SD	ß	p
Age					-.062	.484
Gender					.205	.021
Only an Axis I diagnosis	46	35.1	.55	.26	-.194	.104
Only an Axis II diagnosis	10	7.6	.61	.30	-.020	.843
Both an Axis I and an Axis II diagnosis	52	39.7	.49	.28	-.289	.019

Table 4.4 shows that the quality of life is inversely associated with the severity of personality pathology, as measured by the total number of personality disorder traits.

Table 4.4 EuroQol EQ-5D index scores by the total number of personality disorder traits (n = 131)

	Number of traits	N	%	EQ-5D	SD
Category 1	0-4	42	32.1	.59	.28
Category 2	5-9	63	48.1	.55	.26
Category 3	10-14	22	16.8	.51	.30
Category 4	15 +	4	3.1	.44	.24

Direct medical costs

The mean direct medical cost in the year prior to treatment of adolescents with personality pathology was €14,032 per year per patient (range €0 to €160,186).

Table 4.5 shows the mean direct medical costs per year differentiated by type of medical service among the total group of adolescents. The total mean direct medical cost of €14,032 per patient was mainly composed of costs due to inpatient health care (57.1%) and outpatient mental health care (15.4%).

In a linear regression analysis including the specific personality disorder diagnoses, only depressive personality disorder ($p = .024$) was associated with increased direct medical costs. When Axis I disorders were included in the regression analysis, no specific Axis I or Axis II disorder appeared to have a unique effect on the direct medical costs. The third regression model, exploring the influence of having no disorder, only an Axis I disorder, only having an Axis II disorder or having both, showed that none of these categories appeared to be a significant predictor of increased direct medical costs.

When studying the main effects of the chronic medical disorders in a multiple regression analysis, none of the disorders appeared significant, indicating that none of the medical conditions had a significant effect on the direct medical costs in this sample.

Table 4.5 Mean direct medical costs per year of adolescents with personality pathology (n = 131)

Type of service	Cost (2005 prices), €	Percentage of total direct medical costs	Subjects using the service %
General practitioner	184.33	1.31	37.4
Company doctor	6.36	0.05	1.5
Physiotherapist	124.11	0.88	10.7
Alternative health practitioner	51.81	0.37	6.1
Domestic help	0.00	0	0
Self-help group	114.32	0.81	5.3
Social worker	353.52	2.52	15.3
Substance abuse outpatient care	0.00	0	0
Outpatient mental health care	2,159.48	15.4	29.0
Psychiatric practice	893.05	6.36	22.9
Outpatient clinic	363.23	2.59	8.4
Day hospital care	1,317.50	9.39	11.5
Inpatient health care	8,005.47	57.05	16.8
Medical specialist	72.66	0.52	8.4
Medication	386.54	2.75	62.6
Total	14,032.38	100.0	

DISCUSSION

This study shows that treatment-seeking adolescents with personality pathology experience a high burden of disease, reflected by a low quality of life and high health care costs. The quality of life in this population (EQ-5D index score of 0.55) is comparable to that found in the adult population with personality disorders (EQ-5D index score of 0.56) (Soeteman et al., 2008), and to the quality of life found in adolescents with major depressive disorder (EQ-5D index score of 0.50) (Byford et al., 2007a). For adolescents, the direct medical costs in the year prior to treatment (€14,032 per patient) were substantially higher than the costs found in the adult population with personality disorders (€7,398 per patient) (Soeteman et al., 2008). The economic burden of adolescents with personality pathology is also considerably higher than the burden in other child or adolescent conditions, such as patients with conduct disorder (Harrington et al., 2000; Romeo, Knapp, & Scott, 2006), depressive disorder (Byford et al., 2007a), or ADHD (Swensen et al., 2003), but lower than for adolescents with anorexia nervosa (Byford et al., 2007b),

adolescents admitted to an inpatient treatment (Green et al., 2007), or young offenders (Barrett, Byford, Chitsabesan, & Kenning, 2006). The most relevant cost drivers in our study were inpatient health care (57.1%) and outpatient mental health care (15.4%). This conclusion holds even after controlling for chronic medical disorders. Our findings also reveal that, while personality pathology with co-morbid Axis I disorders is a significant predictor of an impaired quality of life in this patient group, co-morbidity of Axis I alone is not associated with increased costs.

That is an interesting finding considering the fact that treatment-seeking adolescents with complex personality pathology commonly present themselves at the treatment centers with co-occurring Axis I disorders. These treatment-seeking adolescents represent a group with a severely impaired quality of life. Moreover, literature indicates that it is the patients' subjective well being, rather than objective medical condition, that determines their treatment-seeking behavior, their compliance, and their evaluation of treatment (Hunt & McKenna, 1993).

Whereas in adults some personality disorder diagnoses clearly predicted an impaired quality of life (borderline, narcissistic, obsessive-compulsive, depressive, negativistic personality disorder and PDNOS) or increased societal costs (borderline and obsessive-compulsive personality disorder), among adolescents the increased burden of disease was hardly attributable to any specific personality disorder diagnosis. This is consistent with literature suggesting that the criteria of different personality disorders overlap more broadly in adolescents than in adults (Bondurant, Greenfield, & Tse, 2004). Although Soeteman's sample consists of adult patients with personality disorders that were registered as admissions to outpatient, day hospital or inpatient psychotherapy, the patients in both samples i.e., adolescents and adults, experience equal burden of disease. Therefore, the difference in direct medical costs between both studies can not be explained by a difference in the quality of life or disease burden.

The recall period for the use of medical services was 4 weeks. The annualization of these costs is based on the assumption that these 4 weeks are representative for the rest of the year. In order to test this assumption, in an adult sample of

patients with personality disorders at the same institute (N = 922), an additional form was administered on which patients had to indicate the amount of outpatient, day hospital, or inpatient treatment they had received in the year prior to filling out the form. The utilization of these services was then compared against the TiC-P, with a recall period of 4 weeks. The results indicated that on a population level there was no significant difference between the costs as measured with a recall period of a year compared to a recall period of 4 weeks. Concordantly, there is no reason to believe that the costs calculated in the present study were an over/underestimation, but on the contrary are a realistic representation of the actual costs generated by this population in the year prior to treatment.

The major strength of this study is the use of generic measures to assess the burden of disease, allowing us to compare the burden in this patient population with the burden among patients with other physical and mental disorders. Moreover, the burden of disease can be used in further cost-effectiveness studies to assess the societal willingness-to-pay for a gain in health benefit (e.g., quality-adjusted life year: QALY).

This study has several limitations. First, despite evidence that school absenteeism, violence and criminal behavior in adolescents with complex personality pathology is prevalent, these costs were not included in the present study. This limitation leads to an underestimation of cost calculations. Indeed, this sample of adolescents indicated school problems in the year prior to treatment, including absence from school (27.1%) and reduced efficiency at school or difficulties with school performance (43.6%). Literature indicates that chronic absence from school in the early years can be linked to a number of negative outcomes later in life, including substance abuse, delinquency and dropping out of school (Schweinhart et al., 2005). School absenteeism also has a far-reaching impact on a child's academic progress and thus economic development. That means that our cost calculations are conservative estimates, which further support the notion that personality pathology in adolescents is associated with enormous costs. Future research should include these cost parameters. Another limitation of our study is that we used data from a treatment-seeking patient population, and in particular those who seek specialized psychotherapy for personality problems that were

severe enough to be admitted to an inpatient unit. Therefore, the applicability of the results to non-treatment seekers, forensic care, patients who admit with a primary Axis I diagnosis, or patients attending outpatient services has yet to be established. Finally, research has shown that mental health care problems among adolescents also have an economic impact on families and affect the quality of life of both siblings and parents (Romeo, Byford, & Knapp, 2005). The impact of adolescent personality pathology on the families was not explored in this study. This narrow conceptualization of quality of life and costs leads to an underestimation of the total burden of personality pathology in adolescents on society.

Despite these limitations, our findings suggest that the burden of disease among treatment-seeking adolescents with complex personality pathology is high, comparable to the burden found in the adult population with personality disorders. This high burden provides evidence to suggest that further research and development of (cost-) effective treatment strategies for this population may be worthwhile in order to provide relief for the patients as well as society.

REFERENCES

Allertz, A., & van Voorst, G. (2007). Personality disorders from the perspective of child and adolescent psychiatry. In B. van Luyn, S. Akhtar, & W.J. Livesley (Eds.), *Severe personality disorders: everyday issues in clinical practice* (pp. 79-92). New York: Cambridge University Press.

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders* (4th edition, text revision). Washington, DC: American Psychiatric Association.

Barrett, B., Byford, S., Chitsabesan, P., & Kenning, C. (2006). Mental health provision for young offenders: service use and cost. *British Journal of Psychiatry, 188,* 541-546.

Bastiaansen, D., Koot, H.M., Bongers, I.L., Varni, J.W., & Verhulst, F.C. (2004). Measuring quality of life in children referred for psychiatric problems: Psychometric properties of the PedsQL 4.0 generic core scales. *Quality of Life Research, 13,* 489-495.

Bondurant, H., Greenfield, B., & Tse, S.M. (2004). Construct validity of the adolescent borderline personality disorder: A review. *Canadian Child and Adolescent Psychiatry Review, 13,* 53-57.

Brooks, R., Rabin, R., & de Charro, F. (2003). *The measurement and valuation of health status using EQ-5D: A European perspective*. London: Kluwer Academic Publishers.

Byford, S., Barrett, B., Roberts, C., Wilkinson, P., Dubicka, B., Kelvin, R.G., White, L., Ford, C., Breen, S., & Goodyer, I. (2007a). Cost-effectiveness of selective serotonin reuptake inhibitors and routine specialist care with and without cognitive-behavioural therapy in adolescents with major depression. *British Journal of Psychiatry, 191,* 521-527.

Byford, S., Barrett, B., Roberts, C., Clark, A., Edwards, V., Smethurst, N., & Gowers, S.G. (2007b). Economic evaluation of a randomized controlled trial for anorexia nervosa in adolescents. *British Journal of Psychiatry, 191,* 436-440.

Consumentenprijsindex. Centraal Bureau voor de Statistiek website [Central Bureau for Statistics website]. Available at: http://statline.cbs.nl

Feenstra, D.J., Busschbach, J.J.V., Verheul, R., & Hutsebaut, J. (2011). Prevalence and comorbidity of Axis I and Axis II disorders among treatment refractory adolescents admitted for specialized psychotherapy. *Journal of Personality Disorders, 25,* 842-850.

First, M.B., Spitzer, R.L., Gibbon, M., & Williams, J.B.W. (1997). *Structured clinical interview for DSM-IV axis I disorders (SCID I).* Washington, DC: American Psychiatric Press.

First, M.B., Spitzer, R.L., Gibbon, M., Williams, J.B.W., & Benjamin, L. (1996). *Structured clinical interview for DSM-IV axis II personality disorders (SCID II).* Washington, DC: American Psychiatric Press.

Green, J., Jacobs, B., Beecham, J., Dunn, G., Kroll, L., Tobias, C., & Briskman, J. (2007). Inpatient treatment in child and adolescent psychiatry – a prospective study of health gain and costs. *Journal of Child Psychology and Psychiatry, 48,* 1259-1267.

Grilo, C.M., McGlashan, T.H., Quinlan, D.M., Walker, M.L., Greenfeld, D., & Edell, W.S. (1998). Frequency of personality disorders in two age cohorts of psychiatric inpatients. *American Journal of Psychiatry, 155*, 140-142.

Groenestijn, M.A.C. van, Akkerhuis, G.W., Kupka, R.W., Schneider, N., & Nolen, W.A. (1999). *Gestructureerd klinisch interview voor de vaststelling van DSM-IV as I stoornissen* [Structured clinical interview for DSM-IV axis I disorders]. Amsterdam: Harcourt Test Publishers.

Hakkaart-van Roijen, L. (2002). *Handleiding Trimbos/iMTA Questionnaire for Costs Associated with Psychiatric Illness* [Manual Trimbos/ iMTA Questionnaire for Costs Associated with Psychiatric Illness]. Rotterdam: Institute for Medical Technology Assessment.

Harrington, R., Peters, S., Green, J., Byford, S., Woods, J., & McGowan, R. (2000). Randomised comparison of the effectiveness and costs of community and hospital based mental health services for children with behavioural disorders. *BMJ, 321,* 1047-1050.

Hilderink, I., & van 't Land, H. (2009). *GGZ in tabellen* [GGZ in tables]. Utrecht: Trimbos-instituut.

Hunt, S.M., & McKenna, S.P. (1993). Measuring quality of life in psychiatry. In: S.R. Walker, & R.M. Rossner (Eds). *Quality of Life Assessment: Key issues in the 1990s* (pp. 343-54). Boston: Kluwer Academic.

Johnson, J.G., Cohen, P., Kasen, S., Skodol, A.E., Hamagami, F., & Brook, J.S. (2000). Age-related change in personality disorder trait levels between early adolescence and adulthood: a community-based longitudinal investigation. *Acta Psychiatrica Scandinavica, 102*, 265-275.

Lamers, L.M., Stalmeier, P.F.M., McDonnell, J., Krabbe, P.F.M., & Busschbach, J.J.V. (2005). Kwaliteit van leven meten in economische evaluaties: het Nederlands EQ-5D-tarief [Measurement of quality of life in economic evaluations: The Dutch EQ-5D-tarif]. *Nederlands Tijdschrift voor Geneeskunde, 149*, 1574-1578.

Lynch, F.L., & Clarke, G.N. (2006). Estimating the economic burden of depression in children and adolescents. *American Journal of Preventive Medicine, 31*, 143-151.

Oostenbrink, J.B., Bouwmans, C.A.M., Koopmanschap, M.A., & Rutten, F.F. (2004). *Handleiding voor kostenonderzoek, methoden en standaard kostprijzen voor evaluaties in de gezondheidszorg* [Manual for cost research, methods and unit-prices for economic evaluations in health care]. Amstelveen, the Netherlands: College voor Zorgverzekeringen.

Roijen, L. van, Essink-Bot, M.L., Koopmanschap, M.A., Bonsel, G., & Rutten, F.F. (1996). Labor and health status in economic evaluation of health care: The Health and Labor Questionnaire. *International Journal of Technology Assessment in Health Care, 12*, 405-415.

Romeo, R., Byford, S., & Knapp, M. (2005). Annotation: Economic evaluations of child and adolescent mental health interventions: a systematic review. *Journal of Child Psychology and Psychiatry, 46*, 919-930.

Romeo, R., Knapp, M., & Scott, S. (2006). Economic cost of severe antisocial behaviour in children – and who pays it. *British Journal of Psychiatry, 188,* 547-553.

Schweinhart, L.J., Montie, J., Xiang, Z., Barnett, W.S., Belfield, C.R., & Nores, M. (2005). *Life Time Effects: The High/Scope Perry Preschool Study Through Age 40.* Ypsilanti, MI: High/Scope Press.

Siebelink, B.M., & Treffers, D.A. (2001). *Anxiety disorders interview schedule for DSM-IV child version, Kindinterview* [Anxiety disorders interview schedule for DSM-IV child version, child interview schedule]. Lisse: Swets & Zeitlinger B.V.

Silverman, W.K. & Albano, A.M. (1996). *Anxiety Disorders Interview Schedule for DSM-IV Child Version, child interview schedule.* San Antonio: The Psychological Corporation.

Soeteman, D.I., Hakkaart-van Roijen, L., Verheul, R., & Busschbach, J.J.V. (2008). The economic burden of personality disorders in mental health care. *Journal of Clinical Psychiatry, 69*, 259-265.

Soeteman, D.I., Verheul, R., & Busschbach, J.J.V. (2008). The burden of disease in personality disorders: diagnosis-specific quality of life. *Journal of Personality Disorders, 22*, 259-268.

Stolk, E.A., Pickee, S.J., Ament, A.H.J.A., & Busschbach, J.J.V. (2005). Equity in health care prioritization: an empirical inquiry into social value. *Health Policy, 74*, 343-355.

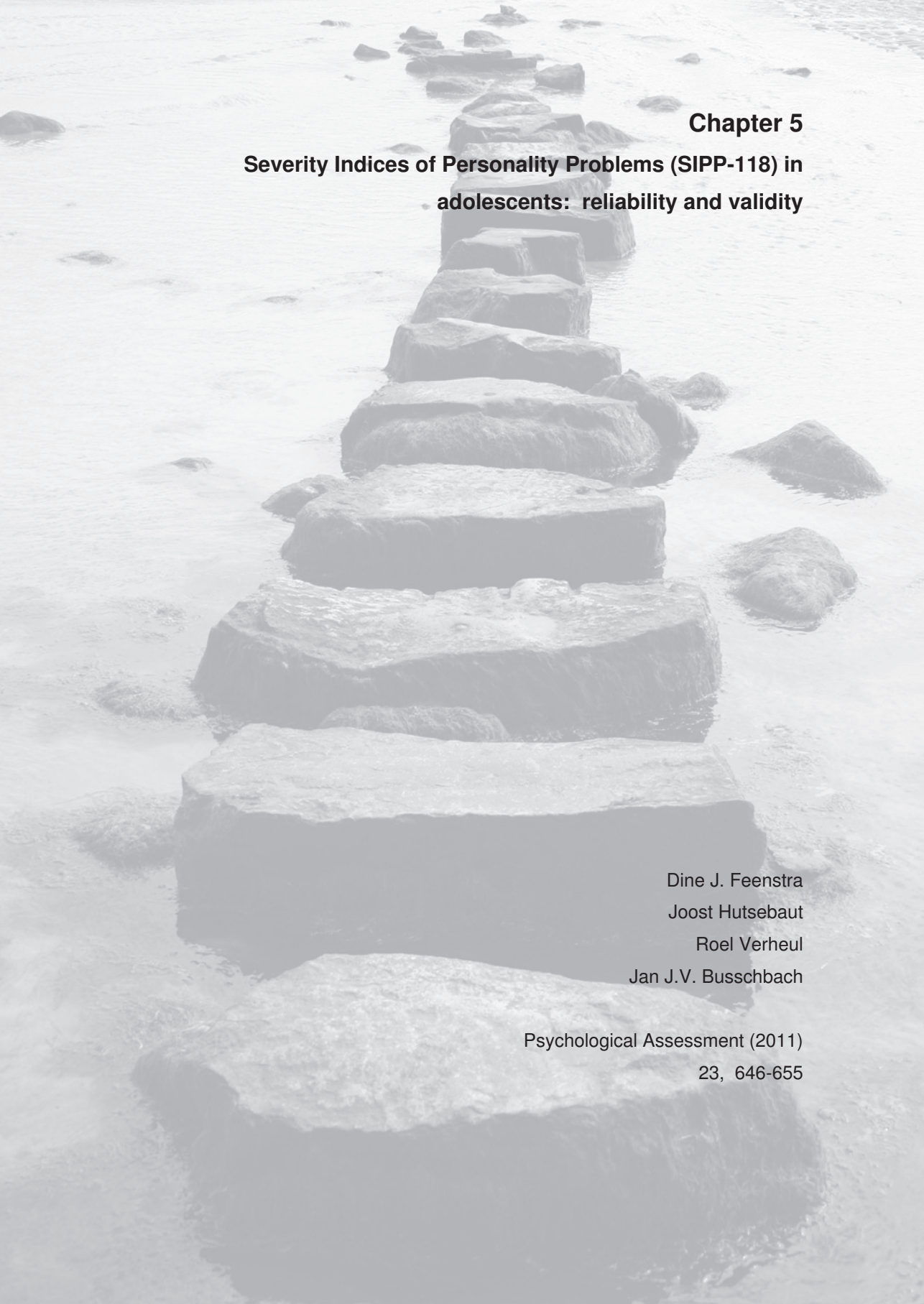
Swensen, A.R., Birnbaum, H.G., Secnik, K., Marvnchenko, M., Greenberg, P., & Claxton, A. (2003). Attention-deficit/hyperactivity disorder: increased costs for patients and their families. *Journal of the American Academy of Child and Adolescent Psychiatry, 42,* 1415-1423.

College voor zorgverzekeringen. (2005). *Farmacotherapeutisch Kompas* [Pharmaceutical Compass]. Houten: Bohn Stafleu Van Loghum.

Torgersen, S., Kringlen, E., & Cramer, V. (2001). The prevalence of personality disorders in a community sample. *Archives of General Psychiatry, 58,* 590-596.

Weertman, A., Arntz, A., & Kerkhofs, M. (1996). *Gestructureerd klinisch interview voor DSM-IV as II persoonlijkheidsstoornissen* [Structured clinical interview for DSM-IV axis II personality disorders]. Amsterdam: Harcourt Test Publishers.

Westen, D., Shedler, J., Durett, C., Glass, S., & Martens, A. (2003). Personality diagnoses in adolescence: DSM-IV axis II diagnoses and an empirically derived alternative. *American Journal of Psychiatry, 160*, 952-966.



Chapter 5

Severity Indices of Personality Problems (SIPP-118) in adolescents: reliability and validity

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ABSTRACT

The Severity Indices of Personality Problems (SIPP-118; Verheul et al., 2008)) is a self-report questionnaire focusing on core components of (mal) adaptive personality functioning. The SIPP-118 was developed and validated in an adult population. In adult populations, the 16 facets of the SIPP-118 fit into 5 higher order domains: self-control, identity integration, relational capacities, social concordance and responsibility. In this study we present the first psychometric properties of the SIPP-118 in adolescents. We compared the SIPP-118 scores of a patient and a non-patient sample of adolescents, and compared personality disordered and non-personality disordered adolescents. In addition, the relationship between scores on the SIPP-118 and other clinical instruments (Symptom Checklist - 90 – Revised; SCL-90-R; Derogatis, 1975; Dimensional Assessment of Personality Pathology – Basic Questionnaire; DAPP-BQ; Livesley & Jackson, 2002) was investigated. The questionnaires were completed by 378 adolescent patients and 389 adolescents in the community. Facets appeared to be homogeneous, as alpha coefficients ranged from .62 to .89, indicating moderate to acceptable reliability. Also, more pathological SIPP-118 scores were found in the patient sample, and more specifically in the personality disordered sample, suggesting that the facet scores of the SIPP-118 can discriminate between various populations (divergent validity). Correlation with other clinical instruments was moderate to high (-.82 to .10). Taken together, the SIPP-118 seems to be a promising instrument measuring personality pathology in adolescents.

INTRODUCTION

The prevalence of personality disorders in children and adolescents is still a point of debate, but there is cumulative evidence that personality disorders can be reliably diagnosed in adolescents (see, for example, Chanen & McCutcheon, 2008; Grilo et al., 1998; Johnson et al., 2000; Westen, Shedler, Durett, Glass, & Martens, 2003). As in adults, there is a clear need for valid measures of personality pathology in children and adolescents. A candidate for such a questionnaire is the recently developed Severity Indices of Personality Problems (SIPP-118; Verheul et al., 2008). This is a self-report questionnaire focusing on core components of (mal) adaptive personality functioning. In adult populations, the 16 facets of the SIPP-118 fit into 5 higher order domains: self-control, identity integration, relational capacities, social concordance, and responsibility. In this study we present the first psychometric properties of the SIPP-118 in several samples of adolescents.

Instruments measuring adolescent personality pathology

Recently, Tromp and Koot (2008) adapted the Dimensional Assessment of Personality Pathology Basic Questionnaire (DAPP-BQ; Livesley & Jackson, 2002) to make it suitable for adolescents. The original adult version of the DAPP-BQ was translated to Dutch (van Kampen, 2002, 2006); subsequently items and instructions were modified to be age appropriate by replacing difficult and uncommon words by synonyms from a children's dictionary. Also, items on sexual experiences were made more age appropriate by adding the instruction also to consider masturbation. Furthermore, a "not applicable" option was added for nine items about sex, drug- and alcohol use. Typically, no items were added or deleted a priori because the authors proposed that personality traits in adolescents are comparable with the traits in adults. Indeed, factor analytic studies in normal and clinical samples of adolescents showed a factor structure that was highly similar to the one found in adult studies with the original DAPP-BQ. Four dimensions were identified: emotional dysregulation, dissocial behavior, inhibitedness, and compulsivity. De Clercq, De Fruyt, Van Leeuwen, and Mervielde (2006) took a somewhat different approach. Building on previous research on normal personality measures at the University of Ghent with the Hierarchical Personality Inventory for Children (HiPIC: Mervielde & De Fruyt, 1999, 2002; Mervielde, De Fruyt, & De

Clercq, 2005), they constructed a personality questionnaire based on extreme versions of normal personality traits in childhood. These traits were based on descriptions of child expressions of traits by parents. The resulting instrument, the Dimensional Personality Symptom Item Pool (DIPSI), appeared to have a factor structure similar to the factor structure found with the DAPP-BQ, identifying four factors: Disagreeableness, Emotional Instability, Introversion, and Compulsivity.

Yet another approach was taken by Westen et al. (2003). They asked clinicians to sort out different expressions about a patient on a scale, restricting the number of descriptions that could be attributed to each category (Q-sort). Q analysis revealed 10 categories of personality pathology that corresponded with each of the 10 Axis II personality disorders as described in the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2000). All of these approaches seem to lead to the conclusion that personality pathology in adolescence has a structure similar to personality pathology in adults.

A shortcoming of these instruments, however, is that they do not focus on changeable aspects of personality pathology. Such focus is warranted as the traditional view is that personality disorders are stable and resistant to therapeutic change. This traditional view has been challenged by a number of studies giving evidence for the changeability and treatability of personality disorders (see for example Bateman & Fonagy, 2001; Linehan et al., 2006). Such findings enhance the need for measurements of personality pathology that can capture these changeable aspects of personality disorders as they are influenced by psychotherapeutic treatment. Recently, the Severity Indices of Personality Problems (SIPP-118; Verheul et al., 2008) was developed as an instrument for measuring the core components of (mal) adaptive personality functioning sensitive to change.

SIPP-118

The theoretical conceptualization of the SIPP-118 is based on a number of assumptions. First, the instrument is based on the assumption of personality as a changeable entity. The SIPP-118 therefore aims to be sensitive to changes in personality functioning. Second, changes are expected in specific components of personality. It is assumed that one can discriminate rigid, maturational-based components of personality from the changeable components of personality.

Examples of the rigid, maturational-based components are temperament and basic traits. Examples of the changeable components of personality are the adaptive capacities. These adaptive capacities refer to the dynamic organization of personality that concerns the regulation of self and relationships with others, and comprise characteristics including affect and impulse regulation, self and other representations, identity, coping strategies, and acquired skills. Thus, according to this view, the changeability of personality and personality disorder is likely to be more pronounced for (mal) adaptive capacities than for the more stable constitutionally based components (McGlashan et al., 2005; Verheul et al., 2008). For this reason, a questionnaire measuring changes in personality disorders should focus on the adaptive capacities. Third, the authors assume an inverse relation between level of adaptation and the severity of personality pathology. Personality pathology can therefore be conceptualized as a deficiency in the development of adaptational capacities that enable persons to deal with developmental tasks and life challenges. Fourth, the SIPP-118 is based on the assumption of a distinction between specific traits and a general level of adaptation; it aims at measuring the common components of personality pathology beyond the specific types or categories of personality disorders. Fifth, the instrument takes a dimensional approach to personality pathology, assuming a continuity between adaptation and maladaptation as relatively independent of specific styles of personality functioning. Finally, the instrument construction is based on the assumption that psychotherapy works in personality disorders due to its ability to modify the changeable (mal) adaptive capacities and thereby enhances the level of adaptation. In summary, the SIPP-118 is based on a theoretical view of personality pathology as constituting changeable components that can be generalized to various categories and types of personality pathology and that are continuous with normal, adaptive personality functioning.

SIPP-118: test construction and psychometric properties

An expert-guided, rational-intuitive approach in the selection of items was used. In the first trial, 265 items were elaborated. Finally, these items were reduced to 118, so that the measure comprised 16 internally consistent and clinically interpretable facets (Verheul et al., 2008). The facets are clustered into five higher-order domains, which were weighted sums using primary and secondary loadings in

accordance with factor analytic and qualitative considerations. The factors were interpreted as follows: a) Self-control, including the facets of emotion regulation and effortful control, b) Identity Integration, including the facets of self-respect, stable self-image, self-reflexive functioning, enjoyment, and purposefulness, c) Relational Capacities, including the facets of intimacy, enduring relationships, and feeling recognized, d) Responsibility, including the facets of trustworthiness and responsible industry, and e) Social Concordance, including the facets of aggression regulation, frustration tolerance, respect, and cooperation (Andrea et al., 2007). Intercorrelations between these factors ranged from .27 to .60. Validity of the facets was established in a number of ways. First, concurrent validity was supported by the finding that 12 out of 16 facet scores were lowest in a personality disorder sample, intermediate scores occurred in a psychiatric outpatient sample, and the highest scores were found in a normal sample. Second, the number of personality disorders appeared to be strongly associated with SIPP-118 scores. Third, the SIPP-118 facet and domain scores showed a predictable pattern of correlations with the DAPP-BQ (Livesley & Jackson, 2002), a specific test for personality dimensions. Fourth, test-retest reliability in short periods of time was excellent, showing the SIPP-118 scores to be relatively insensitive to contamination by short-term state changes. And finally, the scores did improve for a patient population in treatment over the course of 1-year treatment. This suggests sensitivity of the SIPP-118 scores to mid- and long-term adaptational changes (Verheul et al., 2008).

Recently, a Norwegian study has replicated the original Dutch study in order to establish the cross-national validity of the questionnaire (Arnevik, Wilberg, Monsen, Andrea, & Karterud, 2009). The results of this study show good cross-national validity of the SIPP-118. So far, the SIPP-118 has not been tested in a sample of adolescents. To see whether the results of the original Dutch adult sample are generalizable to an adolescent population, we needed to examine internal and external validity of the questionnaire. In this study, we tested the psychometric properties of the SIPP-118 in adolescents by replicating the original adult study in several samples of adolescents. As in adults, we expected the facets to be internally consistent and correlations of facets in the same domain to be higher than correlations of facets from different domains. Furthermore, we investigated the SIPP-118 as a valid measure of general personality pathology by

investigating the relationship between SIPP-118 and well established measures of psychosocial function and symptomatic distress. Finally, we investigated the SIPP-118's sensitivity to change in a sample of adolescent patients.

METHOD

Participants

Data from the community used in this study were collected in several high schools in Belgium. After purpose of the study was explained, the high school students completed the questionnaires under supervision during a school free hour. Students received no compensation for completing the questionnaires. Patient data were collected from mental health settings in Belgium (University Hospital St. Jozef) and in the Netherlands (De Viersprong, National Institute of Personality Disorders). In both cases, adolescents admitted to the hospital youth department underwent a standard test battery as part of the intake procedure. In the Belgium mental health setting, the standard test battery consisted of three questionnaires, including the SIPP-118. In the Dutch mental health setting, the standard test battery consisted of the same three questionnaires as well as two semi-structured interviews. All patients signed informed consent. The study was approved by the Ethical Commission of the Psychological Department of the University of Amsterdam.

Instruments

SIPP-118: SIPP-118 is a dimensional measure for the severity of personality pathology, developed in the Netherlands (Verheul et al., 2008). This instrument aims to measure the core components of (mal) adaptive personality functioning. The SIPP-118 asks the respondents to think about the past three months and to answer the extent to which they agree with statements like "I frequently say things I regret later" or "Whenever I feel something, I can almost always name that feeling". The response categories range from 1 to 4 and are described as fully disagree, partly disagree, partly agree, or fully agree. The measure comprises 16 facets: emotion regulation, aggression regulation, effortful control, frustration tolerance, self-respect, stable self-image, self-reflexive functioning, enjoyment, purposefulness, responsible industry, trustworthiness, intimacy, enduring relationships, feeling recognized, cooperation, and respect. These facets are

clustered into five higher order domains named social concordance, relational functioning, self-control, responsibility, and identity integration. High scores in the facets indicate better adaptive functioning, whereas lower scores represent more maladaptive personality functioning.

Symptomatic distress: The Dutch version of the Symptom Checklist 90 – Revised (Derogatis, 1975; translated by Arrindell & Ettema, 2003) was used to measure general psychiatric symptomatology. The SCL-90-R is a self-report questionnaire to assess the most important areas of psychiatric symptomatology represented by nine subscales. These nine subscales can be summarized in a global score of symptomatic distress; the Global Severity Index (GSI). Subjects are asked to indicate on a scale ranging from 1 to 5 how much discomfort each of the complaints described by the 90 items has caused them during the past week, including the day of testing. Research by Arrindell and Ettema (2003) has supported the reliability and validity of the Dutch version of the SCL-90-R.

Personality functioning: Besides the SIPP-118, we used the DAPP-BQ (Livesley & Jackson, 2002) as a measure for personality functioning. The DAPP-BQ is a 290-item, self-report questionnaire covering 18 lower order dimensions and 4 higher order dimensions of personality pathology. The coefficient alpha scores of the 18 DAPP-BQ scales ranged from 0.78 to 0.94 for a Dutch adult population. Factor analyses of the scales of the Dutch version of the DAPP-BQ (van Kampen, 2002, 2006) also retained four factors.

Axis II diagnosis: The Structured Clinical Interview for DSM-IV axis II Personality Disorders (SCID II; First, Spitzer, Gibbon, Williams, & Benjamin,1996; translated by Weertman, Arntz, & Kerkhofs, 1996) was used to classify personality disorders. Criteria were scored if pathology and pervasiveness was clear. Also, according to DSM-IV-TR (American Psychiatric Association, 2000) guidelines for adolescents, criteria had to be present for at least 1 year. Because DSM-IV-TR does not allow for antisocial personality disorder to be diagnosed in adolescents under the age of 18, this section was left out of the interview for the adolescents under 18. Previous research has shown (see, for example, Maffei et al., 1997; Weertman, Arntz, Dreessen, Van Velzen, & Vertommen, 2003) that the DSM-IV version of the SCID-II has good interrater reliability and test-retest interrater reliability for the presence or absence of a personality disorder diagnosis in adults. Although the SCID-II is designed for classifying personality disorders in adults, previous studies including

adolescent samples have shown that the SCID-II is a useful instrument in an adolescent age group (Tromp & Koot, 2010).

Statistical procedures

We used Cronbach's alpha to investigate the internal consistency of the facets of the SIPP-118. Pearson's correlations were used to test associations between the facets to see whether facets within a domain had higher correlations than did facets between domains. As in the adult study, median correlation scores are given to ensure the possibility to compare results between this study and the original Dutch adult study. An exploratory factor analysis was carried out, using promax rotation, to investigate the structure of the facet scores. Differences on the facets scores between the non-patient and patient sample, and between patients without and those with personality disorder were tested using independent sample *t* tests. Due to the number of *t* tests (16), the family wise error rate was large (.56). We controlled for this error rate by correcting the level of significance for each test, using the Bonferroni correction. The significance level for the analyses was set on .003 (.05/16). Effect sizes were computed using Cohen's *d*. To investigate the relation between severity of personality pathology, measured by personality disorder traits, and SIPP-118 scores, we divided one of the samples in quartiles based on the number of traits. Differences on the domain scores for the different quartiles were tested using analysis of variances and Bonferroni post hoc comparisons tests. Associations between SIPP-118 facet and domain scores and other measurements were tested by Pearson's correlations. Sensitivity to change was investigated by using paired *t* tests of two measurements with an interval of 12 months in between. Here again, we controlled for the large family wise error rate by correcting the level of significance for each test, using a Bonferroni correction. The significance level was set on .003.

RESULTS

Sample characteristics

This study comprised various samples of adolescents with a total of 767 participants (see Table 5.1). Sample 1 consisted of 406 high school students; 17 students did not complete the whole assessment battery, leaving 389 students for the current study. Three hundred and six students were girls (78.7%), and the

mean age of this group was 16.3 (SD = 1.24). Sample 2 included 129 adolescents from the inpatient units of University Hospital St. Jozef and de Viersprong. Seven adolescents did not complete the whole assessment battery, leaving 122 adolescents for this sample. The mean age of this group of inpatients was 16.9 (SD = 1.26), and 102 inpatients were girls (83.6%). Sample 3 included 263 adolescents referred to the adolescent department of de Viersprong; seven adolescents did not complete the whole assessment battery, leaving 256 adolescents for the analyses. This sample had a mean age of 16.3 (SD = 1.39), and 214 patients were girls (83.6%). Sample 3 was divided into quartiles based on the number of personality disorder traits. Quartile 1 consisted of 76 adolescents, of whom 57 were girls (75%), with a mean age of 16.0 (SD = 1.44). Quartile 2 consisted of 66 adolescents, 52 were girls (78.8%), with a mean age of 16.3 (SD = 1.41). Quartile 3 consisted of 59 adolescents, of whom 54 were girls (91.5%), with a mean age of 16.5 (SD = 1.37). Quartile 4 consisted of 55 adolescents, of whom 51 were girls (92.7%), with a mean age of 16.5 (SD = 1.26). A subset of Sample 3 (53 adolescents; 44 were girls [83.0%]) got admitted to the inpatient unit of de Viersprong. This Sample 4 had a mean age of 16.8 (SD = 1.22).

Table 5.1 Overview of the samples, with a total of 772 adolescents

Sample No.	N	Type of participants	Type of assessment battery
1	392	High school students	SIPP-118; SCL-90; DAPP-BQ
2	122	Adolescent patients admitted to the adolescent inpatient units of De Viersprong and UH Sint Josef	SIPP-118; SCL-90; DAPP-BQ
3	256	Adolescent patients referred to the adolescent department of De Viersprong	SIPP-118; SCID II
4	53	Adolescent patients admitted to the adolescent inpatient unit of De Viersprong	SIPP-118; SCID II

Footnote: SIPP-118 = Severity Indices of Personality Problems; SCL-90-R = Symptom Checklist 90 – Revised; DAPP-BQ = Dimensional Assessment of Personality Pathology – Basic Questionnaire; SCID-II – Structured Clinical Interview for DSM-IV Axis II Personality Disorders.

Reliability of Facets

The facets in the patient sample showed Cronbach's alpha scores ranging from .62 to .89 (see Table 5.2), with a mean estimated alpha score of .78. The only facet with an alpha score below .70, indicating low to moderate reliability, was the facet respect. These results are comparable to the alpha scores found in an adult patient sample, where alpha scores ranged from .69 to .86 (see Verheul et al., 2008).

Table 5.2 SIPP-118 facet reliability

Facets	Number of items	Cronbach's alpha			
		Dutch adolescent patient sample (n = 256)	Dutch adolescent community sample (n = 389)	Dutch adult personality disorder sample (n = 1208)	Dutch adult general population (n = 478)
Emotion regulation	7	0.81	0.78	0.79	0.82
Effortful control	7	0.78	0.62	0.80	0.72
Self-respect	8	0.89	0.80	0.83	0.83
Stable self-image	7	0.80	0.73	0.77	0.82
Self-reflexive functioning	7	0.73	0.68	0.75	0.81
Enjoyment	7	0.78	0.72	0.77	0.79
Purposefulness	7	0.77	0.69	0.76	0.74
Intimacy	7	0.80	0.72	0.81	0.83
Enduring relationships	7	0.74	0.72	0.75	0.75
Feeling recognized	8	0.74	0.77	0.76	0.80
Aggression regulation	8	0.88	0.82	0.84	0.79
Frustration tolerance	8	0.78	0.69	0.73	0.78
Cooperation	8	0.81	0.75	0.78	0.76
Respect	7	0.62	0.59	0.69	0.65
Responsible industry	7	0.77	0.69	0.76	0.68
Trustworthiness	8	0.74	0.72	0.76	0.69

Correlations of facets

The median correlation (in Sample 3; n = 256) for facets within a domain (intradomain correlation) was .59 (range = .24 - .73). The median correlation for facets from different domains (interdomain correlation) was lower, that is, .41 (range = .10 - .68). These results are similar to the facet correlations found in the adult population (median intradomain correlation was .56; median interdomain correlation was .39).

Factor structure

An exploratory factor analysis was carried out in the patient sample (Sample 3; n = 256). In comparison to the results in the adult sample (see Andrea et al., 2007), a five factor model was chosen. These five factors accounted for 78% of the variance. On the basis of the pattern of rotated factor loadings (see Table 5.3) the factors were interpreted as follows: Factor 1, Self-control (with primary loadings of emotion regulation, effortful control, stable self-image, and self-reflexive functioning); Factor 2, Social Concordance (with primary loadings of aggression regulation, respect, and cooperation); Factor 3, Identity Integration (with primary loadings of frustration tolerance, self-respect, purposefulness, and enjoyment); Factor 4, Relational Capacities (with primary loadings of feeling recognized, intimacy, and enduring relationships); and Factor 5, Responsibility (with primary loadings of responsible industry and trustworthiness). In the adult sample, on the basis of statistical grounds and theoretical considerations, it was decided to move the facet of frustration tolerance from the factor Identity Integration to the factor Social Concordance and to move the facets of stable self-image and self-reflexive functioning from the factor Self-control to the factor Identity Integration. In this next step, we decided to go along with the changes that were made by experts for the factor structure in adults. The final five-factor model of the SIPP-118 in adolescents can be interpreted as follows: a) Self-control, including the facets of emotion regulation and effortful control; b) Social Concordance, including the facets of aggression regulation, frustration tolerance, respect, and cooperation; c) Identity Integration, including the facets of self-respect, stable self-image, self-reflexive functioning, enjoyment, and purposefulness; d) Relational Capacities, including the facets of intimacy, enduring relationships, and feeling recognized;

and e) Responsibility, including the facets of trustworthiness and responsible Industry.

Table 5.3 Factor structure of the 16 facets of the SIPP-118 in the patient sample (Sample 3; n = 256)

	Factor loading				
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Eigenvalue	7.7	2.2	1.1	0.8	0.7
Factor 1: Self-control					
Emotion regulation	**.80**	.03	.15	.05	-.04
Effortful control	**.73**	-.11	.16	-.14	.25
Stable self-image	**.48**	-.04	**.46**	.09	.02
Self-reflexive functioning	**.48**	-.11	.26	.31	.05
Factor 2: Social concordance					
Aggression regulation	**.89**	**.42**	-.28	-.00	-.09
Respect	.26	**.85**	-.07	-.00	-.01
Cooperation	-.29	**.51**	**.53**	.12	.15
Factor 3: Identity integration					
Frustration tolerance	.30	.14	**.71**	-.27	.03
Self-respect	.09	-.27	**.82**	.16	-.12
Purposefulness	.02	-.03	**.86**	-.09	.09
Enjoyment	-.06	.09	**.97**	-.05	-.17
Factor 4: Relational capacities					
Feeling recognized	-.06	.11	**.49**	**.42**	.05
Intimacy	-.04	-.03	-.12	**1.01**	.03
Enduring relationships	.08	.14	.30	**.58**	-.05
Factor 5: Responsibility					
Responsible industry	-.02	.06	.08	-.10	**.89**
Trustworthiness	.10	-.03	-.23	.13	**.94**

Footnote: Exploratory factor analysis results were achieved with Promax rotation. Factor loadings greater than .40 are printed in bold.

Differences between non-patient and patient samples of adolescents

Patients versus non-patients

In Table 5.4, one can observe that facet scores in the community sample (Sample 1; n = 389) were statistically significantly higher ($p < .003$) than were scores from adolescents in the patient samples (Samples 2 and 3; n = 378), except for the facet respect. This indicates that the scores of adolescent patients are more

maladaptive and thus more pathological. Effect sizes (*d*) ranged from 0.15 (respect) to 1.35 (self-respect) indicating small to very large differences.

Table 5.4 Mean SIPP-118 facet scores of non-patients (Sample 1) and patients (Sample 2 + 3)

Facet	Sample		*t*	Effect size
	Sample 1 (n = 389) M (SD)	Sample 2 + 3 (n = 378) M (SD)		(*d*)
Emotion regulation	3.00 (.59)	2.30 (.68)	15.065*	1.10
Effortful control	2.69 (.52)	2.34 (.68)	7.874*	0.57
Self-respect	3.16 (.74)	2.11 (.81)	20.171*	1.35
Stable self-image	2.94 (.58)	2.16 (.63)	17.650*	1.28
Self-reflexive functioning	2.99 (.51)	2.24 (.60)	18.484*	1.34
Enjoyment	3.34 (.51)	2.57 (.65)	18.296*	1.33
Purposefulness	3.16 (.52)	2.46 (.70)	15.697*	1.14
Intimacy	3.16 (.54)	2.55 (.67)	13.870*	1.01
Enduring relationships	3.29 (.53)	2.60 (.63)	16.507*	1.20
Feeling recognized	3.07 (.54)	2.43 (.61)	15.267*	1.10
Aggression regulation	3.27 (.60)	2.94 (.79)	6.473*	0.47
Frustration tolerance	2.77 (.50)	2.17 (.60)	15.206*	1.10
Cooperation	3.24 (.48)	2.76 (.59)	12.343*	0.90
Respect	3.16 (.45)	3.10 (.50)	1.991	0.14
Responsible industry	2.87 (.54)	2.62 (.63)	6.082*	0.44
Trustworthiness	3.11 (.50)	2.90 (.56)	5.461*	0.40

Footnote: * $p < .003$. Equal variances were assumed (df = 765) for the facets stable self-image, feeling recognized, and respect. Equal variances were not assumed for the other facets (with df ranging from 672.262 to 751.236).

Personality disorder versus non-personality disorder sample

Table 5.5 shows that, in line with the hypotheses, more pathological scores were found for the personality disordered adolescents for all the facets. These differences were statistically significant at the .003 level for all facets, except for the facets aggression regulation and trustworthiness. Effect sizes (*d*) ranged from 0.19 (trustworthiness) to 0.93 (feeling recognized), indicating small to large differences.

Table 5.5 Mean SIPP-118 facet scores of patients without PD and patients with PD (Sample 3)

Facet	Sample		*t*	Effect size
	Patients without PD (n = 153) M (SD)	Patients with PD (n = 103) M (SD)		(*d*)
Emotion regulation	2.51 (.65)	1.95 (.59)	7.034*	0.90
Effortful control	2.53 (.66)	2.03 (.58)	6.263*	0.80
Self-respect	2.46 (.82)	1.78 (.61)	7.547*	0.91
Stable self-image	2.39 (.68)	1.87 (.48)	7.218*	0.86
Self-reflexive functioning	2.45 (.62)	2.08 (.44)	5.512*	0.66
Enjoyment	2.82 (.64)	2.32 (.56)	6.555*	0.82
Purposefulness	2.75 (.70)	2.22 (.56)	6.646*	0.82
Intimacy	2.73 (.62)	2.38 (.67)	4.245*	0.54
Enduring relationships	2.86 (.60)	2.37 (.56)	6.543*	0.84
Feeling recognized	2.69 (.61)	2.16 (.48)	7.661*	0.93
Aggression regulation	3.01 (.76)	2.72 (.80)	2.951	0.38
Frustration tolerance	2.31 (.60)	1.93 (.49)	5.504*	0.68
Cooperation	2.92 (.57)	2.62 (.61)	4.109*	0.53
Respect	3.21 (.42)	3.02 (.49)	3.245*	0.43
Responsible industry	2.75 (.64)	2.48 (.61)	3.417*	0.44
Trustworthiness	2.94 (.58)	2.84 (.52)	1.516	0.19

Footnote: * p < .003. Equal variances were assumed (df = 254) for the facets emotion regulation, effortful control, Intimacy, enduring relationships, aggression regulation, cooperation, responsible industry, and trustworthiness. Equal variances were not assumed for the other facets (with df ranging from 196.573 to 253.600). PD = personality disorder.

Severity of personality pathology

As can been seen in Table 5.6, the lowest pathological domain scores were found in the group with the lowest number of personality disorder traits. The group with the most personality disorder traits had the most maladaptive and pathological domain scores. The differences between Quartile 1 and 4 were statistically significant for all of the domains (after Bonferroni correction), indicating that severity (in terms of a greater number of personality disorder traits) is captured by more maladaptive SIPP-118 scores.

Table 5.6 Association between number of PD traits and SIPP-118 domain scores (Sample 3; n = 256)

	Mean number of diagnosable personality disorder traits				
	Quartile 1 0.84 (0-2) (n = 76)	Quartile 2 4.15 (3-5) (n = 66)	Quartile 3 7.08 (6-8) (n = 59)	Quartile 4 11.76 (9-23) (n = 55)	Statistical significant post hoc test ($p < 0.05$, after Bonferroni correction)
Self-control	4.7927	4.2253	3.7685	3.5798	1< 2< 3+
Identity integration	4.1189	3.5657	3.1416	2.9340	1< 2< 3+
Relational capacities	4.4730	3.9822	3.9068	3.4571	1< 2+
Social concordance	5.6837	5.4874	5.4465	5.0414	1< 4
Responsibility	4.4347	4.1833	4.1557	3.9739	1< 4

Footnote: PD = personality disorder.

Correlation with other measurements

Psychiatric symptoms

The domain scores of the SIPP-118 were correlated with the GSI of the SCL-90-R. For all the facets and domains of the SIPP-118, we found negative correlations with the GSI score (see Table 5.7). All correlations were significant at the .01 level. We would expect correlations to be negative, as lower SIPP-118 scores (higher pathological scores) should correlate with higher GSI scores (greater number of symptoms).

Personality pathology

We correlated the domain scores of the SIPP-118 with the DAPP-BQ dimension scores. Both measures intend to cover the domains of psychopathology in personality disorders. As expected, we observed several strong associations. The self-control domain of the SIPP-118 correlated best (r = -.70) with affect lability of the DAPP-BQ. Identity integration (SIPP-118) correlated best (r = -.82) with identity problems (DAPP-BQ). The relational capacities domain of the SIPP-118 also correlated most (r = -.72) with identity problems of the DAPP-BQ. The social concordance domain was highly correlated with interpersonal disesteem (r = -.65). The responsibility domain correlated most with passive oppositionality (r = -.69) (see Table 5.8).

Table 5.7 Correlation SIPP-118 domain scores and the Global Severity Index (GSI) (Sample 2; n = 71[a])

	Global Severity Index (GSI)
Self-control domain	-.67**
Identity integration domain	-.80**
Relational capacities domain	-.68**
Social concordance domain	-.47**
Responsibility domain	-.34**

Footnote: * p < .05; ** p < .01; *** p < .001. [a] Due to missing values in the GSI score, the number of patients in this analysis is smaller than the total sample size.

Table 5.8 Correlation SIPP-118 domain scores and the DAPP-BQ dimensions (Sample 2; n = 120-121[a])

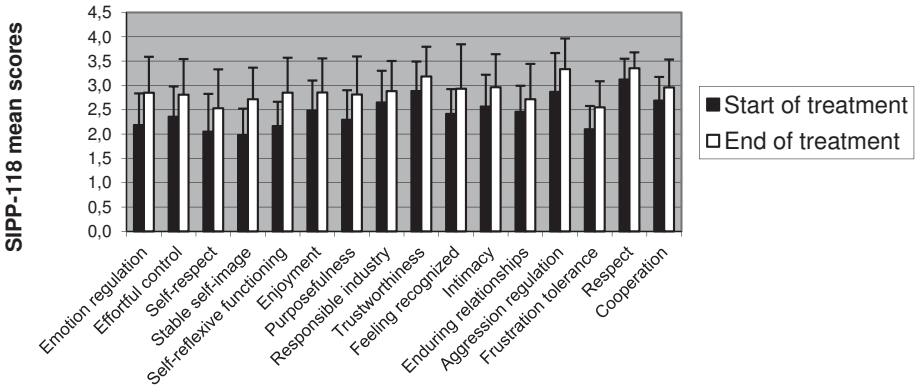
	SIPP domains				
DAPP dimensions	Self-control domain	Identity integration domain	Relational functioning domain	Social concordance domain	Responsibility domain
Diffidence	-.33**	-.60**	-.36**	-.06	-.02
Cognitive distortion	-.57**	-.71**	-.58**	-.34**	-.47**
Identity problems	-.55**	-.82**	-.72**	-.35**	-.35**
Affect lability	-.70**	-.62**	-.42**	-.61**	-.43**
Stimulus seeking	-.48**	-.22*	-.18	-.35**	-.65**
Compulsivity	.02	-.17	-.13	-.01	.47**
Restricted expression	-.33**	-.63**	-.69**	-.14	-.10
Interpersonal disesteem	-.39**	-.17	-.27**	-.65**	-.52**
Passive oppositionality	-.56**	-.59**	-.46**	-.36**	-.69**
Intimacy problems	-.28**	-.33**	-.23*	-.21*	-.22*
Rejection	-.18*	.10	-.09	-.57**	-.31**
Anxiousness	-.52**	-.75**	-.53**	-.19*	-.16
Conduct problems	-.55**	-.28**	-.25**	-.48**	-.68**
Suspiciousness	-.53**	-.61**	-.59**	-.53**	-.32**
Social avoidance	-.45**	-.73**	-.66**	-.33**	-.15
Narcissism	-.22*	-.11	-.04	-.44**	-.22*
Insecure attachment	-.27**	-.27**	-.13	-.34**	-.10
Self harm	-.49**	-.72**	-.41**	-.12	-.25**
Median	-.47	-.61	-.39	-.35	-.32

Footnote: * p < .05; ** p < .01; *** p < .001. [a] Due to missing values in the DAPP-BQ dimensions, the number of patients in this analysis is smaller than the total sample size and varies from 120 to 121.

Sensitivity to change

A subset of adolescents from the patient sample (n = 53) got admitted to the inpatient unit of the youth department of de Viersprong. These adolescents filled in the SIPP-118 at the start of treatment as well as 12 months after start of treatment, which was the end of the treatment program. As seen in Figure 5.1 the adolescents showed improvement on all facets. These improvements were significant at the .003 level for all the facets, except for the facets of enduring relationships and responsible industry. Effect sizes (*d*) ranged from 0.37 (for the facet of responsible industry) to 1.24 (for the facet of stable self-image), indicating small to very large effects. These results provide preliminary evidence for the sensitivity of SIPP-118 scores to adaptational changes.

Figure 5.1 Sensitivity to change (Sample 4; n = 53)



DISCUSSION

Summary

The aim of this study was to investigate the psychometric properties of the SIPP-118 as a dimensional measure of core components of (mal) adaptive personality functioning in adolescents. At the facet level, we found acceptable internal consistency with Cronbach's alphas similar to the Dutch adult sample, ranging from .63 to .89. We also found higher correlations for facets within a domain than for facets from different domains. The factor structure of the SIPP-118 adolescent

sample was found to be similar to the factor structure found in adult samples (Andrea et al., 2007). In addition, the facets of the SIPP-118 appeared to discriminate between various populations, and we found significantly more pathological facet scores in the clinical sample of adolescents than in the normal sample. Also, personality disordered adolescents had significantly higher pathological scores on the facets than did adolescents with no personality disorder. Regarding the severity of personality disorders, larger maladaptive scores were found for adolescents with a higher number of personality disorder traits than adolescents with a lower number of personality disorder traits. Correlation with general psychopathology was moderate to high, as we would expect personality pathology to be associated with a vulnerability for symptoms and psychopathology. Also the SIPP-118 domain scores correlated with expected dimensions of another instrument measuring personality pathology. Finally, the facet scores displayed substantial changes during the course of treatment, supporting their potential sensitivity to adaptational changes.

Strengths and limitations

One of the strengths of this study is that the instrument investigated represents an innovative and promising approach to the assessment of changeable (mal) adaptive personality functioning. The SIPP-118 is consistent with the line of thinking toward more dimensional approaches of measuring personality pathology (see, for example, Widiger & Simonsen, 2005). Furthermore, the use of a semi-structured interview to classify Axis II personality disorders is a strength of this study as it enables the contribution to the discussion about the existence of personality disorders in adolescents. In our sample, however, girls were overrepresented. This is a limitation of this study, and we suggest that more research is needed that includes a larger number of adolescent boys in the sample investigated. Furthermore, our sample consists of mainly native Dutch adolescents, with minimal diversity in cultural background. This might limit the generalizability of our findings to adolescent with other cultural backgrounds. Further research is needed that includes adolescents from other cultural contexts.

One can further argue that one has to rewrite the items of an adult instrument if one uses it in an adolescent population. Some items regarding work (e.g., “At work I get easily irritated about other people’s ways of doing things”) might be more

understandable for adolescents when work is replaced by school. Other items might be more understandable when stated more simply (e.g., “I seem to lack the sense of responsibility necessary to meet my obligations”). In this study we chose not to adjust the items of the adult version of the SIPP-118 for adolescents in order to make the scores of the adolescent version as compatible as possible with the adult version. A downside of this approach is that we do not know if we capture with the SIPP-118 all core components of adolescent personality pathology. That at least some difference exists might, for instance, be deduced from the conflicting evidence for the facet of respect.

Policy

As discussed at the beginning of this article, the presence of personality disorders in adolescents is a matter of intense debate. Recent research however, shows that the prevalence of personality disorders in adolescents is equal to the prevalence of personality disorders in adults, in both a community (Johnson et al., 2000) and clinical sample (Grilo et al., 1998; Westen et al., 2003). Furthermore, there is increasing evidence that a personality disorder diagnosis is a valid way to identify a group of severely disturbed adolescents with a negative prognosis into (young) adulthood (Braun-Scharm, 1996; Daley et al., 1999; Daley, Rizzo, & Gunderson, 2006; Johnson, Chen, & Cohen, 2004; Johnson et al., 1999; Johnson et al., 2005; Kasen et al., 2007; Lavan & Johnson, 2002; Serman, Johnson, Geller, Kanost, & Zacharapoulou, 2002; Westen et al., 2003). In this study we have tried to apply an adult test for personality disorders to adolescents and found comparable psychometric characteristics. This is a necessary, although not sufficient, condition if personality disorder indeed exists in adolescents. A next step might be to compare the factor structure of instruments like the SIPP-118 in both adults and adolescents using confirmatory factor analysis.

Conclusion

The SIPP-118 was shown to have good internal consistency in an adolescent sample, as alpha coefficients for the facets ranged from .62 to .89. More pathological SIPP-118 scores were found in the patient sample, and more specifically in the personality disordered sample, suggesting good divergent validity. Correlation with other instruments was moderate to high. These results

suggest that the SIPP-118 seems to be a promising instrument to measure the core components of adolescent (mal) adaptive personality pathology.

REFERENCES

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders (4th edition, text revision)*. Washington, DC: American Psychiatric Association.

Andrea, H., Verheul, R., Berghout, C.C., Dolan, C., Van der Kroft, P.J.A., Busschbach, J.J.V., Bateman, A.W., & Fonagy, P. (2007). *Measuring the Core Components of Maladaptive Personality: Severity Indices of Personality Problems (SIPP-118)*. Report of the Viersprong Institute for Studies on Personality Disorders (VISPD) in cooperation with the Department of Medical Psychology & Psychotherapy, Erasmus University Rotterdam, the Netherlands.

Arnevik, E., Wilberg, T., Monsen, J.T., Andrea, H., & Karterud, S. (2009). A cross-national validity study of the Severity Indices of Personality Problems (SIPP-118). *Personality and Mental Health, 3*, 41-55.

Arrindell, W.A., & Ettema, J.H.M. (2003). *Symptom Checklist (SCL-90).* Amsterdam: Pearson Assessment.

Bateman, A.W., & Fonagy, P. (2001). Treatment of borderline personality disorder with psychoanalytically oriented partial hospitalization: an 18-month follow up. *American Journal of Psychiatry, 158*, 36-42.

Braun-Scharm, H. (1996). Suicidality and personality disorders in adolescence. *Crisis: Journal of Crisis Intervention & Suicide, 17*, 64-68.

Chanen, A.W., & McCutcheon, L.K. (2008). Personality disorder in adolescence: The diagnosis that dare not speak its name. *Personality and Mental Health, 2*, 35-41.

Daley, S.E., Hammen, C., Burge, D., Davilla, J., Paley, B., Lindberg, N., & Herzberg, D.S. (1999). Depression and Axis II symptomatology in an adolescent community sample: Concurrent and longitudinal associations. *Journal of Personality Disorders, 13*, 47-59.

Daley, S.E., Rizzo, C.J., & Gunderson, B.H. (2006). The longitudinal relation between personality disorder symptoms and depression in adolescence: The mediating role of interpersonal stress. *Journal of Personality Disorders, 20*, 352-368.

De Clercq, B., De Fruyt, F., Van Leeuwen, K., & Mervielde, I. (2006). The structure of maladaptive personality traits in childhood: A step toward an integrative developmental perspective for DSM-V. *Journal of Abnormal Psychology, 115*, 639-657.

Derogatis, L.R. (1975). *The symptom checklist – 90 – R*. Baltimore, MD: Clinical Psychometric Research.

First, M.B., Spitzer, R.L., Gibbon, M., Williams, J.B.W., & Benjamin, L. (1996). *Structured clinical interview for DSM-IV axis II personality disorders (SCID II).* Washington, DC: American Psychiatric Press.

Grilo, C.M., McGlashan, T.H., Quinlan, D.M., Walker, M.L., Greenfeld, D., & Edell, W.S. (1998). Frequency of personality disorders in two age cohorts of psychiatric inpatients. *American Journal of Psychiatry, 155*, 140-142.

Johnson, J.G., Chen, H., & Cohen, P. (2004). Personality disorder traits during adolescence and relationships with family members during the transition to adulthood. *Journal of Consulting and Clinical Psychology, 72*, 923-932.

Johnson, J.G., Cohen, P., Kasen, S., Skodol, A.E., Hamagami, F., & Brook, J.S. (2000). Age-related change in personality disorder trait levels between early adolescence and adulthood: a community-based longitudinal investigation. *Acta Psychiatrica Scandinavica, 102*, 265-275.

Johnson, J.G., Cohen, P., Skodol, A.E., Oldham, J.M., Kasen, S., & Brook, J.S. (1999). Personality disorders in adolescence and risk of major mental disorders and suicidality during adulthood. *Archives of General Psychiatry, 56*, 805-811.

Johnson, J.G., First, M.B., Cohen, P., Skodol, A.E., Kasen, S., & Brook, J.S. (2005). Adverse outcomes associated with personality disorder not otherwise specified in a community sample. *American Journal of Psychiatry, 162*, 1926-1932.

Kasen, S., Cohen, P., Skodol, A.E., First, M.B., Johnson, J.G., Brook, J.S., & Oldham, J.M. (2007). Comorbid personality disorder and treatment use in a community sample of youths: A 20-year follow up. *Acta Psychiatrica Scandinavica, 115*, 56-65.

Lavan, H., & Johnson, J.G. (2002). The association between Axis I and Axis II psychiatric symptoms and high-risk sexual behavior during adolescence. *Journal of Personality Disorders, 16*, 73-94.

Linehan, M.M., Comtois, K.A., Murray, A.M., Brown, M.Z., Gallop, R.J., Heard, H.L., Korslund, K.E., Tutek, D.A., Reynolds, S.K., & Lindenboim, N. (2006). Two-year randomized controlled trial and follow-up of dialectical behavior therapy vs therapy by experts for suicidal behaviors and borderline personality disorder. *Archives of General Psychiatry, 63*, 757-766.

Livesley, W.J., & Jang, K.L. (2002). *Manual for the Dimensional Assessment of Personality Pathology – Basic Questionnaire (DAPP-BQ)*. Port huron, MI: Sigma press.

Maffei, C., Fossati, A., Agostini, I., Barraco, A., Bagnato, M., Donati, D., Namia, C., Novella, L., & Petrachi, M. (1997). Interrater reliability and internal consistency of the structured clinical interview for DSM-IV Axis II personality disorders (SCID-II), version 2.0. *Journal of Personality Disorders, 11*, 279-284.

McGlashan, T.H., Grilo, C.M., Sanislow, C.A., Ralevski, E., Morey, L.C., Gunderson, J.G., Skodol, A.E., Shea, M.T., Zanarini, M.C., Bender, D., Stout, R.L., Yen, S., & Pagano, M. (2005). Two-year prevalence and stability of individual DSM-IV criteria for schizotypale, borderline, avoidant, and obsessive-compulsive personality disorders: toward a hybrid model of Axis II disorders. *American Journal of Psychiatry, 162*, 883-889.

Mervielde, I., & De Fruyt, F. (1999). Construction of the Hierarchical Personality Inventory for Children (HiPIC). In I. Mervielde, I. Deary, F. De Fruyt, & F. Ostendorf (Eds.), *Personality psychology in Europe* (pp. 107-127). Tilburg: Tilburg University Press.

Mervielde, I., & De Fruyt, F. (2002). Assessing children's traits with the Hierarchical Personality Inventory for Children. In B. De Raad & M. Perugini (Eds.), *Big five assessment* (pp. 129-146). Seattle, WA: Hogrefe & Huber.

Mervielde, I., De Fruyt, F., & De Clercq, B. (2005). *Manual of the Hierarchical Personality Inventory for Children (HiPIC)*. Unpublished manuscript, Ghent University, Ghent, Belgium.

Serman, N., Johnson, J.G., Geller, P.A., Kanost, R.E., & Zacharapoulou, H. (2002). Personality

disorders associated with substance abuse among American and Greek adolescents. *Adolescence, 37*, 841-854.

Tromp, N.B., & Koot, H.M. (2008). Dimensions of personality pathology in adolescents: psychometric properties of the DAPP-BQ-A. *Journal of Personality Disorders, 22*, 623-638.

Tromp, N.B., & Koot, H.M. (2010). Dimensions of normal and abnormal personality: elucidating DSM-IV personality disorder symptoms in adolescents. *Journal of Personality, 78,* 839-864.

Van Kampen, D. (2002). The DAPP-BQ in The Netherlands: Factor structure and relationship with basic personality dimensions. *Journal of Personality Disorders, 16*, 235-254.

Van Kampen, D. (2006). The Dutch DAPP-BQ: Improvements, lower- and higher-order dimensions, and relationship with the 5PT. *Journal of Personality Disorders, 20*, 81-101.

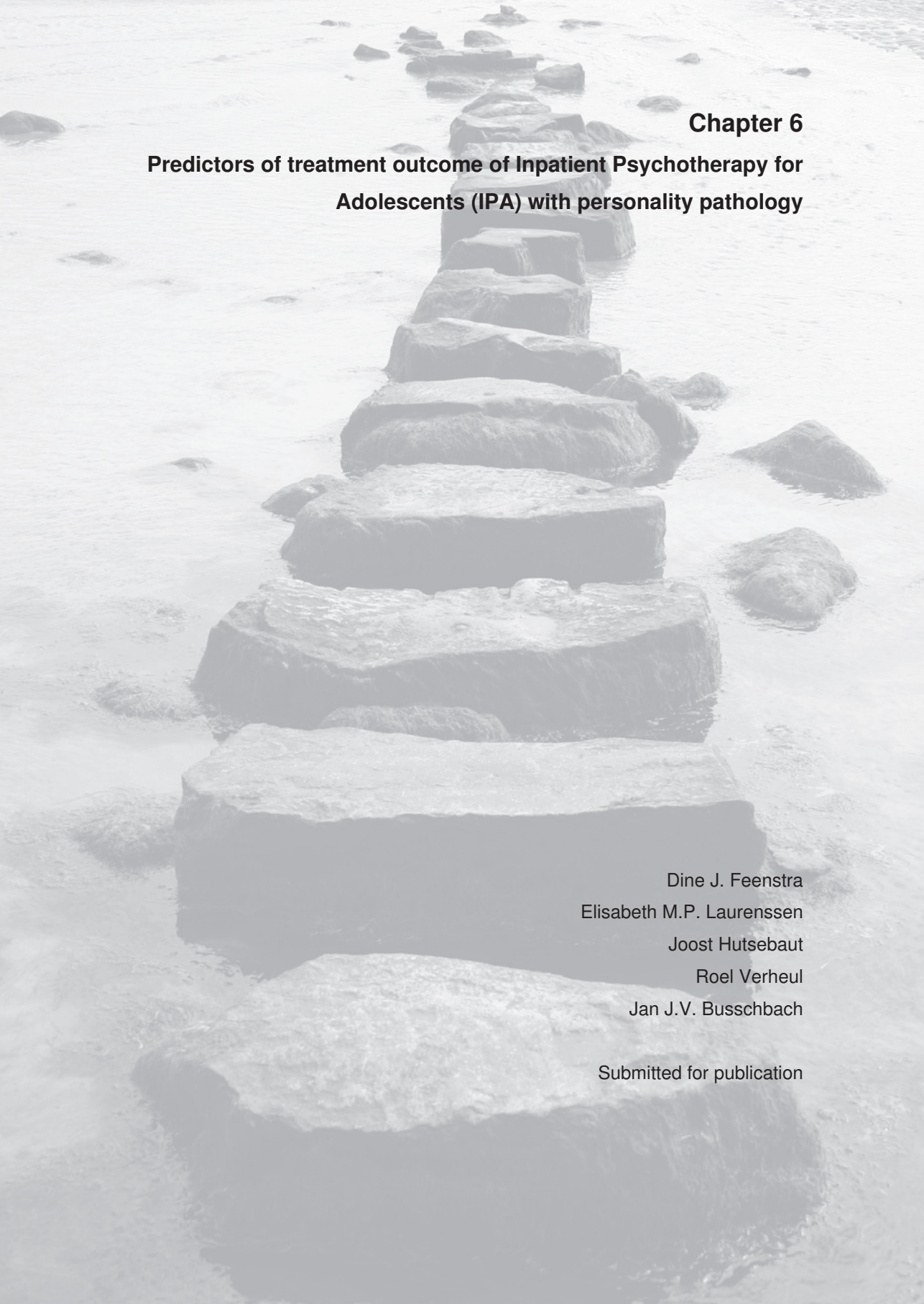
Verheul, R., Andrea, H., Berghout, C.C., Dolan, C., Busschbach, J.J.V., Van der Kroft, P.J.A., Bateman, A.W., & Fonagy, P. (2008). Severity Indices of Personality Problems (SIPP-118): Development, Factor Structure, Reliability, and Validity. *Psychological Assessment, 20*, 23-34.

Weertman, A., Arntz, A., Dreessen, L., Van Velzen, C., & Vertommen, S. (2003). Short-interval test-retest interrater reliability of the Dutch Version of the Structured Clinical Interview for DSM-IV Personality Disorders (SCID II). *Journal of Personality Disorders, 17*, 562-567.

Weertman, A., Arntz, A., Kerkhofs, M. (1996). *Gestructureerd klinisch interview voor DSM-IV as II persoonlijkheidsstoornissen* [Structured clinical interview for DSM-IV axis II personality disorders]. Amsterdam: Harcourt Test Publishers.

Westen, D., Shedler, J., Durett, C., Glass, S., & Martens, A. (2003). Personality diagnoses in adolescence: DSM-IV axis II diagnoses and an empirically derived alternative. *American Journal of Psychiatry, 160*, 952-966.

Widiger, T.A., & Simonsen, E. (2005). Alternative dimensional models of personality disorder: Finding a common ground. *Journal of Personality Disorders, 19*, 110-130.



Chapter 6

Predictors of treatment outcome of Inpatient Psychotherapy for Adolescents (IPA) with personality pathology

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ABSTRACT

Little is known about the effectiveness of treatment programs for personality disordered adolescents. This study investigates the treatment outcome of Inpatient Psychotherapy for Adolescents (IPA), i.e. an intensive program for treatment refractory adolescents with personality pathology. In addition, this study examines predictors of treatment outcome. Fifty-one adolescents admitted for treatment of their personality problems were followed during their stay in IPA. Axis I and Axis II disorders were measured using semi-structured interviews, and patients completed several questionnaires to measure symptom severity, personality styles and functioning, and quality of life at both start and 12 months after start of treatment. Patients showed improvement in symptom severity, personality functioning, and quality of life (*d* ranging from .40 to 1.07). As for symptom severity, 30% of the adolescents recovered fully, while more than half of the total group showed no statistical change or change in an unwanted direction. Higher levels of dependency or lower levels of self-criticism significantly predicted change in level of symptom severity. Type of personality disorder did not predict treatment outcome. IPA is a potentially effective treatment program for treatment refractory adolescents with personality pathology, especially for those with high levels of dependency.

INTRODUCTION

According to DSM-IV-TR (American Psychiatric Association, 2000) personality disorders can be diagnosed in adolescents, but reports on effective treatment are scarce. The absence of research into effective treatment may reflect the hesitation of clinicians to diagnose personality disorders in this age group (Allertz & van Voorst, 2007). Nevertheless, recent studies have shown that personality disorders are common in adolescents (see, for example, Feenstra, Busschbach, Verheul, & Hutsebaut, 2011; Grilo et al., 1998; Johnson et al., 2000; Westen, Shedler, Durett, Glass, & Martens, 2003). An effective treatment for this group of patients is warranted because adolescents with personality disorders are at a greater risk for having a broad range of problems than adolescents without personality disorders (see, for example, Braun-Scharm, 1996; Johnson et al., 2005; Kasen et al., 2007; Lavan & Johnson, 2002; Serman, Johnson, Geller, Kanost, & Zacharapoulou, 2002; Westen et al., 2003). Furthermore, these adolescents also have a greater risk of developing problems in adulthood (Chen, Cohen, Kasen, & Johnson, 2006; Daley et al., 1999; Daley, Rizzo, & Gunderson, 2006; Johnson, Chen, & Cohen, 2004; Johnson et al., 2005; Johnson et al., 1999; Levy et al., 1999). Finally, personality disorders in adolescents are associated with low quality of life and high medical costs (Feenstra, Hutsebaut, Laurenssen, Verheul, Busschbach, & Soeteman, 2012), as is true in adults (Soeteman, Hakkaart-van Roijen, Verheul, & Busschbach, 2008; Soeteman, Verheul, & Busschbach, 2008), Thus, although the recognition of personality disorder in adolescents is controversial, patients with such diagnoses seem to be characterized by a high need of treatment.

In a randomized controlled trial, Chanen and colleagues (2008) compared the effectiveness of cognitive analytic therapy (CAT) with manualised good clinical care in adolescents with symptoms of borderline personality disorder. They found in both groups a reduction of externalising psychopathology, with some evidence that patients in the CAT group improved more rapidly. Schuppert et al. (2009) tested the effectiveness of an Emotion Regulation Training (ERT) specifically developed for adolescents with symptoms of borderline personality disorder. Subjects were assigned to ERT plus Treatment As Usual (TAU) or TAU alone. In both treatment conditions the borderline symptoms reduced equally, while patients in the ERT plus TAU group also showed a significant increase in internal locus of

control. In a literature review, Backer, Miller, and Van den Bosch (2009) identified seven studies investigating the effectiveness of Dialectical Behaviour Therapy (DBT) in adolescents. Two of these studies confirmed the effectiveness of DBT in adolescents with symptoms of borderline personality disorder: Rathus and Miller (2002) investigated the effectiveness of DBT by comparing DBT to TAU, and found larger effects in the DBT group; Fleischhaker, Munz, Böhme, Sixt, and Schulz (2006) studied the effectiveness of DBT in a pre-post test design, and found that symptoms decreased during treatment. However, all these studies investigate outpatient treatment programs. The current study is the first to investigate Inpatient Psychotherapy for Adolescents (IPA). The choice for inpatient psychotherapy in personality disorders is empirically supported in adults (Bartak et al., 2010, 2011; Chiesa, Fonagy, Holmes, & Drahorad, 2004; Gabbard et al., 2000; Vermote et al., 2009) and mentioned in the Dutch Multidisciplinary Guideline for Personality Disorders (Landelijke Stuurgroep Multidisciplinaire Richtlijnontwikkeling, 2008). No study has yet investigated the effectiveness of IPA for adolescent patients with personality disorders.

An additional issue is to explore for whom IPA is most effective. This is not only relevant from a patient perspective, but also from a societal perspective as inpatient treatments are expensive. Based upon previous research and literature we choose to include two theoretical variables that might predict treatment outcome for this type of inpatient treatment. First, we would expect patients high on dependency to benefit more from IPA and therefore show better outcomes than patients high on self-criticism, as the inpatient setting places much emphasis on the therapeutic relation. This would be in line with the argument of Blatt and colleagues (Blatt & Felsen, 1993) that patients with higher levels of dependency (who are more preoccupied with establishing and maintaining interpersonal relatedness) respond more effectively to a treatment program in which there is much room for personal interaction with the therapist. Patients with higher levels of self-criticism (patients who are preoccupied with establishing and maintaining a consolidated and realistic sense of self) on the other hand may have more difficulties in profiting from the therapeutic relationship and the rules and procedures inherent to an inpatient setting might conflict with their striving for autonomy. Another predictor might be the type of personality disorder. Although a

recently published study by Bartak et al. (2010) provides evidence for the effectiveness of inpatient treatment for cluster B as well as cluster C personality disorders, results were more convincing for cluster C personality disorders. The interpretation of this finding might be twofold. On the one hand, an inpatient setting might be especially effective for cluster C patients as it provides major opportunities to change the avoidant, dependent or obsessive-compulsive patterns and experiment with new patterns of relating, behaving and experiencing within a relatively safe environment (see for example Muste & Thunnissen, 2003). On the other hand, an inpatient setting might be iatrogenic for severe cluster B personality disorders, as the high intensity and dosage might over arouse the attachment system of patient with borderline personality disorder (Bateman & Fonagy, 2010). Therefore, one might assume that an inpatient setting might be especially beneficial for adolescents with cluster C personality pathology.

This study aims to investigate the treatment outcome of Inpatient Psychotherapy for Adolescents (IPA), i.e. an intensive, 12-month program for treatment refractory adolescents with personality pathology. In addition, this study examines potential predictors of treatment outcome.

METHOD

Participants

From June 2006 until January 27th 2009, 109 adolescents were admitted to the Inpatient Psychotherapy for Adolescents (IPA) unit of the youth department of De Viersprong, National Institute of Personality Disorders, and enrolled in this study. De Viersprong is a highly specialized mental health care institute offering outpatient, day hospital, and inpatient psychotherapy for adolescents and adults with severe and complex personality pathology. All patients underwent a standard assessment as part of the intake procedure, including semi-structured interviews to measure Axis I and Axis II disorders and several questionnaires. Patients were asked to complete questionnaires at the start of treatment and 12 months later. All patients agreed upon participating in the study and signed informed consent after the purpose of the study was explained. This study is part of the long term outcome and process study of Treatment Refractory Adolescents with Personality Disorders (TRAP). Inclusion criteria for this study and admission to the inpatient

unit were the presence of severe, chronic, and multiple complaints, leading to clinically significant distress and impaired social and school functioning, for which previous outpatient treatment has not resulted in significant improvement of functioning. Exclusion criteria were chronic psychotic disorders (e.g., schizophrenia), organic cerebral impairment, and mental retardation. Dropout was defined as any premature termination of treatment not mutually negotiated and agreed upon by staff and patient (cf. Baruch, Gerber, & Fearon, 1998; Hatchett & Park, 2003; Richmond, 1992). Completion of treatment was defined as mutually agreed discontinuation of treatment (cf. Johnson, Mellor, & Brann, 2009).

Inpatient Psychotherapy for Adolescents (IPA)

IPA is a supportive and ego-strengthening treatment program for adolescents with personality pathology with a maximum stay of 12 months. The program consists of several components, including group psychotherapy, individual psychotherapy, non-verbal therapy (i.e. psychomotor therapy and creative therapy) in a group and/ or individual format, psychiatric consultations, social work, weekly individual sessions with a psychosocial nurse, community meetings, and family therapy. The adolescents stay at the inpatient ward for 5 days a week, go to school for approximately 4 hours a day at the site, and go home during weekends. Furthermore, a supportive environment was created to help the adolescent improve their daily functioning and resume their developmental tasks. All therapies were provided by professionals with advanced degrees and who had several years of experience working with adolescents with severe personality pathology.

Measures

Anxiety and mood disorders were diagnosed using the Anxiety Disorders Interview Schedule for DSM-IV Child Version – Child interview (Adis-C; Silverman & Albano, 1996; translated by Siebelink & Treffers, 2001). The Adis-C is a semi-structured interview designed to measure anxiety and other Axis I disorders in children and adolescents. The Adis-C was supplemented by section E, G, and H of the Structured Clinical Interview for DSM-IV Axis I disorders (SCID-I: First, Spitzer, Gibbon, & Williams, 1997; translated by van Groenestijn, Akkerhuis, Kupka, Schneider, & Nolen, 1999) to diagnose substance-related disorders, somatoform disorders and eating disorders, respectively.

The Structured Clinical Interview for DSM-IV Axis II Personality disorders (SCID-II; First, Spitzer, Gibbon, Williams, & Benjamin, 1996; translated by Weertman, Arntz, & Kerkhofs, 1996) was used to diagnose Axis II personality disorders. Criteria were scored if they were pathological, pervasive and persistent and if they were present for one year, according to the guideline of the DSM-IV-TR. Because DSM-IV-TR does not allow for antisocial personality disorder to be diagnosed in adolescents under the age of 18, this section was left out of the interview for adolescents under 18. Personality disorder not otherwise specified (PDNOS) was scored if a depressive personality disorder or a passive-aggressive personality disorder was present, or when at least 10 personality disorder traits from various disorders were scored without crossing the cut-off point of any formal personality disorder. Although the SCID II is primarily designed for measuring personality disorders in adults, previous studies including adolescent samples have shown that the SCID-II is a useful instrument in an adolescent age group (Tromp & Koot, 2010).

Symptom severity, as reported by the adolescent, was measured by the Dutch version of the Brief Symptom Inventory (BSI; Derogatis, 1975; translated by de Beurs, 2006). It consists of 53 items covering nine symptom dimensions: Somatization, Obsession-Compulsion, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic anxiety, Paranoid ideation, and Psychoticism; and three global indices of distress: Global Severity Index, Positive Symptom Distress Index, and Positive Symptom Total. Respondents rank each feeling item (e.g., “your feelings being easily hurt”) on a 5-point scale ranging from 0 (not at all) to 4 (extremely). Rankings characterize the intensity of distress during the past seven days.

Personality functioning was measured by the Severity Indices of Personality Problems (SIPP-118; Verheul et al., 2008). The SIPP-118 is a dimensional self-report measure and aims to measure the core components of (mal) adaptive personality functioning. The SIPP-118 asks the respondents to think about the past three months and to answer the extent to which they agree with statements like ‘I frequently say things I regret later’ or ‘Whenever I feel something, I can almost always name that feeling’. The response categories range from 1-4 and are described as ‘fully disagree’, ‘partly disagree’, ‘partly agree’, or ‘fully agree’. The measure comprises 16 facets; these facets are clustered into five higher-order

domains named Social Concordance, Relational functioning, Self-control, Responsibility, and Identity Integration. High scores in the facets indicate better adaptive functioning, whereas lower scores represent more maladaptive personality functioning. The SIPP-118 was tested in an adolescent sample, showing adequate psychometric properties (Feenstra, Hutsebaut, Verheul, & Busschbach, 2011).

Quality of life was measured using the EuroQol EQ-5D (Brooks, Rabin, & de Charro, 2003). The EQ-5D measures quality of life in five dimensions, including mobility, self-care, usual activities, pain/discomfort, and anxiety/depression. The dimensions are divided into three response levels: no problems, some or moderate problems, and extreme problems or unable to. The combination of scores are weighted to arrive at a single index score between -0.33 (worst imaginable health state) and 1.00 (best imaginable health state). Dutch norm scores were used to calculate the mean EQ-5D index values (Lamers, Stalmeier, McDonnel, Krabbe, & Busschbach, 2005).

The Dutch short version of the Depressive Experience Questionnaire for Adolescents (DEQ-A; Luyten, Corveleyn, & Blatt, 1997) was used to measure two personality styles: Self-criticism and Dependency. The Depressive Experiences Questionnaire (DEQ; Blatt, D'Afflitti, & Quinlan, 1976) was originally developed for adults. Items of the DEQ were rephrased to make them more appropriate for adolescents. A factor analysis showed the similar three factors (Dependency, Self-criticism, and Efficacy) as in the adult sample (Blatt, Schaffer, Bers, & Quinlan, 1992). Respondents are asked to what extend they agree with the items. Responses to the DEQ-A are given on a scale from 1 (strongly disagree) to 7 (strongly agree).

Statistical analyses

Differences between groups (completers, excluded participants, and dropouts) at baseline were investigated using chi-square tests and one-way ANOVAs. In order to investigate treatment outcome, paired-samples T-tests were conducted to compare mean scores for level of symptom severity (BSI), personality functioning (SIPP-118), and quality of life (EQ-5D) at baseline and 12 months after start of

treatment. Cohen's *d* was computed, using standard deviations of the mean baseline and post-treatment score.

In order to investigate clinical significant change in level of symptom severity (Jacobson & Truax, 1991) patients were classified into one of five categories: 1) recovered (the magnitude of change is statistically reliable and the patient ends up within functional limits of the variable of interest), 2) improved (the patient shows statistically reliable change, but ends treatment still somewhat dysfunctional), 3) unchanged (the magnitude of change is not statistically reliable), 4) deteriorated (change is statistically reliable in the opposite direction to that indicative of improvement, patients stays in the dysfunctional range), and 5) relapse (change is statistically reliable in the opposite direction of that indicative of improvement, patient goes from a functional level on the variable of interest to a dysfunctional level). The percentage of patients in the different health states was determined at 12 months after start of treatment.

To investigate the predictive value of the two DEQ-A dimensions used in previous research (dependency and self-criticism; see Luyten, Blatt, & Corveleyn, 2005) on change in level of symptom severity, a linear regression analysis was conducted. A difference score was computed for level of symptom severity (level of symptom severity at start of treatment minus level of symptom severity at the end of treatment). This difference score was entered as the dependent variable, the two DEQ-A dimensions were entered as predictors, as well as the interaction between these dimensions. Level of symptom severity at the start of treatment was also entered as independent variable. Next, a similar regression analysis was conducted with the difference score for level of symptom severity as dependent variable and the number of personality disorder traits per cluster (A, B, C, and NOS) and their interactions as predictors. Only two-way interactions were used in the regression analyses, to facilitate interpretation. Here also, we added level of symptom severity at the start of treatment as independent variable. A p-value of 0.05 was chosen as a sufficient level of statistical significance.

RESULTS

Participants

Of the 109 enrolled adolescents, 51 did not complete the entire assessment as part of the intake procedure or did not complete the questionnaires at 12 months

and were therefore excluded from the analyses. Seven adolescents dropped out of treatment prematurely, leaving 51 adolescents for the current sample. Clinical characteristics of the different samples (excluded participants, dropouts, study sample) are presented in Table 6.1. No significant differences between the three groups were found at demographic variables or Axis I disorders. As for Axis II disorders, personality disorder not otherwise specified (PD NOS) was classified significantly more frequent in the study sample than in the other groups.

Table 6.1 Clinical characteristics at baseline

Demographic variables	Excluded participants N = 51	Dropouts N = 7	Study sample N = 51
Female	43 (84.3)	7 (100.0)	43 (84.3)
Age (M, SD)	16.41 (1.39)	16.43 (.79)	16.73 (1.22)
Clinical variables			
Mood disorder	20 (39.2)	1 (14.3)	22 (43.1)
Anxiety disorder	24 (47.1)	2 (28.6)	20 (39.2)
Eating disorder	12 (23.5)	2 (28.6)	6 (11.8)
Somatoform disorder	1 (2.0)	0 (0.0)	1 (2.0)
Substance use disorder	4 (7.8)	0 (0.0)	4 (7.8)
Other Axis I disorder	0 (0.0)	0 (0.0)	1 (2.0)
Any Axis I disorder	42 (82.4)	4 (57.1)	39 (76.5)
Avoidant PD	7 (13.7)	1 (14.3)	9 (17.6)
Obsessive compulsive PD	3 (5.9)	0 (0.0)	2 (3.9)
Borderline PD	13 (25.5)	3 (42.9)	9 (17.6)
PD not otherwise specified	2 (3.9)	0 (0.0)	9 (17.6)
Any PD	20 (39.2)	4 (57.1)	25 (49.0)

Footnote: Data are presented as N (%), unless otherwise specified. The sum of the number of patients in the different diagnostic groups is higher than the total number of patients because patients can have more than one (personality) disorder. PD = personality disorder.

Treatment outcome

One year after start of treatment, the adolescents showed improvement in terms of symptom severity (GSI), personality functioning (SIPP-118) and quality of life (EQ-5D). These results are presented in Table 6.2. Effect sizes range from .40 (medium effect; SIPP-118 Responsibility) to 1.07 (large effect; SIPP-118 Self-control).

Table 6.2 Treatment outcome (n = 51)

Variable	Baseline	12 months		
	Mean (SD)	Mean (SD)	t	*d*
GSI	1.54 (.63)	1.08 (.70)	4.295***	.70
SIPP-118 Self-control	4.23 (.88)	5.16 (.88)	-6.747***	1.07
SIPP-118 Social concordance	5.47 (0.72)	5.99 (.64)	-5.481***	.77
SIPP-118 Identity integration	3.28 (.76)	4.02 (.89)	-6.728***	.90
SIPP-118 Relational capacities	3.78 (.77)	4.16 (.94)	-3.923***	.45
SIPP-118 Responsibility	4.42 (.81)	4.74 (.78)	-3.029**	.40
EQ-5D	.54 (.26)	.67 (.26)	-3.035**	.50

Footnote: GSI = Global Severity Index (Brief Symptom Inventory); SIPP-118 = Severity Indices of Personality Problems 118; EQ-5D = EuroQol EQ-5D. * = p < .05; ** = p < .01; *** = p < .001.

Clinical significant change of symptom severity

Table 6.3 shows the percentages of adolescents in the different categories of clinical significant change. As can be seen, the largest group of adolescents (unchanged group) did not show statistical significant change. Most adolescents in this group however, did show improvement in level of symptom severity (n = 16).

Table 6.3 Clinical significant change in level of symptom severity (n = 51)

Categories		N	%
1.	Recovered (statistical significant change, normal level of symptom severity)	15	29.4
2.	Improvement (statistical significant change, dysfunctional level of symptom severity)	6	11.8
3.	Unchanged (no statistical significant change)	25	49.0
4.	Deteriorated (statistical significant change in unwanted direction)	4	7.8
5.	Relapse (statistical significant change in unwanted direction, from healthy to dysfunctional level of symptom severity)	1	2.0

Predictors of change in level of symptom severity

Dependency and self-criticism as predictors of change in level of symptom severity

Table 6.4 shows the results of the regression analysis investigating the predictive value of dependency and self-criticism on change in level of symptom severity. In a first analysis, the interactions between the both DEQ-A dimensions appeared not significant; therefore this interaction was left out of the analysis. The final model is shown in Table 4. The results show that higher levels of dependency at start of treatment or lower levels of self-criticism at start of treatment significantly predicted more improvement in level of symptom severity.

Table 6.4: Predictive value of self-criticism and dependency on change in level of symptom severity (n = 51)

	ß	t	p
Constant		-.717	.477
Symptom severity (start of treatment)	.666	5.041	.000
Dependency (need for establishing interpersonal relatedness)	.327	2.375	.022
Self-criticism (need for establishing a consolidated sense of self)	-.434	-2.811	.007

Predictive value of type of personality disorder on change in level of symptom severity

Table 6.5 shows the results of the regression analysis investigating the predictive value of number of personality disorder traits per cluster on change in level of symptom severity. There were no statistically significant interaction effects; they were therefore left out of the final model. No personality disorder type predicted change in level of symptom severity significantly.

Table 6.5 Predictive value of type of PD on change in level of symptom severity (n = 51)

	ß	t	p
Constant		-1.974	.054
Symptom severity (start of treatment)	.510	3.536	.001
# personality disorder traits Cluster A	-.022	-.169	.867
# personality disorder traits Cluster B	.035	.215	.831
# personality disorder traits Cluster C	.133	.901	.372
# personality disorder traits NOS	-.114	-.749	.458

Footnote: PD = personality disorder; NOS = not otherwise specified; in this variable only traits from depressive personality disorder and passive-aggressive personality disorder were included.

DISCUSSION

In this study, we investigated treatment outcome in adolescents with personality pathology admitted to IPA. Our results indicate that these adolescents show improvement in level of symptom severity 12 months after start of treatment. A medium sized effect (*d* = .70) was found for the total group of patients. Adolescents furthermore improved in their personality functioning (*d* ranged from .40 to 1.07) and quality of life (*d* = .50). When looking at clinical significant change, it was shown that almost 30% of the adolescents recovered fully. These adolescents showed a non-clinical level of symptom severity 12 months after start of treatment. The largest group of adolescents however, did not show statistical significant change, or showed statistical significant change in an unwanted direction. Higher levels of dependency or lower levels of self-criticism were significant predictors of change in level of symptom severity. No differences in clinical significant change were found for type of personality disorder.

We found that higher levels of dependency significantly predicted change in level of symptom severity. Lower levels of self-criticism also predicted change in level of symptom severity. This is in line with previous research, showing that dependent patients benefit more from treatment programs in which there is much room for personal interaction with the therapist (Blatt & Felsen, 1993). Self-critical patients seem to have more difficulties in profiting from the therapeutic relationship and have more difficulties dealing with a more directive attitude from the therapist (Luyten, 2002). The nature of our setting, including many rules and procedures, seem to lead to less beneficial outcome for self-critical patients.

Furthermore, type of personality disorder did not significantly predict treatment outcome. To some extent this finding is promising, as Bateman and Fonagy (2010) have suggested that an inpatient treatment program can cause deterioration in borderline personality disorder patients due to overstimulation of their attachment system. In our study, we did not find detrimental effects of an inpatient setting on symptom level for borderline personality disorder adolescents. These results show that having a cluster B personality disorder should not automatically mean that an inpatient treatment is not an option. An alternative explanation would be that our patient population did not include patients with low-level borderline personality

disorder who are likely to be especially vulnerable to overstimulation. On the other hand, the treatment outcomes were slightly disappointing, as we would expect larger than the observed medium to large-sized (*d* ranged from .40 to 1.07) effects from a 12-month inpatient program.

These findings elicit some important issues. While a minority of adolescents made significant progress, the overall progress is small, due to an important group of adolescents who do not change or show only little improvement in level of symptom severity. Given the expensive nature of inpatient treatment, this warrants more research on predictors of treatment outcome in IPA in order to assign the right subgroup of adolescents to this treatment modality. It seems from our research that the type of the symptoms presented gives less information than the type of personality structure underlying these symptoms. Given the limited number of resources for mental health care and the expected trend towards less long term inpatient treatment, it will become important to identify adolescents who do profit more from IPA than from outpatient treatment.

This study has several strengths and limitations. A strength is the performance of thorough assessments of Axis I and Axis II disorders. A limitation is that we did not include a control group in this study, which complicated the interpretation of the observed treatment outcome. We can not rule out that no treatment or, in other words, the natural course of the pathology would yield similar or even larger improvements as compared to IPA. This limitation is however somewhat mitigated by the fact that the observed effect sizes (d = .40 to 1.07) are comparable to, or even higher than, the effect sizes from other studies investigating the treatment outcome of personality disordered adolescents (see for example Schuppert et al., 2009). Follow up measures were also not included in this study, we therefore do not know how treatment effects will last after adolescents leaving the inpatient unit. Furthermore, other than Bartak and colleagues (2010, 2011), we had only one treatment modality, so we can not differentiate between short and long-term inpatient programs in the way that they did. In that respect further research is needed, investigating different treatment modalities. Since health care interventions have a competing interest in the limited resources available, and an inpatient treatment is an expensive treatment, it seems important to provide

additional evidence for both the effectiveness as the cost-effectiveness of this kind of treatment. Finally, despite fierce attempts to involve all adolescents in this study, a large group of patients was excluded from the analyses due to missing values. It seems to be difficult to involve these (personality disordered) adolescents in research activities. In further research it is advised to employ even more effort to ensure compliance.

Our results show that (personality disordered) adolescents admitted to an inpatient treatment program show less symptom severity 12 months after start of treatment. Also, improvement in personality functioning and quality of life was found. Treatment outcomes were slightly disappointing however, with effect sizes ranging from .40 to 1.07. And although the total group changed significantly, a large portion of this group did not improve significantly or even deteriorated. Our study shows that especially patients with higher levels of dependency or lower levels of self-criticism profit most from this particular inpatient treatment program. Further research however is needed to investigate predictors of treatment success of inpatient treatment to assign more accurately the right group of adolescents to this expensive form of treatment.

REFERENCES

Allertz, A., & van Voorst, G. (2007). Personality disorders from the perspective of child and adolescent psychiatry. In B. van Luyn, S. Akhtar, & W.J. Livesley (Eds.), *Severe personality disorders: everyday issues in clinical practice* (pp. 79-92). New York: Cambridge University Press.

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders (4th edition, text revision)*. Washington, DC: American Psychiatric Association.

Backer, H.S., Miller, A.L., & Bosch, L.M.C. van den (2009). Dialectische gedragstherapie bij adolescenten; een literatuuronderzoek [Dialectical behaviour therapy for adolescents]. *Tijschrift voor Psychiatrie, 51,* 31-41.

Bartak, A., Andrea, H., Spreeuwenberg, M.D., Ziegler, U.M., Dekker, J., Rossum, B.V., Hamers, E.F.M., Scholte, W., Aerts, J., Busschbach, J.J.V., Verheul, R., Stijnen, T., & Emmelkamp, P.M.G. (2011). Effectiveness of outpatient, day hospital, and inpatient psychotherapeutic treatment for patients with cluster B personality disorders. *Psychotherapy and Psychosomatics, 80,* 28-38.

Bartak, A., Spreeuwenberg, M.D., Andrea, H., Holleman, L., Rijnierse, P., Rossum, B.V., Hamers, E.F.M., Meerman, A.M.M.A., Aerts, J., Busschbach, J.J.V., Verheul, R., Stijnen, T., & Emmelkamp, P.M.G. (2010). Effectiveness of different modalities of psychotherapeutic treatment for patients with cluster C personality disorders: results of a large prospective multicentre study. *Psychotherapy and Psychosomatics, 79,* 20-30.

Baruch, G., Gerber, A., & Fearon, P. (1998). Adolescents who drop out of psychotherapy at a community-based psychotherapy centre: A preliminary investigation of the characteristics of early dropouts, late dropouts and those who continue treatment. *British Journal of Medical Psychology, 71,* 233-245.

Bateman, A.W., & Fonagy, P. (2010). Mentalization based treatment for borderline personality disorder. *World Psychiatry, 9,* 11-15.

Beurs, E. de. (2006). *Brief Symptom Inventory (BSI): Handleiding* [Brief Symptom Inventory (BSI): Manual]. Leiden: PITS B.V.

Blatt, S.J., D'Afflitti, J.P., & Quinlan, D.M. (1976). Experiences of depression in normal young adults. *Journal of Abnormal Psychology, 85,* 383-389.

Blatt, S.J., & Felsen, I. (1993). Different kinds of folks may need different kinds of strokes: the effect of patients' characteristics on therapeutic process and outcome. *Psychotherapy Research, 3,* 245-259.

Blatt, S.J., Schaffer, C.E., Bers, S.A., Quinlan, D.M. (1992). Psychometric properties of the Depressive Experiences Questionnaire for Adolescents. *Journal of Personality Assessment, 59,* 82-98.

Braun-Scharm, H. (1996). Suicidality and personality disorders in adolescence. *Crisis: Journal of Crisis Intervention & Suicide, 17,* 64-68.

Brooks, R., Rabin, R., & de Charro, F. (2003). *The measurement and valuation of health status using EQ-5D: A European perspective.* London: Kluwer Academic Publishers.

Chanen, A.M., Jackson, H.J., McCutcheon, L.K., Jovev, M., Dudgeon, P., Yuen, H.P., Germano, D., Nistico, H., McDougall, E., Weinstein, C., Clarkson, V., & McGorry, P.D. (2008). Early intervention for adolescents with borderline personality disorder using cognitive analytic therapy: randomised controlled trial. *The British Journal of Psychiatry, 193,* 477-484.

Chen, H., Cohen, P., Kasen, S., & Johnson, J.G. (2006). Adolescent Axis I and personality disorders predict quality of life during young adulthood. *Journal of Adolescent Health, 39,* 14-19.

Chiesa, M., Fonagy, P., Holmes, J., & Drahorad, C. (2004). Residential versus community treatment of personality disorders: a comparative study of three treatment programs. *American Journal of psychiatry, 161,* 1463-1470.

Daley, S.E., Hammen, C., Burge, D., Davilla, J., Paley, B., Lindberg, N., & Herzberg, D.S. (1999). Depression and Axis II symptomatology in an adolescent community sample: Concurrent and longitudinal associations. *Journal of Personality Disorders, 13,* 47-59.

Daley, S.E., Rizzo, C.J., & Gunderson, B.H. (2006). The longitudinal relation between personality disorder symptoms and depression in adolescence: The mediating role of interpersonal stress. *Journal of Personality Disorders, 20,* 352-368.

Derogatis, L. R. (1975). *Brief Symptom Inventory*. Baltimore, MD: Clinical Psychometric Research.

Feenstra, D.J., Busschbach, J.J.V., Verheul, R., & Hutsebaut, J. (2011). Prevalence and comorbidity of Axis I and Axis II disorders among treatment refractory adolescents admitted for specialized psychotherapy. *Journal of Personality Disorders, 25,* 842-850.

Feenstra, D.J., Hutsebaut, J., Laurenssen, E.M.P., Verheul, R., Busschbach, J.J.V., & Soeteman, D.I. (2012). The burden of disease among adolescents with personality pathology: quality of life and costs. *Journal of Personality Disorders, 26,* 593-604.

Feenstra, D.J., Hutsebaut, J., Verheul, R., & Busschbach, J.J.V. (2011). Severity Indices of Personality Problems (SIPP-118) in adolescents: reliability and validity. *Psychological Assessment*, *23*, 646-655.

First, M.B., Spitzer, R.L., Gibbon, M., & Williams, J.B.W. (1997). *Structured clinical interview for DSM-IV axis I disorders (SCID I)*. Washington, DC: American Psychiatric Press.

First, M.B., Spitzer, R.L., Gibbon, M., Williams, J.B.W., & Benjamin, L. (1996). *Structured clinical interview for DSM-IV axis II personality disorders (SCID II).* Washington, DC: American Psychiatric Press.

Fleischhaker, C., Munz, M., Böhme, R., Sixt, B., & Schulz, E. (2006). Dialektisch-Behaviorale Therapie für Adoleszente (DBT-A) – eine pilotstudie zur therapie von suizidalität, parasuizidalität und selbstverletzenden verhaltensweisen bei patientinnen mit symptomen einer borderlinestorüng [Dialectical behaviour therapy for adolescents (DBT-A) – a pilot study on the therapy of suicidal, parasuicidal, and self-injurious behaviour in female patients with a borderline disorder]. *Zeitschrift für Kinder- und Jugendpsychiatrie und Psychotherapie, 34*, 15-25.

Gabbard, G.O., Coyne, L., Allen, J.G., Spohn, H., Colson, D.B., Vary, M. (2000). Evaluation of intensive inpatient treatment of patients with severe personality disorders. *Psychiatric*

Services, 51, 893-898.

Grilo, C.M., McGlashan, T.H., Quinlan, D.M., Walker, M.L., Greenfeld, D., & Edell, W.S. (1998). Frequency of personality disorders in two age cohorts of psychiatric inpatients. *American Journal of Psychiatry, 155,* 140-142.

Groenestijn, M.A.C. van, Akkerhuis, G.W., Kupka, R.W., Schneider, N., & Nolen, W.A. (1999). *Gestructureerd klinisch interview voor de vaststelling van DSM-IV as I stoornissen* [Structured Clinical Interview for DSM-IV axis I disorders]. Amsterdam: Harcourt Test Publishers.

Hatchett, G.T., & Park, H.L. (2003). Comparison of four operational definitions of premature termination. *Psychotherapy: Theory, Research, Practice, Training, 40,* 226-231.

Jacobson, N.S., & Truax, P. (1991). Clinical significance: a statistical approach to defining meaningful change in psychotherapy research. *Journal of Consulting and Clinical Psychology, 59*, 12-19.

Johnson, J.G., Chen, H., & Cohen, P. (2004). Personality disorder traits during adolescence and relationships with family members during the transition to adulthood. *Journal of Consulting and Clinical Psychology, 72,* 923-932.

Johnson, J.G., Cohen, P., Kasen, S., Skodol, A.E., Hamagami, F., & Brook, J.S. (2000). Age-related change in personality disorder trait levels between early adolescence and adulthood: a community-based longitudinal investigation. *Acta Psychiatrica Scandinavica, 102,* 265-275.

Johnson, J.G., First, M.B., Cohen, P., Skodol, A.E., Kasen, S., & Brook, J.S. (2005). Adverse outcomes associated with personality disorder not otherwise specified in a community sample. *American Journal of Psychiatry, 162,* 1926-1932.

Johnson, J.G., Cohen, P., Skodol, A.E., Oldham, J.M., Kasen, S., & Brook, J.S. (1999). Personality disorders in adolescence and risk of major mental disorders and suicidality during adulthood. *Archives of General Psychiatry, 56,* 805-811.

Johnson, E., Mellor, D., & Brann, P. (2009). Factors associated with dropout and diagnosis in child and adolescent mental health services. *Australian and New Zealand Journal of Psychiatry, 43,* 431-437.

Kasen, S., Cohen, P., Skodol, A.E., First, M.B., Johnson, J.G., Brook, J.S., & Oldham, J.M. (2007). Comorbid personality disorder and treatment use in a community sample of youths: A 20-year follow up. *Acta Psychiatrica Scandinavica, 115,* 56-65.

Lamers, L.M., Stalmeier, P.F.M., McDonnell, J., Krabbe, P.F.M., & Busschbach, J.J.V. (2005). Measurement of quality of life in economic evaluations: The Dutch EQ-5D-tarif [in Dutch]. *Nederlands Tijdschrift voor de Geneeskunde, 149*, 1574-1578.

Landelijke Stuurgroep Multidisciplinaire Richtlijnontwikkeling in de GGZ. (2008). *Multidisciplinaire richtlijn persoonlijkheidsstoornissen* [Multidisciplinary guideline for personality disorders]. Utrecht: Trimbos-instituut.

Lavan, H., & Johnson, J.G. (2002). The association between Axis I and Axis II psychiatric symptoms and high-risk sexual behavior during adolescence. *Journal of Personality*

Disorders, 16, 73-94.

Levy, K.N., Becker, D.F., Grilo, C.M., Mattanah, J.J., Garnet, K.E., Quinlan, D.M., Edell, W.S., & McGlashan, T.H. (1999). Concurrent and predictive validity of the personality disorder diagnosis in adolescent inpatients. *American Journal of Psychiatry, 156,* 1522-1528.

Luyten, P. (2002). *Normbesef en depressie. Aanzet tot een integratief theoretisch kader en een empirisch onderzoek aan de hand van de depressietheorie van S.J. Blatt.* (Unpublished doctoral dissertation). Katholieke Universiteit Leuven, Leuven.

Luyten, P., Blatt, S.J., & Corveleyn, J. (2005). The convergence among psychodynamic and cognitive-behavioral theories of depression: Theoretical overview. In J. Corveleyn, P. Luyten, & S.J. Blatt (Eds.), *The theory and treatment of depression: Towards a dynamic interactionism model* (pp. 95-135). Mahwah, NJ: Lawrenca Erlbaum Associates.

Luyten, P., Corveleyn, J., & Blatt, S.J. (1997). *Depressieve Ervaringen Vragenlijst (DEV): Adolescenten versie* [Depressive Experiences Questionnaire (DEQ): version for adolescents]. Unpublished manuscript.

Muste, E.H., & Thunnissen, M.M. (2003). Klinische psychotherapie bij persoonlijkheidsstoornissen [Inpatient psychotherapy for personality disorders]. In C. Janzig, A. van den Berg, & F. Kruisdijk (Eds.), *Handboek voor Milieutherapie, deel 2* (pp. 77-96). Assen: Koninklijke Van Gorcum B.V.

Rathus, J.H., & Miller, A.L. (2002). Dialectical behaviour therapy adapted for suicidal adolescents. *Suicide and Life-Threatening Behaviors, 32,* 146-157.

Richmond, R. (1992). Discriminating variables among psychotherapy dropouts from a psychological training clinic. *Professional Psychology: Research and Practice, 23,* 123-130.

Schuppert, H.M., Giesen-Bloo, J., van Gemert, T.G., Wiersma, H.M., Minderaa, R.B., Emmelkamp, P.M.G., & Nauta, M.H. (2009). Effectiveness of an emotion regulation group training for adolescents – a randomized controlled pilot study. *Clinical Psychology and Psychotherapy, 16,* 467-478.

Serman, N., Johnson, J.G., Geller, P.A., Kanost, R.E., & Zacharapoulou, H. (2002). Personality disorders associated with substance abuse among American and Greek adolescents. *Adolescence, 37,* 841-854.

Siebelink, B.M., & Treffers, D.A. (2001). *Anxiety disorders interview schedule for DSM-IV Child Version, Kindinterview* [Anxiety Disorders Interview Schedule for DSM-IV child version, child interview schedule]. Lisse: Swets & Zeitlinger B.V.

Silverman, W.K. & Albano, A.M. (1996). *Anxiety Disorders Interview Schedule for DSM-IV Child Version, child interview schedule.* San Antonio: The Psychological Corporation.

Soeteman, D.I., Hakkaart-van Roijen, L., Verheul, R., & Busschbach, J.J.V. (2008). The economic burden of personality disorders in mental health care. *Journal of Clinical Psychiatry,* 69, 259-265.

Soeteman, D.I., Verheul, R., & Busschbach, J.J.V. (2008). The burden of disease in personality disorders: diagnosis-specific quality of life. *Journal of Personality Disorders,* 22, 259-268.

Tromp, N.B., & Koot, H.M. (2010). Dimensions of normal and abnormal personality: elucidating DSM-IV personality disorder symptoms in adolescents. *Journal of Personality, 78,* 839-864.

Verheul, R., Andrea, H., Berghout, C.C., Dolan, C., Busschbach, J.J.V., Van der Kroft, P.J.A., Bateman, A.W., & Fonagy, P. (2008). Severity Indices of Personality Problems (SIPP-118): Development, Factor Structure, Reliability, and Validity. *Psychological Assessment, 20*, 23-34.

Vermote, R., Fonagy, P., Vertommen, H., Verhaest, Y., Stroobants, R., Vandeneede, B., Corveleyn, J., Lowyck, B., Luyten, P., & Preuskens, J. (2009). Outcome and outcome trajectories of personality disordered patients during and after a psychoanalytic hospitalization-based treatment. *Journal of Personality Disorders, 23,* 294-307.

Weertman, A., Arntz, A., & Kerkhofs, M. (1996). *Gestructureerd klinisch interview voor DSM-IV as II persoonlijkheidsstoornissen* [Structured clinical interview for DSM-IV axis II personality disorders]. Amsterdam: Harcourt Test Publishers.

Westen, D., Shedler, J., Durett, C., Glass, S., & Martens, A. (2003). Personality diagnoses in adolescence: DSM-IV axis II diagnoses and an empirically derived alternative. *American Journal of Psychiatry, 160,* 952-966.

Chapter 7

Long-term outcome of Inpatient Psychotherapy for Adolescents (IPA) with personality pathology

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ABSTRACT

Little is known about the effectiveness of treatment programs for personality disordered adolescents. Even less is known on long-term treatment effects. This study investigates the long-term outcome of Inpatient Psychotherapy for Adolescents (IPA), i.e. an intensive program for treatment refractory adolescents with personality pathology. In addition, predictors of long-term treatment effects were investigated.

Seventy adolescents admitted for treatment of their personality pathology were followed during and after their stay in IPA. Axis I and Axis II disorders were measured using semi-structured interviews, and patients completed several questionnaires to measure symptom severity, and personality styles and functioning at start and 6, 12 and 24 months after start of treatment.

Patients showed improvement in symptom severity and personality functioning (*d* ranging from .18 to .80). As for symptom severity, more than 30% of the adolescents recovered fully, while more than half of the total group showed no statistical change or change in an unwanted direction. Higher levels of dependency or more cluster C personality disorder traits significantly predicted positive long-term treatment outcome.

Although IPA might be effective for a particular group of adolescents, mean long-term treatment effects were at best modest. Given the high treatment cost of IPA, development of adjustments and development of indication guidelines is warranted to ensure that IPA can be a cost-effective treatment as compared to outpatient treatment programs.

INTRODUCTION

According to DSM-IV-TR (American Psychiatric Association, 2000) personality disorders can be diagnosed in adolescents. Furthermore, recent research has shown personality disorders are just as common in adolescents as in adults (see, for example, Feenstra, Busschbach, Verheul, & Hutsebaut, 2011; Grilo et al., 1998; Johnson et al., 2000; Westen, Shedler, Durett, Glass, & Martens, 2003). These adolescents are in a high need of treatment since they are at a greater risk to develop a broad range of problems during adolescence (see, for example, Braun-Scharm, 1996; Johnson et al., 2005; Kasen et al., 2007; Lavan & Johnson, 2002; Serman, Johnson, Geller, Kanost, & Zacharapoulou, 2002; Westen et al., 2003) as well as in adulthood (Chen, Cohen, Kasen, & Johnson, 2006; Daley et al., 1999; Daley, Rizzo, & Gunderson, 2006; Johnson, Chen, & Cohen, 2004; Johnson et al., 2005; Johnson et al., 1999; Levy et al., 1999). Moreover, these adolescents report a low quality of life and high medical costs (Feenstra, Hutsebaut, Laurenssen, Verheul, Busschbach, & Soeteman, 2012), as is true for adults with personality disorders (Soeteman, Hakkaart-van Roijen, Verheul, & Busschbach, 2008; Soeteman, Verheul, & Busschbach, 2008). Despite this compelling body of evidence, diagnosing personality disorders in adolescents remains controversial (Chanen & McCutcheon, 2008), and reports on effective treatments for this particular group of adolescent patients are scarce. Even less is known about the long-standing effects of these treatments and about which patient characteristics might predict (long-standing) treatment effects.

Schuppert et al. (2009) tested the effectiveness of an Emotion Regulation Training (ERT) specifically developed for adolescents with symptoms of borderline personality disorder. Subjects were assigned to ERT plus treatment as usual (TAU) or TAU alone. In both treatment conditions, borderline symptoms reduced equally, while patients in the ERT plus TAU group also showed a significant increase in internal locus of control. Seven studies were identified by Backer, Miller, and Van den Bosch (2009) investigating the effectiveness of Dialectical Behaviour Therapy (DBT) in adolescents. Two of these studies confirmed the effectiveness of DBT in adolescents with symptoms of borderline personality disorder: Rathus and Miller (2002) investigated the effectiveness of DBT by comparing DBT to TAU, and found larger effects in the DBT group; Fleischhaker,

Munz, Böhme, Sixt, and Schulz (2006) studied the effectiveness of DBT in a pre-post test design, and found that symptoms decreased during treatment. No long-term effects of these treatments have been reported. Chanen and colleagues (2008) were the first to describe long-term treatment effects for a group of adolescents with borderline personality disorder symptoms. They compared the treatment effects of cognitive analytic therapy (CAT) with good clinical care. No significant difference was found between the groups, however, some evidence was shown that the CAT group improved more rapidly.

The above mentioned studies all investigated outpatient treatment programs. The current study is the first to investigate the long-term effects of Inpatient Psychotherapy for Adolescents (IPA). The choice for inpatient psychotherapy in personality disorders is empirically supported in adults (Bartak et al., 2010, 2011; Chiesa, Fonagy, Holmes, & Drahorad, 2004; Gabbard et al., 2000; Vermote et al., 2009) and mentioned in the Dutch Multidisciplinary Guideline for Personality Disorders (Landelijke Stuurgroep Multidisciplinaire Richtlijnontwikkeling, 2008). Improvements due to inpatient treatment for adult patients with personality disorders seem to last also after treatment (see, for example, Gabbard et al., 2000; Vermote et al., 2009). Since adolescence is a busy developmental phase in which even normal adolescents are challenged to cope with several changes and accompanying developmental tasks, we were particularly interested if the beneficial treatment outcomes found in a previous study (Feenstra, Laurenssen, Hutsebaut, Verheul, & Busschbach, submitted) would last after leaving the inpatient treatment program.

We furthermore wanted to explore for which patients IPA was mostly effective after leaving the inpatient unit. This is not only relevant from a patient perspective, but also from a societal perspective as inpatient treatments are expensive. In a previous outcome-study of IPA by Feenstra and colleagues (submitted for publication) more beneficial outcome was found for adolescents high on dependency than for patients high on self-criticism. This was in line with the argument of Blatt and Felsen (1993) who stated that patients with higher levels of dependency respond more effectively to a treatment program in which there is much room for personal interaction with the therapist. Patients with higher levels of

self-criticism on the other hand may have more difficulties in profiting from the therapeutic relationship and the rules and procedures inherent to an inpatient setting might conflict with their striving for autonomy. We would expect more beneficial outcome for adolescents high on dependency at follow up. Type of personality disorder might be another predictor. In adult samples, it was shown recently that cluster B and cluster C patients benefit from inpatient treatment, results however were more convincing for cluster C patients (Bartak et al., 2010). In an adolescent population, a trend was found suggesting more beneficial outcome for patients with more cluster C personality disorder traits (Feenstra et al., submitted). We wanted to investigate if these findings would hold at follow-up measurements.

In this study we investigated long-term outcome of Inpatient Psychotherapy for Adolescents (IPA). In addition, this study examines potential predictors of long-term treatment effects.

METHOD

Participants

From June 2006 until January 27th 2009, 109 adolescents were admitted to the Inpatient Psychotherapy for Adolescents (IPA) unit of the youth department of de Viersprong, National Institute of Personality Disorders, and enrolled in this study. De Viersprong is a mental health care institute offering outpatient, day hospital, and inpatient psychotherapy for adolescents and adults with severe and complex personality pathology. All patients underwent a standard assessment as part of the intake procedure, including semi-structured interviews to measure Axis I and Axis II disorders and several questionnaires. Patients were asked to complete questionnaires at start of treatment, and 6, 12 and 24 months after start of treatment. All patients agreed upon participating in the study and signed informed consent after the purpose of the study was explained. This study is part of the long term outcome and process study of Treatment Refractory Adolescents with Personality Disorders (TRAP). Inclusion criteria for this study and admission to the inpatient unit were the presence of severe, chronic, and multiple complaints, leading to clinically significant distress and impaired social and school functioning, for which previous outpatient treatment has not resulted in significant improvement

of functioning. Exclusion criteria were chronic psychotic disorders (e.g., schizophrenia), organic cerebral impairment, and mental retardation. Dropout was defined as any premature termination of treatment not mutually negotiated and agreed upon by staff and patient (cf. Baruch, Gerber, & Fearon, 1998; Hatchett & Park, 2003; Richmond, 1992). Completion of treatment was defined as mutually agreed discontinuation of treatment (cf. Johnson, Mellor, & Brann, 2009). The study was approved by the Ethical Commission of the Department of Psychology of the University of Amsterdam.

Inpatient Psychotherapy for Adolescents (IPA)

IPA is a supportive and ego-strengthening treatment program for adolescents with personality pathology with a maximum stay of 12 months. The program consists of several components, including group psychotherapy, individual psychotherapy, non-verbal therapy (i.e. psychomotor therapy and creative therapy) in a group and/or individual format, psychiatric consultations, social work, weekly individual sessions with a psychosocial nurse, community meetings, and family therapy. The adolescents stay at the inpatient ward for 5 days a week, go to school for approximately 4 hours a day at the site, and go home during weekends. Furthermore, a supportive environment was created to help the adolescent improve their daily functioning and resume their developmental tasks. All therapies were provided by professionals with advanced degrees and who had several years of experience working with adolescents with severe personality pathology.

Measures

Anxiety and mood disorders were diagnosed using the Anxiety Disorders Interview Schedule for DSM-IV Child Version – Child interview (Adis-C; Silverman & Albano, 1996; translated by Siebelink & Treffers, 2001). The Adis-C is a semi-structured interview designed to measure anxiety and other Axis I disorders in children and adolescents. Research shows that the Adis-C is reliable across time, informants and in comparison with other forms of assessment. Also, interrater reliability appeared to be good in a sample of children and adolescents aged 7-16 ($\kappa = .92$) (Lyneham, Abbott, & Rapee, 2007). The Adis-C was supplemented by section E, G, and H of the Structured Clinical Interview for DSM-IV Axis I disorders (SCID-I: First, Spitzer, Gibbon, & Williams, 1997; translated by van Groenestijn, Akkerhuis,

Kupka, Schneider, & Nolen, 1999) to diagnose substance-related disorders, somatoform disorders and eating disorders, respectively. The SCID-I appears to have good interrater reliability (κ = .85), especially when interviewers received a training (Ventura, Liberman, Green, Shaner, & Mintz, 1998).

The Structured Clinical Interview for DSM-IV Axis II Personality disorders (SCID-II; First, Spitzer, Gibbon, Williams, & Benjamin, 1996; translated by Weertman, Arntz, & Kerkhofs, 1996) was used to diagnose Axis II personality disorders. Criteria were scored if they were pathological, pervasive and persistent and if they were present for one year, according to the guideline of the DSM-IV-TR. Because DSM-IV-TR does not allow for antisocial personality disorder to be diagnosed in adolescents under the age of 18, this section was left out of the interview for adolescents under 18. Personality disorder not otherwise specified (PDNOS) was scored if a depressive personality disorder or a passive-aggressive personality disorder was present, or when at least 10 personality disorder traits from various disorders were scored without crossing the cut-off point of any formal personality disorder. Previous research has shown (see for example Maffei et al., 1997; Weertman, Arntz, Dreessen, Van Velzen, & Vertommen, 2003) that the DSM-IV version of the SCID-II has a good intterrater reliability and test-retest interrater reliability for the presence or absence of a personality disorder diagnosis in adults. Although the SCID-II is primarily designed for measuring personality disorders in adults, previous studies including adolescent samples have shown that the SCID-II is a useful instrument in an adolescent age group (Tromp & Koot, 2010).
Symptom severity, as reported by the adolescent, was measured by the Dutch version of the Brief Symptom Inventory (BSI; Derogatis, 1975; translated by de Beurs, 2006). It consists of 53 items covering nine symptom dimensions: Somatization, Obsession-Compulsion, Interpersonal Sensitivity, Depression, Anxiety, Hostility, Phobic anxiety, Paranoid ideation, and Psychoticism; and three global indices of distress: Global Severity Index, Positive Symptom Distress Index, and Positive Symptom Total. Respondents rank each feeling item (e.g., “your feelings being easily hurt”) on a 5-point scale ranging from 0 (not at all) to 4 (extremely). Rankings characterize the intensity of distress during the past seven days.

Personality functioning was measured by the Severity Indices of Personality Problems (SIPP-118; Verheul et al., 2008). The SIPP-118 is a dimensional self-report measure and aims to measure the core components of (mal) adaptive personality functioning. The SIPP-118 asks the respondents to think about the past three months and to answer the extent to which they agree with statements like 'I frequently say things I regret later' or 'Whenever I feel something, I can almost always name that feeling'. The response categories range from 1-4 and are described as 'fully disagree', 'partly disagree', 'partly agree', or 'fully agree'. The measure comprises 16 facets; these facets are clustered into five higher-order domains named Social Concordance, Relational functioning, Self-control, Responsibility, and Identity Integration. High scores in the facets indicate better adaptive functioning, whereas lower scores represent more maladaptive personality functioning. The SIPP-118 was tested in an adolescent sample, showing adequate psychometric properties (Feenstra, Hutsebaut, Verheul, & Busschbach, 2011).

The Dutch short version of the Depressive Experience Questionnaire for Adolescents (DEQ-A; Luyten, Corveleyn, & Blatt, 1997) was used to measure two personality styles: Self-criticism and Dependency. The Depressive Experiences Questionnaire (DEQ; Blatt, D'Afflitti, & Quinlan, 1976) was originally developed for adults. Items of the DEQ were rephrased to make them more appropriate for adolescents. A factor analysis showed the similar three factors (Dependency, Self-criticism, and Efficacy) as in the adult sample (Blatt, Schaffer, Bers, & Quinlan, 1992). Respondents are asked to what extent they agree with the items. Responses to the DEQ-A are given on a scale from 1 (strongly disagree) to 7 (strongly agree).

Statistical analyses

Differences at baseline variables between treatment completers and dropouts were investigated using chi-square tests and one-way ANOVAs. Results on outcome measures were examined using multi-level modeling. We used multi-level modeling to deal with a) the dependency of repeated measures on the same subject in time, and b) longitudinal data with observations missing at certain time points. To estimate treatment effects at 6, 12 and 24 months after start of treatment, random intercept and slope models were postulated with time as level I

and patient number as level II. The deviance statistic (Singer & Willett, 2003) was used to assess whether the slope could be postulated as random. Time, logarithm of time, and time squared were used as independent variables in the fixed part of the saturated models. Non-significant (p - out > .05) effects were excluded from the model, until a final parsimonious model was reached that did not significantly differ from the saturated model.

Subsequently, within-group effect sizes (Cohen's *d*; Cohen, 1988) were calculated to describe changes from baseline to 24 months after start of treatment.

In order to investigate clinical significant change in level of symptom severity (Jacobson & Truax, 1991) patients were classified into one of five categories: 1) recovered (the magnitude of change is statistically reliable and the patients ends up within functional limits of the variable of interest), 2) improved (the patients shows statistically reliable change, but ends up still somewhat dysfunctional), 3) unchanged (the magnitude of change is not statistically reliable), 4) deteriorated (change is statistically reliable in the opposite direction to that indicative of improvement, patient stays in the dysfunctional range), and 5) relapse (change is statistically reliable in the opposite direction to that indicative of improvement, patient goes from a functional level in the variable of interest to a dysfunctional level). The percentage of patients in the different categories was first determined at 12 months after treatment en subsequently 12 months later.

Prediction of treatment outcome was investigated using the above described multi-level analyses. Traits per cluster (A, B, C, and NOS) as well as their interaction with time, logarithm of time, and time squared were added to the saturated models. In a subsequent analysis DEQ-A dimensions (self-criticism and dependency) and the interaction between these dimensions as well as the interaction with time, logarithm of time, and time squared were added to the saturated model.

RESULTS

Participants

Of the 109 enrolled adolescents, five did not complete the entire assessment as part of the intake procedure. Thirty-four patients dropped out of treatment prematurely and were therefore left out of the analyses, leaving 70 participants for the current sample. No patients were excluded due to the exclusion criteria. Of the

70 adolescents, 58 were female (82.9%). The mean age for the study sample was 16.73 (range 14-19; SD 1.33). Clinical characteristics of the study sample are presented in Table 7.1. No significant differences between treatment completers and dropouts were found for demographic variables or clinical characteristics at baseline.

Table 7.1 Clinical characteristics of the study sample (n = 70)

Clinical characteristics		N	%
Axis I disorders	Mood disorder	28	40.0
	Anxiety disorder	26	37.1
	Eating disorder	10	14.3
	Somatoform disorder	2	2.9
	Substance use disorder	7	10.0
	Other disorder	1	1.4
	Any Axis I disorder	55	78.6
Axis II disorders	Avoidant personality disorder	11	15.7
	Obsessive-compulsive personality disorder	3	4.3
	Borderline personality disorder	14	20.0
	Personality disorder not otherwise specified	10	14.3
	Any PD	34	48.6

Footnote: PD = personality disorder.

Treatment outcome

The adolescents show significant improvement on all outcome measures. They report significantly less symptom severity and significantly better personality functioning 24 months after start of treatment. Table 7.2 presents the final models for all outcome variables. These estimated outcome results are presented in Table 7.3. Effect sizes at 24 months after start of treatment range from .18 to .80, indicating small to large effects. Effect sizes at all time points for all outcome variables are presented in Figure 7.1.

Table 7.2 Final models for outcome variables

	Intercept	time linear	log time	time squared
GSI	1.591	-.184	.374	.0048
SIPP-118 Self-control	4.148	.139		-.0044
SIPP-118 Social concordance	5.415	.065		-.0018
SIPP-118 Identity integration	3.310	.109		-.0036
SIPP-118 Relational capacities	3.827	.192	-.448	-.0052
SIPP-118 Responsibility	4.262	-.015	.221	

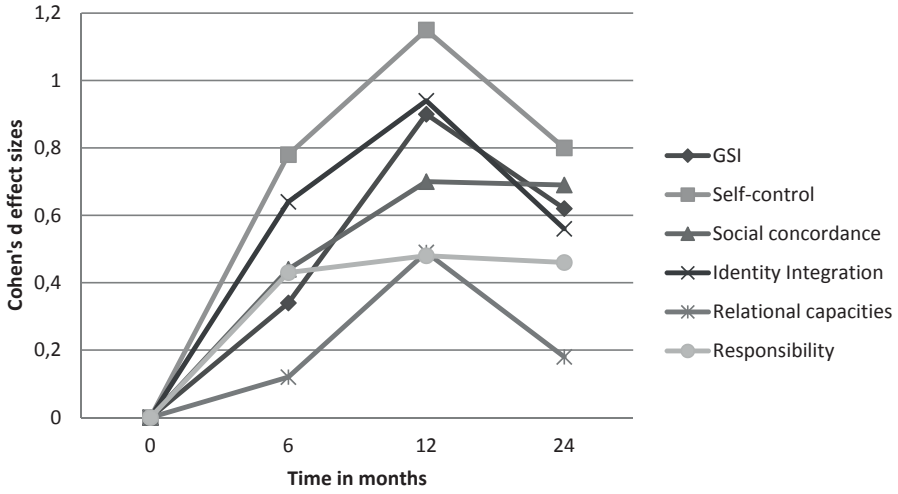
Footnote: GSI = Global Severity Index (Brief Symptom Inventory); SIPP-118 = Severity Indices of Personality Problems 118; log time = natural logarithm of time + 1;. time was not needed in the random part for the models for SIPP social concordance, SIPP relational capacities and SIPP-118 Responsibility.

Table 7.3 Estimated treatment outcome (n = 70)

Variable	Baseline	6 months		12 months		24 months	
	M (SD)	M (SD)	*d*	M (SD)	*d*	M (SD)	*d*
GSI	1.59 (.58)	1.39 (.61)	.34	1.04 (.65)	.90	1.16 (.80)	.62
SIPP- 118 Self-control	4.15 (.86)	4.83 (.90)	.78	5.19 (.96)	1.15	4.97 (1.17)	.80
SIPP-118 Social concordance	5.42 (.73)	5.74 (.73)	.44	5.93 (.73)	.70	5.91 (.73)	.69
SIPP-118 Identity integration	3.31 (.80)	3.84 (.83)	.64	4.10 (.89)	.94	3.84 (1.10)	.56
SIPP-118 Relational capacities	3.83 (.91)	3.92 (.91)	.12	4.23 (.91)	.49	3.98 (.91)	.18
SIPP-118 Responsibility	4.26 (.79)	4.60 (.79)	.43	4.65 (.79)	.48	4.62 (.79)	.46

Footnote: GSI = Global Severity Index (Brief Symptom Inventory); SIPP-118 = Severity Indices of Personality Problems 118; M = mean; SD = standard deviation; d = Cohen's d effect size. Effect sizes are calculated between scores at baseline on the one hand and scores at 6, 12, and 24 months on the other.

Figure 7.1 Effect sizes at all time points for outcome variables



Clinical significant change

For the adolescents who had complete datasets at all time points (n = 39), clinical significant change was calculated. In Table 7.4 the percentages of adolescents in the different categories of clinical significant change are presented for 24 months after start of treatment.

Table 7.4 Clinical significant change in level of symptom severity (n = 39)

Categories	N	%
1. Recovered	13	33.3
2. Improved	6	15.4
3. Unchanged	16	41.0
4. Deteriorated	3	7.7
5. Relapsed	1	2.6

Prediction of treatment outcome

Predictive value of personality disorder traits per cluster

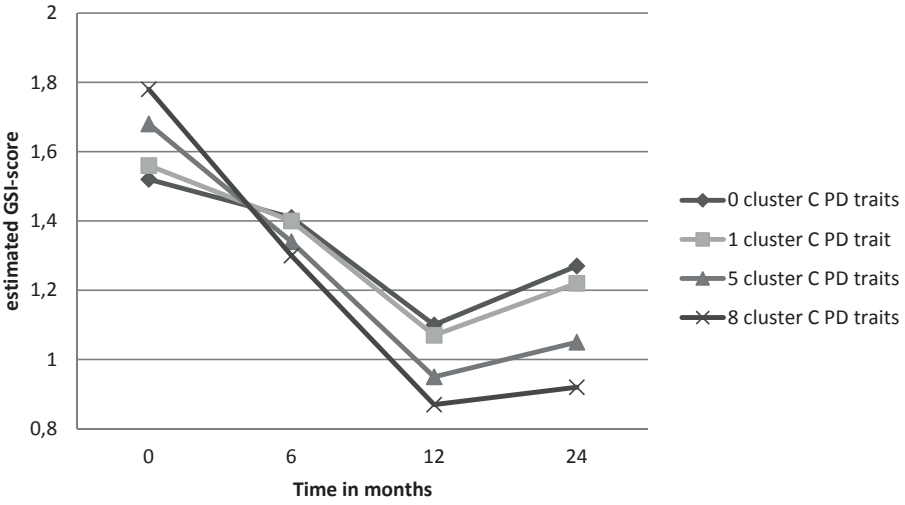
Table 7.5 shows the predictive value of personality disorder traits per cluster on level of symptom severity. Adolescent patients with more cluster C personality disorder traits started with higher levels of symptom severity and ended with lower levels of symptom severity, as opposed to adolescent patients with less cluster C personality disorder traits (see Figure 7.2).

Table 7.5 Predictive value of personality disorder traits on level of symptom severity

Parameter	Estimate	S.E.	t	p
Intercept	1.252	.126	9.888	.000
time linear	-.183	.056	-3.266	.001
log time	.419	.173	2.423	.017
time squared	.005	.001	3.352	.001
# cluster A PD traits	-.016	.125	-.127	.899
# cluster B PD traits	.052	.028	1.834	.071
# cluster C PD traits	.050	.027	1.861	.066
# cluster NOS PD traits	.075	.039	1.938	.057
log time * # cluster C PD traits	-.023	.011	-2.100	.038

Footnote: log time = natural logarithm of time +1; PD = personality disorder; SE = standard error. The slope (t) was postulated as random in this model.

Figure 7.2 Predictive value of cluster C PD traits



Predictive value of dependency and self-criticism

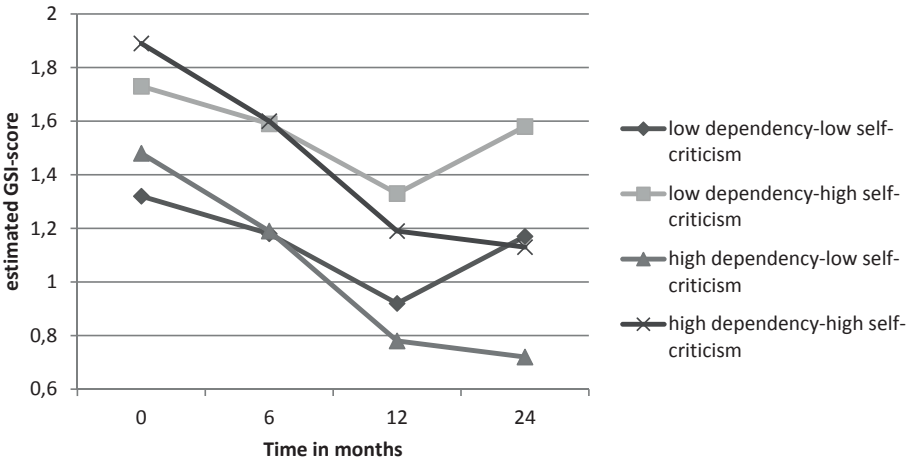
In Table 7.6 the predictive value of levels of dependency and self-criticism on level of symptom severity is shown. It can be seen that adolescents with higher levels of self-criticism have higher levels of symptom severity at all time points. Furthermore, it is presented that patients with higher levels of dependency improve more rapidly in terms of symptom severity (see Figure 7.3).

Table 7.6 Predictive value of dependency and self-criticism on level of symptom severity

Parameter	Estimate	S.E.	t	p
Intercept	.374	.310	1.207	.230
time linear	-.028	.020	-1.410	.161
time squared	.002	.000	3.343	.001
Dependency	-.047	.060	-.778	.438
Self-criticism	.302	.054	5.552	.000
time linear * Dependency	-.006	.003	-2.056	.041

Footnote: SE = standard error. The slope (t) was not postulated as random in this model.

Figure 7.3 Predictive value of self-criticism and dependency



DISCUSSION

In this study, we investigated long-term treatment effects in adolescents with personality pathology admitted to IPA. Our results indicate that these adolescents show improvement in level of symptom severity, as well as personality functioning 24 months after start of treatment. Effect sizes (Cohen's *d*) at follow up ranged from .18 for relational capacities to .80 for self-control. Patients who benefitted most from IPA were characterized by higher levels of dependency or more cluster C personality disorder traits. When looking at clinical significant change, it was shown that over 30% of the adolescents recovered fully. These adolescents showed a non-clinical level of symptom severity 24 months after start of treatment.

More than half of our patients however, did not show statistical significant change, or showed statistical significant change in an unwanted direction.

We found that higher levels of dependency significantly predicted treatment effects at follow up. This is in line with previous research, showing that dependent patients benefit more from treatment programs in which there is much room for personal interaction with the therapist (Blatt & Felsen, 1993). Furthermore, adolescent patients with more cluster C personality disorder traits also showed more improvements in level of symptom severity. This confirms previous findings of Feenstra and colleagues (submitted) of more beneficial outcome for cluster C patients. It is also in line with the research of Bartak and colleagues (2010) who found beneficial outcomes for adult cluster C patients in an inpatient setting.

Our findings elicit some important issues. While a minority of adolescents made significant progress, the overall progress is small, due to an important group of adolescents who do not change or show only little improvement in level of symptom severity. Given the expensive nature of a 12-months inpatient treatment program, we would have expected larger than the observed small to large effect sizes. Although our effect sizes are comparable to other studies investigating treatment programs for personality disordered adolescents (see for example Chanen et al., 2008; Schuppert et al., 2009) these effect sizes were found for outpatient, and presumably less expensive, treatment programs. Furthermore, Chanen and colleagues (2008) even found ongoing improvements after ending treatment, a finding that was also reported by Svartberg and colleagues (2004) for short-term outpatient treatment in adult patients with personality pathology. Our patients did not further improve after leaving the inpatient treatment program. This raises the question whether these personality disordered adolescents are better treated in an outpatient setting, or if, for example, an outpatient step-down trajectory of IPA might cause more beneficial outcome for these youngsters. These settings might provide more opportunities for the adolescents to practice in their own environment and families what they have learned in treatment. Given the limited number of resources for mental health care and the expected trend towards less long-term inpatient treatment, it will become important to identify adolescents who do profit more from IPA than from outpatient treatment. It will furthermore be

important to see whether this form of treatment can be cost-effective (as opposed to outpatient treatments) for certain adolescent patients.

This study has several strengths and limitations. A strength is the performance of thorough assessments of Axis I and Axis II disorders. A limitation is that we did not include a control group in this study, which complicated the interpretation of the observed long-term treatment effects. We can not rule out that no treatment or, in other words, the natural course of the pathology would yield similar or even larger improvements as compared to IPA. Furthermore, other than Bartak and colleagues (2010, 2011) we had only one treatment modality, so we can not differentiate between short- and long-term inpatient programs in the way that they did. In that respect further research is needed, investigating different treatment modalities. In our sample, girls were overrepresented. This is a limitation of this study and we suggest that more research is needed including more adolescent boys in the sample investigated. Furthermore, our sample consists of mainly native Dutch adolescents with minimal diversity in cultural background. This might limit the generalizability of our findings to adolescent with other cultural background. Further research is needed including adolescents from other cultural contexts.

Our results show that (personality disordered) adolescents admitted to an inpatient treatment program show less symptom severity and better personality functioning 24 months after start of treatment. Our study shows that especially patients with higher levels of dependency or patients with more cluster C personality disorder traits profit most from this particular inpatient treatment program. Overall, long-term effects found in this study were slightly disappointing since an inpatient treatment is an expensive treatment. Further research is needed to investigate for which patients an inpatient treatment program may be more (cost-) effective than outpatient treatments.

REFERENCES

American Psychiatric Association. (2000). *Diagnostic and statistical manual of mental disorders (4th edition, text revision)*. Washington, DC: American Psychiatric Association.

Backer, H.S., Miller, A.L., & Bosch, L.M.C. van den (2009). Dialectische gedragstherapie bij adolescenten; een literatuuronderzoek [Dialectical behaviour therapy for adolescents]. *Tijdschrift voor Psychiatrie, 51,* 31-41.

Bartak, A., Andrea, H., Spreeuwenberg, M.D., Ziegler, U.M., Dekker, J., Rossum, B.V., Hamers, E.F.M., Scholte, W., Aerts, J., Busschbach, J.J.V., Verheul, R., Stijnen, T., & Emmelkamp, P.M.G. (2011). Effectiveness of outpatient, day hospital, and inpatient psychotherapeutic treatment for patients with cluster B personality disorders. *Psychotherapy and Psychosomatics, 80,* 28-38.

Bartak, A., Spreeuwenberg, M.D., Andrea, H., Holleman, L., Rijnierse, P., Rossum, B.V., Hamers, E.F.M., Meerman, A.M.M.A., Aerts, J., Busschbach, J.J.V., Verheul, R., Stijnen, T., & Emmelkamp, P.M.G. (2010). Effectiveness of different modalities of psychotherapeutic treatment for patients with cluster C personality disorders: results of a large prospective multicentre study. *Psychotherapy and Psychosomatics, 79,* 20-30.

Baruch, G., Gerber, A., & Fearon, P. (1998). Adolescents who drop out of psychotherapy at a community-based psychotherapy centre: A preliminary investigation of the characteristics of early dropouts, late dropouts and those who continue treatment. *British Journal of Medical Psychology, 71,* 233-245.

Beurs, E. de. (2006). *Brief Symptom Inventory (BSI): Handleiding* [Brief Symptom Inventory (BSI): Manual]. Leiden: PITS B.V.

Blatt, S.J., D'Afflitti, J.P., & Quinlan, D.M. (1976). Experiences of depression in normal young adults. *Journal of Abnormal Psychology, 85,* 383-389.

Blatt, S.J., & Felsen, I. (1993). Different kinds of folks may need different kinds of strokes: the effect of patients' characteristics on therapeutic process and outcome. *Psychotherapy Research, 3,* 245-259.

Blatt, S.J., Schaffer, C.E., Bers, S.A., Quinlan, D.M. (1992). Psychometric properties of the Depressive Experiences Questionnaire for Adolescents. *Journal of Personality Assessment, 59,* 82-98.

Braun-Scharm, H. (1996). Suicidality and personality disorders in adolescence. *Crisis: Journal of Crisis Intervention & Suicide, 17,* 64-68.

Chanen, A.M., Jackson, H.J., McCutcheon, L.K., Jovev, M., Dudgeon, P., Yuen, H.P., Germano, D., Nistico, H., McDougall, E., Weinstein, C., Clarkson, V., & McGorry, P.D. (2008). Early intervention for adolescents with borderline personality disorder using cognitive analytic therapy: randomised controlled trial. *The British Journal of Psychiatry, 193,* 477-484.

Chanen, A.M., & McCutcheon, L.K. (2008). Personality disorder in adolescence: the diagnosis that dare not speak its name. *Personality and Mental Health, 2*, 35-41.

Chen, H., Cohen, P., Kasen, S., & Johnson, J.G. (2006). Adolescent Axis I and personality disorders predict quality of life during young adulthood. *Journal of Adolescent Health, 39,*

14-19.

Chiesa, M., Fonagy, P., Holmes, J., & Drahorad, C. (2004). Residential versus community treatment of personality disorders: a comparative study of three treatment programs. *American Journal of Psychiatry, 161,* 1463-1470.

Cohen, J. (1988). Statistical power analysis for the behavioural sciences (2nd edition). Hillsdale, NJ: Lawrence Erlbaum Associates.

Daley, S.E., Hammen, C., Burge, D., Davilla, J., Paley, B., Lindberg, N., & Herzberg, D.S. (1999). Depression and Axis II symptomatology in an adolescent community sample: Concurrent and longitudinal associations. *Journal of Personality Disorders, 13,* 47-59.

Daley, S.E., Rizzo, C.J., & Gunderson, B.H. (2006). The longitudinal relation between personality disorder symptoms and depression in adolescence: The mediating role of interpersonal stress. *Journal of Personality Disorders, 20,* 352-368.

Derogatis, L. R. (1975). *Brief Symptom Inventory*. Baltimore, MD: Clinical Psychometric Research.

Feenstra, D.J., Busschbach, J.J.V., Verheul, R., & Hutsebaut, J. (2011). Prevalence and comorbidity of Axis I and Axis II disorders among treatment refractory adolescents admitted for specialized psychotherapy. *Journal of Personality Disorders, 25,* 842-850.

Feenstra, D.J., Hutsebaut, J., Laurenssen, E.M.P., Verheul, R., Busschbach, J.J.V., & Soeteman, D.I. (2012). The burden of disease among adolescents with personality pathology: quality of life and costs. *Journal of Personality Disorders, 26,* 593-604.

Feenstra, D.J., Hutsebaut, J., Verheul, R., & Busschbach, J.J.V. (2011). Severity Indices of Personality Problems (SIPP-118) in adolescents: reliability and validity. *Psychological Assessment, 23*, 646-655.

Feenstra, D.J., Laurenssen, E.M.P., Hutsebaut, J., Verheul, R., & Busschbach, J.J.V. (submitted for publication). Predictors of outcome of inpatient psychotherapy for adolescents with personality disorders.

First, M.B., Spitzer, R.L., Gibbon, M., & Williams, J.B.W. (1997). *Structured clinical interview for DSM-IV axis I disorders (SCID I).* Washington, DC: American Psychiatric Press.

First, M.B., Spitzer, R.L., Gibbon, M., Williams, J.B.W., & Benjamin, L. (1996). *Structured clinical interview for DSM-IV axis II personality disorders (SCID II).* Washington, DC: American Psychiatric Press.

Fleischhaker, C., Munz, M., Böhme, R., Sixt, B., & Schulz, E. (2006). Dialektisch-Behaviorale Therapie für Adoleszente (DBT-A) – eine pilotstudie zur therapie von suizidalität, parasuizidalität und selbstverletzenden verhaltensweisen bei patientinnen mit symptomen einer borderlinestorüng [Dialectical behaviour therapy for adolescents (DBT-A) – a pilot study on the therapy of suicidal, parasuicidal, and self-injurious behaviour in female patients with a borderline disorder]. *Zeitschrift für Kinder- und Jugendpsychiatrie und Psychotherapie, 34*, 15-25.

Gabbard, G.O., Coyne, L., Allen, J.G., Spohn, H., Colson, D.B., & Vary, M. (2000). Evaluation of intensive inpatient treatment of patients with severe personality disorders. *Psychiatric Services, 51,* 893-898.

Grilo, C.M., McGlashan, T.H., Quinlan, D.M., Walker, M.L., Greenfeld, D., & Edell, W.S. (1998). Frequency of personality disorders in two age cohorts of psychiatric inpatients. *American Journal of Psychiatry, 155,* 140-142.

Groenestijn, M.A.C. van, Akkerhuis, G.W., Kupka, R.W., Schneider, N., & Nolen, W.A. (1999). *Gestructureerd klinisch interview voor de vaststelling van DSM-IV as I stoornissen* [Structured Clinical Interview for DSM-IV axis I disorders]. Amsterdam: Harcourt Test Publishers.

Hatchett, G.T., & Park, H.L. (2003). Comparison of four operational definitions of premature termination. *Psychotherapy: Theory, Research, Practice, Training, 40,* 226-231.

Jacobson, N.S., & Truax, P. (1991). Clinical significance: a statistical approach to defining meaningful change in psychotherapy research. *Journal of Consulting and Clinical Psychology, 59*, 12-19.

Johnson, J.G., Chen, H., & Cohen, P. (2004). Personality disorder traits during adolescence and relationships with family members during the transition to adulthood. *Journal of Consulting and Clinical Psychology, 72,* 923-932.

Johnson, J.G., Cohen, P., Kasen, S., Skodol, A.E., Hamagami, F., & Brook, J.S. (2000). Age-related change in personality disorder trait levels between early adolescence and adulthood: a community-based longitudinal investigation. *Acta Psychiatrica Scandinavica, 102,* 265-275.

Johnson, J.G., First, M.B., Cohen, P., Skodol, A.E., Kasen, S., & Brook, J.S. (2005). Adverse outcomes associated with personality disorder not otherwise specified in a community sample. *American Journal of Psychiatry, 162,* 1926-1932.

Johnson, J.G., Cohen, P., Skodol, A.E., Oldham, J.M., Kasen, S., & Brook, J.S. (1999). Personality disorders in adolescence and risk of major mental disorders and suicidality during adulthood. *Archives of General Psychiatry, 56,* 805-811.

Johnson, E., Mellor, D., & Brann, P. (2009). Factors associated with dropout and diagnosis in child and adolescent mental health services. *Australian and New Zealand Journal of Psychiatry, 43,* 431-437.

Kasen, S., Cohen, P., Skodol, A.E., First, M.B., Johnson, J.G., Brook, J.S., & Oldham, J.M. (2007). Comorbid personality disorder and treatment use in a community sample of youths: A 20-year follow up. *Acta Psychiatrica Scandinavica, 115,* 56-65.

Landelijke Stuurgroep Multidisciplinaire Richtlijnontwikkeling in de GGZ. (2008). *Multidisciplinaire richtlijn persoonlijkheidsstoornissen [Multidisciplinary guideline for personality disorders].* Utrecht: Trimbos-instituut.

Lavan, H., & Johnson, J.G. (2002). The association between Axis I and Axis II psychiatric symptoms and high-risk sexual behavior during adolescence. *Journal of Personality Disorders, 16,* 73-94.

Levy, K.N., Becker, D.F., Grilo, C.M., Mattanah, J.J., Garnet, K.E., Quinlan, D.M., Edell, W.S., & McGlashan, T.H. (1999). Concurrent and predictive validity of the personality disorder diagnosis in adolescent inpatients. *American Journal of Psychiatry, 156,* 1522-1528.

Luyten, P., Corveleyn, J., & Blatt, S.J. (1997). *Depressieve Ervaringen Vragenlijst (DEV): Adolescenten versie* [Depressive Experiences Questionnaire (DEQ): version for adolescents]. Unpublished manuscript.

Lyneham, H.J., Abbott, M.J., & Rapee, R.M. (2007). Interrater reliability of the Anxiety Disorders Interview Schedule for DSM-IV: Child and Parent Version. *Journal of the American Academy of Child and Adolescent Psychiatry, 46,* 731-736.

Maffei, C., Fossati, A., Agostini, I., Barraco, A., Bagnato, M., Donati, D., Namia, C., Novella, L., & Petrachi, M. (1997). Interrater reliability and internal consistency of the structured clinical interview for DSM-IV Axis II personality disorders (SCID-II), version 2.0. *Journal of Personality Disorders, 11,* 279-284.

Rathus, J.H., & Miller, A.L. (2002). Dialectical behaviour therapy adapted for suicidal adolescents. *Suicide and Life-Threatening Behaviors, 32,* 146-157.

Richmond, R. (1992). Discriminating variables among psychotherapy dropouts from a psychological training clinic. *Professional Psychology: Research and Practice, 23,* 123-130.

Schuppert, H.M., Giesen-Bloo, J., van Gemert, T.G., Wiersma, H.M., Minderaa, R.B., Emmelkamp, P.M.G., & Nauta, M.H. (2009). Effectiveness of an emotion regulation group training for adolescents – a randomized controlled pilot study. *Clinical Psychology and Psychotherapy, 16,* 467-478.

Serman, N., Johnson, J.G., Geller, P.A., Kanost, R.E., & Zacharapoulou, H. (2002). Personality disorders associated with substance abuse among American and Greek adolescents. *Adolescence, 37,* 841-854.

Siebelink, B.M., & Treffers, D.A. (2001). *Anxiety disorders interview schedule for DSM-IV Child Version, Kindinterview* [Anxiety Disorders Interview Schedule for DSM-IV child version, child interview schedule]. Lisse: Swets & Zeitlinger B.V.

Silverman, W.K. & Albano, A.M. (1996). *Anxiety Disorders Interview Schedule for DSM-IV Child Version, child interview schedule.* San Antonio: The Psychological Corporation.

Singer, J.D., & Willett, J.B. (2003). *Applied longitudinal data analysis – modelling change and event occurrence*. Oxford: Oxford University Press.

Soeteman, D.I., Hakkaart-van Roijen, L., Verheul, R., & Busschbach, J.J.V. (2008). The economic burden of personality disorders in mental health care. *Journal of Clinical Psychiatry,* 69*,* 259-265.

Soeteman, D.I., Verheul, R., & Busschbach, J.J.V. (2008). The burden of disease in personality disorders: diagnosis-specific quality of life. *Journal of Personality Disorders,* 22*,* 259-268.

Svartberg, M., Stiles, T.C., & Seltzer, M.H. (2004). Randomized, controlled trial of the effectiveness of short-term dynamic psychotherapy and cognitive therapy for cluster C personality disorders. *American Journal of Psychiatry, 161,* 810-817.

Tromp, N.B., & Koot, H.M. (2010). Dimensions of normal and abnormal personality: elucidating DSM-IV personality disorder symptoms in adolescents. *Journal of Personality, 78,* 839-864.

Ventura, J., Liberman, R.P., Green, M.F., Shaner, A., & Mintz, J. (1998). Training and quality assurance with the Structured Clinical Interview for DSM-IV (SCID I/P). *Psychiatry Research, 79,* 163-173.

Verheul, R., Andrea, H., Berghout, C.C., Dolan, C., Busschbach, J.J.V., Van der Kroft, P.J.A., Bateman, A.W., & Fonagy, P. (2008). Severity Indices of Personality Problems (SIPP-118): Development, Factor Structure, Reliability, and Validity. *Psychological Assessment, 20*, 23-34.

Vermote, R., Fonagy, P., Vertommen, H., Verhaest, Y., Stroobants, R., Vandeneede, B., Corveleyn, J., Lowyck, B., Luyten, P., & Preuskens, J. 92009). Outcome and outcome trajectories of personality disordered patients during and after a psychoanalytic hospitalization-based treatment. *Journal of Personality disorders, 23,* 294-307.

Weertman, A., Arntz, A., Dreessen, L., Van Velzen, C., & Vertommen, S. (2003). Short-interval test-retest interrater reliability of the Dutch Version of the Structured Clinical Interview for DSM-IV Personality Disorders (SCID-II). *Journal of Personality Disorders, 17*, 562-567.

Weertman, A., Arntz, A., & Kerkhofs, M. (1996). *Gestructureerd klinisch interview voor DSM-IV as II persoonlijkheidsstoornissen* [Structured clinical interview for DSM-IV axis II personality disorders]. Amsterdam: Harcourt Test Publishers.

Westen, D., Shedler, J., Durett, C., Glass, S., & Martens, A. (2003). Personality diagnoses in adolescence: DSM-IV axis II diagnoses and an empirically derived alternative. *American Journal of Psychiatry, 160,* 952-966.

Chapter 8

General discussion

As described in the introduction, this thesis aims to address adolescent personality pathology by investigating the prevalence, structure, and treatability of personality disorders in adolescents. The five research questions were:

1. What is the prevalence of personality disorders in an adolescent treatment sample?
2. What is the burden of personality disorders in these adolescents?
3. Is the structure of core components of (mal) adaptive personality functioning in adolescents similar to the structure reported in adults?
4. Can treatment provide relief for these adolescents?
5. What are the long-term treatment effects?

Based on these research questions, we designed and started a long-term outcome and process study in Treatment Refractory Adolescents with Personality Disorders (TRAP). In the following paragraphs we will try to answer these research questions using the new evidence presented in this thesis. Furthermore, the answers to the research questions will be discussed and some implications for theory development, clinical practice, policy making, and recommendations for future research will be provided.

Answers to the research questions

What is the prevalence of personality disorders in an adolescent treatment sample? In our study we found that approximately 40% of the adolescents, admitted for specialized psychotherapy, were diagnosed with at least one personality disorder. Most adolescents also suffered from one or more Axis I disorders. With prevalence rates of 22.6% and 12.5% respectively, borderline and avoidant personality disorder were the most frequently diagnosed personality disorders in this sample of adolescents. Our findings are comparable to previous prevalence studies in adolescent (e.g., Grilo et al., 1998; Westen, Shedler, Durett, Glass, & Martens, 2003), and adult treatment samples (see Verheul & van den Brink, 1999).

What is the burden of personality disorders in these adolescents? Personality disorders in adults are associated with a low quality of life (Soeteman, Verheul, & Busschbach, 2008) and high societal costs (Soeteman, Hakkaart-van Roijen,

Verheul, & Busschbach, 2008). We aimed to investigate whether the burden of disease was similar in adolescents with personality disorders. Our results show that quality of life in personality disordered adolescents is comparable to quality of life experienced by adults with personality disorders. Estimated costs of adolescent personality disorders were even higher than estimated costs of adult personality disorders. Burden of disease in adolescents suffering from personality disorders is high, suggesting that further research and development of (cost-) effective treatment strategies for this population may be worthwhile.

Is the structure of core components of (mal) adaptive personality functioning in adolescents similar to the structure reported in adults? To answer this research question we investigated the psychometric properties, factor structure, and validity of the Severity Indices for Personality Problems (SIPP-118: Verheul et al., 2008) in two different samples of adolescents. The SIPP-118 was originally developed for adults and consists of 16 facets, which are clustered into 5 higher-order domains. This structure was replicated in our adolescent sample. Furthermore, all facets appeared homogeneous (acceptable internal consistency) and SIPP-118 scores were more pathological for the more severely (personality) disordered adolescents (divergent validity). Correlations with similar measures were moderate to high (construct validity). It was concluded that the psychometric properties, factor structure, and validity of the SIPP-118 in adolescent samples were similar to those reported in adult samples. These findings suggest that the core components underlying personality pathology in adolescents and adults are comparable. Taken together, the SIPP-118 seems to be a promising instrument measuring the core components of personality pathology in adolescents.

Can treatment provide relief for these adolescents? Our results show that the sample of adolescents admitted to Inpatient Psychotherapy for Adolescents (IPA) reported less symptom severity, better personality functioning, and higher levels of quality of life at the end of their treatment. Although the group as a whole improved during their treatment, not all adolescents showed improvement. A relatively large proportion of adolescents showed no change (49.0%) or even deterioration (9.8%). Higher levels of dependency and lower levels of self-criticism at start of treatment were associated with improvement in level of symptom severity.

What are the long-term treatment effects? At 24 months after start of treatment almost half of the adolescents (48.7%) showed improvement, whereas others did not change (41.0%) or showed deterioration (10.3%). Patients with more cluster C personality disorder traits showed more change in level of symptom severity and more beneficial long-term outcomes. Furthermore, patients with higher levels of dependency at start of treatment improve more rapidly than patients with lower levels of dependency in terms of symptom severity.

Implications for theory development

This thesis adds to a growing and compelling body of evidence that adolescent and adult personality pathology are more similar than different. For example, the application of adult criteria of personality disorders leads to prevalence rates of personality disorders in adolescent samples that are comparable to prevalence rates found in adult samples in both patient and community studies. Although personality disorders might present themselves somewhat differently in different age groups, these findings suggest more similarities than differences. The burden of disease of personality disorders in both age groups is also comparable to each other. Furthermore, the structure of core components of (mal) adaptive personality functioning in adolescents is similar to the structure reported in adults, suggesting that the underlying structure of personality pathology is comparable. From these findings it follows that the same characteristics that define personality pathology in adults can be found in (an subgroup of) adolescents too, and that these characteristics seem to be organized or structured in a similar way. At a more abstract level, this thesis supports the idea that personality disorders are continuously developing throughout the lifespan, including adolescence and perhaps even part of childhood. Personality disorders presumably present themselves different in different life phases, but the underlying processes and structures seem to be stable and solid.

Implications for clinical practice

The theoretical implications of our study, i.e. personality disorders do exist in adolescents, might also have clinical implications, at least to the extent that the diagnosis of personality disorder has clinical utility in adolescents. Our findings seem to support such clinical utility. We have observed a high prevalence,

association with burden, responsiveness to treatment, and value for outcome prediction. However, we suspect that the introduction of routinely diagnosing personality disorders in adolescents might require a substantial change in attitude toward this topic. Acknowledging the severity of the pathology in these adolescents, by diagnosing the disorder, might be a necessary prerequisite for the effective application or development of appropriate treatment models for these severely disturbed adolescents. As to yet, little is known about effective treatment methods for adolescents with personality disorders. However, we believe that evidence-based treatment methods, which have proven to work with personality disordered adult patients, might provide interesting options also for adolescent patients. The remarkable resemblance of prevalence rates, burden and structure of personality disorders in adolescents and adults support the potential utility of adult models in working with adolescents. Nevertheless, it is our experience that adult models need some substantial and essential adaptations before application to adolescents (and their families). These adaptations include consistency with a developmental perspective and a systemic context. Furthermore, our findings suggest that patients with different types of personality disorders might benefit from different treatment settings. As was found in adult studies, adolescents with (severe) cluster C personality disorders might profit most from an inpatient setting, whereas adolescents with (severe) cluster B personality disorders might benefit more from an outpatient setting. Thus, for clinical decision making purposes it seems worthwhile to accurately assess the type and severity of personality disorder in the adolescent patient.

Implications for policy making

As is true for clinicians, policy makers should be sensible for the high burden experienced by adolescents with personality pathology. The low quality of life and high direct medical costs reported in this patient group provide evidence to suggest that development of effective treatment strategies for this group of adolescents may be worthwhile in order to provide relief for the patients as well as society. Furthermore, we believe that the similarities between adult and adolescent personality disorders in terms of prevalence, burden, and structure should warrant policy makers to adapt existing psychotherapeutic methods, which have been

proven to work in adults with personality disorders, to the needs and specificities of adolescents.

Recommendations for future research

Since limited resources are available for most mental health settings, we would like to prioritize three areas of research. First, we would recommend further research into the assessment of personality pathology in adolescents. Since most studies investigating this topic have used adult criteria of personality pathology as well as adult questionnaires, little is known about proper criteria specifically developed for assessing adolescent personality pathology. Development in this field of science would be of great help, both from a theoretical as well as a clinical point of view. Second, we would like to prioritize the development of (adapted) treatment models for application among adolescents with personality disorders. We expect that adaptations of existing evidence-based treatment models, such as adaptations of Schema-Focused Therapy (SFT) or Mentalization-based Treatment (MBT), might introduce powerful treatments for adolescents. And, finally, we would recommend conducting randomized controlled trials to investigate these (adapted) treatments for adolescents.

Conclusions

We started this thesis with the case of Amy, a seventeen year old personality disordered girl, who has been in treatment from the age of 3. Girls like Amy inspired us to start with the TRAP study. We hope that this thesis has provided more insight into adolescent personality pathology, that more clinicians will consider the diagnosis of personality disorder in adolescents, and that girls like Amy will be recognized as suffering from personality pathology and will be receiving effective treatment in the future.

REFERENCES

Grilo, C.M., McGlashan, T.H., Quinlan, D.M., Walker, M.L., Greenfeld, D., & Edell, W.S. (1998). Frequency of personality disorders in two age cohorts of psychiatric inpatients. *American Journal of Psychiatry, 155,* 140-142.

Soeteman, D.I., Hakkaart-van Roijen, L., Verheul, R., & Busschbach, J.J.V. (2008). The economic burden of personality disorders in mental health care. *Journal of Clinical Psychiatry, 69*, 259-265.

Soeteman, D.I., Verheul, R., & Busschbach, J.J.V. (2008). The burden of disease in personality disorders: diagnosis-specific quality of life. *Journal of Personality Disorders, 22*, 259-268.

Verheul, R., Andrea, H., Berghout, C.C., Dolan, C., Busschbach, J.J.V., Van der Kroft, P.J.A., Bateman, A.W., & Fonagy, P. (2008). Severity Indices of Personality Problems (SIPP-118): development, factor structure, reliability, and validity. *Psychological Assessment, 20*, 23-34.

Verheul, R., & van den Brink, W. (1999). Persoonlijkheidsstoornissen. In: A. de Jong, W. van den Brink, J. Ormel, & D. Wiersma (Eds.), *Handboek psychiatrische epidemiologie* [Handbook psychiatric epidemiology] (pp. 347-378). Maarssen: Elsevier/ De Tijdstroom.

Westen, D., Shedler, J., Durett, C., Glass, S., & Martens, A. (2003). Personality diagnoses in adolescence: DSM-IV axis II diagnoses and an empirically derived alternative. *American Journal of Psychiatry, 160,* 952-966.

Summary

In **Chapter 1** the background and research questions of this thesis are presented. Personality disorders are quite common in adults and are associated with low quality of life and high societal costs. Psychotherapy is generally considered the treatment of choice for adult patients with personality disorders. Much less is known about personality disorders in adolescents. Valuable information to yield arguments in favor of reimbursing treatments for this particular patient group, like the burden of disease or costs, is virtually non-existing. Also, there are almost no outcome studies available in this particular group of patients. This thesis aims to address these issues, thereby filling in the existing gap. The aim of this thesis was to investigate prevalence, structure, and treatability of adolescent personality disorders. Research questions included the following: 1) What is the prevalence of personality disorders in an adolescent treatment sample?, 2) What is the burden of personality disorders in these adolescents?, 3) Is the structure of core components of (mal) adaptive personality functioning in adolescents similar to the structure found in adults?, 4) Can treatment provide relief for these adolescents?, and 5) What are the long-term treatment effects?

In **Chapter 2**, the topic of personality disorders in adolescents is introduced by a case study. The case of Amy, a seventeen year old girl, is used to illustrate a diagnostic process that can be used when personality pathology is suspected. Recommendations for the assessment of personality pathology in adolescents are given. This information gathering process could lead to a clear and understandable dynamic diagnostic formulation, where the interaction between developmental history, personality pathology, environmental reactions, and developmental phase is demonstrated.

The first research question, on the prevalence of personality disorders in adolescents, is addressed in **Chapter 3**. Research has shown that approximately half of the adolescents in a clinical setting suffer from a personality disorder. To test whether this finding also applies to European clinical settings, 257 adolescents admitted for specialized psychotherapy were assessed using semi-structured interviews for both Axis I and Axis II disorders. It was found that 40.5% of the adolescents were diagnosed with at least one personality disorder. A high proportion of our sample did not meet the formal criteria of a categorical personality disorder, but nevertheless met 5 to 9 diagnostic criteria of different personality disorders. Most adolescents with a personality disorder (78.9%) also

suffered from one or more Axis I disorders. The results presented in this chapter are quite similar to estimates reported in other prevalence studies of personality disorders in adolescents. They are also comparable to prevalence studies of adults with personality disorders. The similarities between European and North American studies provides further evidence for the cross-national generalizibility of the diagnosis of personality disorders in adolescents.

In **Chapter 4** the burden of disease among adolescents with personality pathology is discussed. One hundred thirty-one adolescents admitted to a mental health care institute were included in this study. Axis I and Axis II disorders were assessed using semi-structured interviews. Quality of life was measured using the EuroQol EQ-5D; costs were measured by the Trimbos and Institute for Medical Technology Assessment Questionnaire on Costs Associated with Psychiatric Illness. The mean EQ-5D index score among the total group of adolescents was 0.55. Girls and adolescents with both an Axis I and an Axis II disorder experienced a significantly lower quality of life. Quality of life was furthermore inversely associated with the severity of personality pathology. Estimated direct medical costs in the year prior to treatment were €14,032 per patient. The estimated direct medical costs were mainly composed of costs due to inpatient health care and outpatient mental health care. Estimated direct medical costs were higher for depressive personality disorder. Our results show that the burden of disease among adolescents with personality pathology is high. This high burden provides evidence to suggest that further research and development of (cost-) effective treatment strategies for this population may be worthwhile.

The assessment of personality problems in adolescents is described in **Chapter 5**. In this chapter the psychometric properties, factor structure and validity of the Severity Indices of Personality Problems (SIPP-118) in adolescents are presented. The SIPP-118 is a self-report questionnaire focusing on the core components of (mal) adaptive personality functioning. The SIPP-118 was developed and validated in an adult population. In adult samples, the 16 facets of the SIPP-118 fit into 5 higher order domains: Self-control, Identity Integration, Relational Capacities, Social Concordance, and Responsibility. Three hundred seventy-eight adolescent patients and 389 adolescents in the community completed questionnaires to investigate the psychometric properties, factor structure and validity of the SIPP-118 in adolescents. Facets of the SIPP-118 appeared homogeneous, as alpha

coefficients ranged from 0.62 to 0.89, indicating moderate to acceptable reliability. The factor structure of the SIPP-118 in adolescents was found to be similar to the structure found in adults. Furthermore, the facets of the SIPP-118 appeared to discriminate between various populations; more pathological scores were found in the clinical sample of adolescents than in the normal sample. Also, personality disordered adolescents scored significantly more pathological than adolescents with no personality disorder. More maladaptive scores were found for adolescents with a higher number of personality disorder traits. Correlations with other clinical instruments were moderate to high. Taken together, the SIPP-118 seems to be a promising instrument measuring the core components of personality pathology in adolescents.

In **Chapter 6** the issue of treatment for adolescents with personality disorders is addressed. This chapter investigates treatment outcome of Inpatient Psychotherapy for Adolescents (IPA), i.e. an intensive program for treatment refractory adolescents with personality pathology. Fifty-one adolescents admitted for their personality problems were followed during their stay in IPA. Axis I and Axis II disorders were assessed by semi-structured interviews. The adolescents completed furthermore several questionnaires to measure symptom severity, personality styles and functioning, and quality of life at both start and 12 months after start of treatment. As a group, patients showed improvement in level of symptom severity 12 months after start of treatment. Furthermore, improvement in personality functioning and quality of life was also found. When looking at clinical significant change, it was shown that 30% of the adolescents recovered fully. These adolescents showed a non-clinical level of symptom severity 12 months after start of treatment. The largest group of adolescents however, did not show statistical significant change (49.0%), or showed deterioration (9.8%). Higher levels of dependency or lower levels of self-criticism at start of treatment were associated with improvement in level of symptom severity.

Long-term treatment effects of IPA are presented in **Chapter 7**. Seventy adolescents admitted for treatment of their personality pathology were followed during and after their stay in IPA. Axis I and Axis II disorders were measured using semi-structured interviews, and patients completed several questionnaires to measure symptom severity and personality styles and functioning at start and 6, 12, and 24 months after start of treatment. The adolescents showed significant

improvement in level of symptom severity and personality functioning 24 months after start of treatment. Patients who benefitted most from IPA were characterized by higher levels of dependency or more cluster C personality disorder traits. When looking at clinical significant change, it was shown that 30% of the adolescents recovered fully. More than half of the patient group however, did not show statistical significant change (41.0%), or even showed deterioration (10.3%). Although IPA might be effective for a particular group of adolescents, mean long-term treatment effects were at best modest. Given the high costs of IPA, development of adjustments and development of indication guidelines is warranted to ensure that IPA can be a cost-effective treatment as compared to outpatient treatment programs.

In **Chapter 8**, the answers to the research questions presented in the first chapter of this thesis are given using the new evidence presented in this thesis. This thesis adds to a growing and compelling body of evidence that adolescent and adult personality pathology is more similar than different. For example, prevalence rates of personality disorders in adolescents are comparable to the prevalence rates reported in adults with personality disorders. The burden of personality pathology in both age groups is also comparable to each other. Furthermore, the structure of core components of (mal) adaptive personality functioning in adolescents is similar to the structure reported in adults. It was shown that adolescent patients with different types of personality disorders might benefit from different treatment settings. As was found in adult studies, adolescents with (severe) cluster C personality disorders profited most from an inpatient setting. The implications of this thesis for theory development, clinical practice and policy making are discussed. Furthermore, recommendations for future research are provided.

Samenvatting

In **hoofdstuk 1** worden de achtergrond en de onderzoeksvragen van dit proefschrift besproken. Persoonlijkheidsstoornissen komen vaak voor bij volwassenen en worden in die leeftijdscategorie geassocieerd met een lage kwaliteit van leven en hoge maatschappelijke kosten. Psychotherapie wordt gewoonlijk gezien als de meest aangewezen behandelvorm voor volwassenen met persoonlijkheidsstoornissen. Veel minder is bekend over persoonlijkheidsstoornissen bij adolescenten. Belangrijke informatie, zoals informatie over kwaliteit van leven en kosten, die argumenten op zou kunnen leveren om behandelingen voor deze patiëntengroep te vergoeden is er nagenoeg niet. Ook zijn er nauwelijks uitkomststudies gedaan in deze patiëntengroep. Dit proefschrift heeft als doel deze onderwerpen verder uit te diepen, om zo het bestaande gat te dichten. Het doel van dit proefschrift was het onderzoeken van de prevalentie, structuur en behandelbaarheid van persoonlijkheidsstoornissen bij adolescenten. De volgende onderzoeksvragen zullen aan bod komen: 1) Wat is de prevalentie van persoonlijkheidsstoornissen in een klinische steekproef van adolescenten?, 2) Wat is de ziektelast van persoonlijkheidsstoornissen bij deze adolescenten?, 3) Is de structuur van de kerncomponenten van (mal) adaptief persoonlijkheidsfunctioneren bij adolescenten vergelijkbaar met de structuur die gevonden werd bij volwassenen?, 4) Kan behandeling verlichting bieden voor deze adolescenten?, en 5) Wat zijn de langetermijneffecten van behandeling?

In **hoofdstuk 2** wordt door middel van een casusbeschrijving het onderwerp van persoonlijkheidsstoornissen bij adolescenten geïntroduceerd. De casus Amy, een zeventienjarig meisje, is gebruikt om een diagnostisch proces te illustreren dat gebruikt kan worden als gedacht wordt aan persoonlijkheidspathologie bij een adolescent. Aanbevelingen voor de diagnostiek van persoonlijkheidspathologie bij adolescenten worden besproken. Dit proces van informatieverzameling kan leiden tot een duidelijke en begrijpelijke dynamische diagnostische formulering, waarin de interactie tussen ontwikkelingsgeschiedenis, persoonlijkheidspathologie, reacties uit de omgeving en de levensfase gedemonstreerd wordt.

De eerste onderzoeksvraag, over de prevalentie van persoonlijkheidsstoornissen bij adolescenten, wordt besproken in **hoofdstuk 3**. Eerder onderzoek heeft laten zien dat ongeveer de helft van de adolescenten in een klinische setting lijdt aan een persoonlijkheidsstoornis. Om te testen of deze gegevens ook toegepast kunnen worden op Europese populaties, werden 257 adolescenten die aangemeld

werden voor gespecialiseerde psychotherapie onderworpen aan semigestructureerde interviews om As I en As II stoornissen te meten. Het resultaat hiervan was dat 40.5% van de adolescenten gediagnosticeerd werd met een persoonlijkheidsstoornis. Een groot deel van de gehele steekproef voldeed niet aan de formele criteria van een categoriale persoonlijkheidsstoornis, maar voldeed wel aan 5 tot 9 trekken van verschillende persoonlijkheidsstoornissen. De meeste adolescenten met een persoonlijkheidsstoornis (78.9%) voldeden ook aan de criteria van een of meerdere As I stoornissen. De resultaten die in dit hoofdstuk gepresenteerd worden lijken sterk op schattingen die gerapporteerd werden in andere studies naar de prevalentie van persoonlijkheidsstoornissen in adolescenten. Ze zijn ook vergelijkbaar met prevalentiecijfers uit studies naar persoonlijkheidsstoornissen bij volwassenen. De overeenkomsten tussen Europese en Noord Amerikaanse studies geven verdere evidentie voor de generaliseerbaarheid over landen heen van de diagnose van persoonlijkheidsstoornissen bij adolescenten.

In **hoofdstuk 4** wordt de ziektelast van jongeren met persoonlijkheidspathologie besproken. Honderd- eenendertig adolescenten, die opgenomen waren in een instelling voor geestelijke gezondheidszorg, werden meegenomen in deze studie. As I en As II stoornissen werden vastgesteld door middel van semigestructureerde interviews. Kwaliteit van leven werd gemeten door de EuroQol EQ-5D; kosten werden gemeten door de Trimbos and Institute for Medical Technology Assessment Questionnaire on Costs Associated with Psychiatric Illness. De gemiddelde EQ-5D index score van de totale groep adolescenten was 0.55. Meisjes en adolescenten met zowel een As I als een As II stoornis ervoeren een significant lagere kwaliteit van leven. Kwaliteit van leven was negatief geassocieerd met ernst van persoonlijkheidspathologie. Geschatte directe medische kosten in het jaar voorafgaand aan opname waren €14,032 per patiënt. De geschatte directe medische kosten bestonden voornamelijk uit kosten door klinische gezondheidszorg en ambulante geestelijke gezondheidszorg. Geschatte directe medische kosten waren hoger voor patiënten met een depressieve persoonlijkheidsstoornis. De resultaten geven aan dat de ziektelast onder jongeren met een persoonlijkheidsstoornis hoog is. Deze hoge last vormt een sterk argument voor de suggestie dat verder onderzoek en ontwikkeling van

(kosten-) effectieve behandelingen voor deze populatie de moeite waard zou kunnen zijn.

De diagnostiek van persoonlijkheidsproblemen bij adolescenten wordt verder uitgewerkt in **hoofdstuk 5**. In dit hoofdstuk worden de psychometrische eigenschappen, factorstructuur en validiteit van de Severity Indices of Personality Problems (SIPP-118) afgenomen bij adolescenten gepresenteerd. De SIPP-118 is een zelfrapportage vragenlijst die de kerncomponenten van (mal) adaptief persoonlijkheidsfunctioneren beoogt te meten. De SIPP-118 werd ontwikkeld en gevalideerd in een volwassen populatie. In volwassen steekproeven bleken de 16 facetten van de SIPP-118 te passen binnen een structuur van 5 hogere orde domeinen: Zelfcontrole, Identiteitsintegratie, Relationele Capaciteiten, Sociale Concordantie en Verantwoordelijkheid. Driehonderdachtenzeventig patiënten en 389 adolescenten uit de normale populatie vulden vragenlijsten in om de psychometrische eigenschappen, factorstructuur en validiteit van deze vragenlijst bij jongeren te kunnen onderzoeken. Facetten bleken homogeen te zijn; de alpha-coëfficiënten lagen tussen de 0.62 en 0.89, wat duidde op matige tot acceptabele betrouwbaarheid. De factorstructuur van de SIPP-118 in adolescenten was vergelijkbaar met de gevonden factorstructuur bij volwassenen. De facetten van de SIPP-118 bleken in staat om populaties van elkaar te kunnen onderscheiden; in de klinische steekproef werden meer pathologische scores gevonden dan in de steekproef van normale adolescenten. Persoonlijkheidsgestoorde adolescenten scoorden significant meer pathologisch dan adolescenten zonder persoonlijkheidsstoornis. Meer maladaptieve scores werden gevonden voor adolescenten met een groter aantal trekken van persoonlijkheidsstoornissen. De correlatie met andere klinische instrumenten was matig tot hoog. Samengevat lijkt de SIPP-118 een beloftevol instrument om de kerncomponenten van persoonlijkheidspathologie bij adolescenten te meten.

In **hoofdstuk 6** wordt het onderwerp van behandeling voor jongeren met een persoonlijkheidsstoornis aangesneden. Dit hoofdstuk onderzoekt de behandeluitkomst van Inpatient Psychotherapy voor Adolescenten (IPA), een intensief behandelprogramma voor therapieresistente jongeren met persoonlijkheidspathologie. Eenenvijftig adolescenten die opgenomen werden voor hun persoonlijkheidsproblemen werden gevolgd gedurende hun verblijf in IPA. As I en As II stoornissen werden gemeten met semigestructureerde

interviews. De adolescenten vulden verder enkele vragenlijsten in om symptoomniveau, persoonlijkheidsstijlen en persoonlijkheidsfunctioneren en kwaliteit van leven te meten bij start en 12 maanden na start van de behandeling. Op groepsniveau lieten de adolescenten verbeteringen zien voor wat betreft de het symptoomniveau. Ook werden verbeteringen geconstateerd op het gebied van persoonlijkheidsfunctioneren en kwaliteit van leven. Als er gekeken werd naar klinisch significante veranderingen, kwam naar voren dat 30% van de adolescenten volledig was hersteld. Deze adolescenten lieten een niet-klinisch symptoomniveau zien 12 maanden na start van de behandeling De grootste groep adolescenten vertoonde echter geen significante verandering (49.0%) of liet een verslechtering zien (9.8%). Hogere niveaus van afhankelijkheid of lagere niveaus van zelfkritiek bij start van de behandeling waren geassocieerd met verbetering in symptoomniveau.

De langetermijneffecten van IPA worden gepresenteerd in **hoofdstuk 7**. Zeventig adolescenten die opgenomen werden voor behandeling van hun persoonlijkheidspathologie werden gevolgd gedurende en na hun verblijf in IPA. As I en As II stoornissen werden gemeten door middel van semigestructureerde interviews en patiënten vulden enkele vragenlijsten in om symptoomniveau, persoonlijkheidsstijlen en persoonlijkheidsfunctioneren in kaart te brengen bij start en 6, 12 en 24 maanden na start van de behandeling. De adolescenten lieten een significante verbetering zien voor wat betreft het symptoomniveau en persoonlijkheidsfunctioneren bij 24 maanden na start behandeling. De patiënten die het meest profiteerden van IPA werden gekenmerkt door hogere niveaus van afhankelijkheid of door het hebben van hogere aantallen persoonlijkheidstrekken uit het C cluster. Als gekeken werd naar klinisch significante veranderingen, werd duidelijk dat 30% van de adolescenten volledig herstelde. Meer dan de helft van de adolescenten (41.0%) vertoonde echter geen significante verandering of een verslechtering (10.3%). Hoewel IPA effectief kan zijn voor een bepaalde groep adolescenten, laten de gemiddelde lange termijn behandeleffecten een matig beeld zien. Gezien de hoge kosten van een behandeling zoals IPA is de ontwikkeling van aanpassingen en van richtlijnen voor de indicatiestelling aangewezen om ervoor te zorgen dat IPA een kosteneffectieve behandeling kan zijn ten opzichte van ambulante behandelprogramma's.

In **hoofdstuk 8** worden, door gebruik te maken van de nieuw verkregen kennis, de antwoorden gegeven op de onderzoeksvragen die in het eerste hoofdstuk van dit proefschrift werden besproken. Dit proefschrift draagt bij aan een steeds groter wordende stapel van bewijzen dat persoonlijkheidspathologie bij adolescenten en volwassenen meer gelijk aan elkaar is dan dat het verschillend zou zijn. Prevalentiecijfers van persoonlijkheidsstoornissen bij adolescenten zijn bijvoorbeeld vergelijkbaar met prevalentiecijfers die gegeven worden in studies bij volwassenen met persoonlijkheidsstoornissen. De ziektelast van persoonlijkheidspathologie in beide leeftijdsgroepen is eveneens vergelijkbaar. De structuur van de kerncomponenten van (mal) adaptief persoonlijkheids-functioneren in adolescenten vertoont eveneens gelijkenissen met de structuur die gevonden werd bij volwassenen. Patiënten met verschillende types persoonlijkheidsstoornissen lijken te profiteren van verschillende behandelvormen. Adolescenten met (ernstige) cluster C persoonlijkheidsstoornissen profiteerden het meest van de klinische setting, zoals ook al werd gevonden voor volwassenen met cluster C persoonlijkheidsstoornissen. In dit 8^{e} hoofdstuk worden de implicaties voor theorieontwikkeling, de klinische praktijk en voor beleid bediscussieerd, ook worden aanbevelingen gegeven voor verder onderzoek.

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Liefste Sander, wat fijn dat jij zaken altijd zo goed weet te relativeren als mij dat even niet meer zo goed lukt. De wereld is zoveel mooier met jou!

Curriculum Vitae

Dineke Feenstra was born on November 20, 1981 in Geldrop, the Netherlands. In 2000, she graduated from high school at the Strabrecht College in Geldrop. In the same year she started her Psychology study at the University of Tilburg. She completed a clinical internship at a mental health care center in Tilburg (GGz Midden-Brabant, now called GGz Breburg). She furthermore conducted research on the prevention of eating disorders at the same mental health care institute. She obtained her master's degree in 2005, having specialized in Child and Adolescent psychology. In 2005 Dineke started working halftime as a junior researcher at the Viersprong Institute for Studies on Personality Disorders (VISPD). In this position she worked on the PhD project Treatment Refractory Adolescents with Personality Disorders (TRAP). The results of this project are described in this thesis. During her PhD studies, she also worked halftime as a psychologist at the adolescent department of de Viersprong, a national center specialized in the assessment and treatment of adolescents and adults with personality problems. After finishing her PhD project, she continued working as a researcher at the Viersprong Institute for Studies on Personality Disorders. In 2011 she furthermore started a training to become a health care psychologist (Gezondheidszorgpsycholoog).

PhD portfolio	
Name PhD student	Dineke Feenstra
Erasmus MC department	Medical Psychology & Psychotherapy
PhD period	2005-2012
Promotor(s)	Prof. dr. J.J. van Busschbach
	Prof. dr. R. Verheul
Supervisor	Dr. J. Hutsebaut

1. PhD training	**Year**
Research skills	
Regression analysis, Erasmus Summer Program, Rotterdam.	2011
Repeated measurements in clinical studies, Erasmus Winter Program, Rotterdam.	2010
Research Training Program organized by the International Psychoanalytic Association & the Psychoanalysis Unit of the University of London, London.	2009
National presentations	
Studiedag 'Cluster C uit de schaduw', Benecke, Ede. Oral presentation 'Persoonlijkheidsstoornissen - cluster c – bij adolescenten'.	2011
Masterclass Vereniging voor Kinder- en Jeugdpsychotherapie (VKJP), Zeist. Oral presentation with Joost Hutsebaut 'Persoonlijkheidsstoornissen bij adolescenten: label of kans?'.	2010
Studiedag Eleos, Amersfoort. Oral presentation with Joost Hutsebaut 'Nut en nadeel van het stellen van een persoonlijkheidsstoornis bij jongeren'.	2009
37^{e} Voorjaarscongres van de Nederlandse Vereniging voor Psychiatrie, Groningen. Oral presentation with Joost Hutsebaut 'Persoonlijkheidsstoornissen bij adolescenten?!'.	2009
Refereeravond Artsen Jeugd Gezondheidszorg Noord-Brabant: "De borderline persoonlijkheidsstoornis", Tilburg. Oral presentation 'Borderline persoonlijkheidsstoornis bij adolescenten'.	2008
International presentations	
10th European Conference on Psychological Assessment, Gent. Oral presentation 'TRAP: A long term outcome and process study of a residential treatment for treatment refractory adolescents with personality disorders'.	2009
162th Annual Meeting of the American Psychiatric Association: 'Shaping our future: science and service', San Francisco. Oral presentation 'Severity Indices of Personality Problems (SIPP-118) as a clinical instrument'.	2009
Tagung: Borderline Persönlichkeitsstörungen: Kinder- und Jugendpsychotherapeutische Behandlungsansätze, Basel. Oral presentation with Joost Hutsebaut 'Treatment of adolescents with severe (borderline) personality disorder'.	2008

6e Vlaams Congres Kinder- en Jeugdpsychiatrie en –psychotherapie “Groeien in diversiteit en samenhang”, Brussel. Oral presentation ‘TRAP: Een lange termijn uitkomst en proces studie naar residentiële behandeling voor therapieresistente adolescenten met persoonlijkheidsstoornissen’.	2008
Xth International ISSPD Congress “Development and Changeability of Personality Disorders: New Frontiers in Research and Practice”, Den Haag. Workshop with Joost Hutsebaut and Kirsten Catthoor ‘Assessment and treatment of severe personality disorders in adolescence’.	2007
Xth International ISSPD Congress 'Development and Changeability of Personality Disorders: New Frontiers in Research and Practice', Den Haag. Poster presentation ‘Severity Indices of Personality Problems (SIPP) in adolescents: preliminary results on factor structure, reliability and validity’.	2007
Reviewing papers	
Reviewed a paper for Child and Adolescent Psychiatry and Mental Health	2012
Reviewed a paper for Journal of Personality Disorders	2010

2. Teaching activities	
Opleiding tot gezondheidszorgpsycholoog, blok Diagnostiek van persoonlijkheidsstoornissen, RINO Groep, Utrecht. Course ‘Persoonlijkheidsdiagnostiek bij adolescenten’.	2012
RINO Vlaanderen, Leuven. Course with Joost Hutsebaut ‘Moeilijke adolescenten: diagnostiek en behandeling van adolescenten met persoonlijkheidsproblemen’.	2011 - present
Opleiding tot gezondheidszorgpsycholoog, blok Persoonlijkheidsstoornissen in ontwikkeling, Cure & Care Development, Zwolle. Course ‘Persoonlijkheidspathologie bij adolescenten.	2011
Opleiding tot gezondheidszorgpsycholoog, module Methodische Diagnostiek, RINO Zuid, Eindhoven. Course with Marieke Braat ‘Persoonlijkheidsdiagnostiek bij adolescenten’.	2009 - present
Opleiding tot psycholoog, vak Klinische Psychodiagnostiek, Programmagroep Klinische Psychologie, Universiteit van Amsterdam, Amsterdam. Guest lecture ‘Een casusbespreking van de Viersprong’.	2009
Viersprong Academy, Halsteren. Course ‘Basistraining SCID I & SCID II’.	2008 - present

3. Clinical activities	
Workshop Working with shame in psychotherapy and psychological assessment, Universita Cattolica del Sacro Cuore, Milan.	2012
Opleiding tot gezondheidszorgpsycholoog kinder en jeugd, RINO Zuid, Eindhoven.	2011 - present
Live Therapeutic Assessment of an adolescent and her family, Universita Cattolica del Sacro Cuore, Milan.	2010
Therapeutic Assessment by Stephen Finn, level 2 intermediate workshop,	2009

Universita Cattolica del Sacro Cuore, Milan.	
Therapeutic Assessment by Stephen Finn, level 1 introductory workshop, de Viersprong, Halsteren.	2009
Rorschach Comprehensive System (Exner) by Johan Vereijcken, de Viersprong, Halsteren.	2009
Adult Attachment Interview Training Institute by Dave and Deanne Pederson, NIAS, Wassenaar.	2008
PEN Postdoctorale opleiding psychodiagnostiek by Jan Derksen, PEN, Nijmegen.	2008
Basistraining Mentalization-based Treatment by Dawn Bales and Ab Hesselink, de Viersprong, Halsteren.	2008
Psychodiagnostiek bij adolescenten, RINO Noord-Holland, Amsterdam.	2006
Training SCID I en SCID II, de Viersprong, Halsteren.	2005

4. Publications not listed in this thesis

Laurenssen, E.M.P., Sebregts, P., Feenstra, D., & Hutsebaut, J. (2010). Klinische Schematherapie bij Adolescenten: een programmabeschrijving vanuit de Viersprong. Unpublished manuscript, Viersprong Institute for Studies on Personality Disorders, Halsteren.