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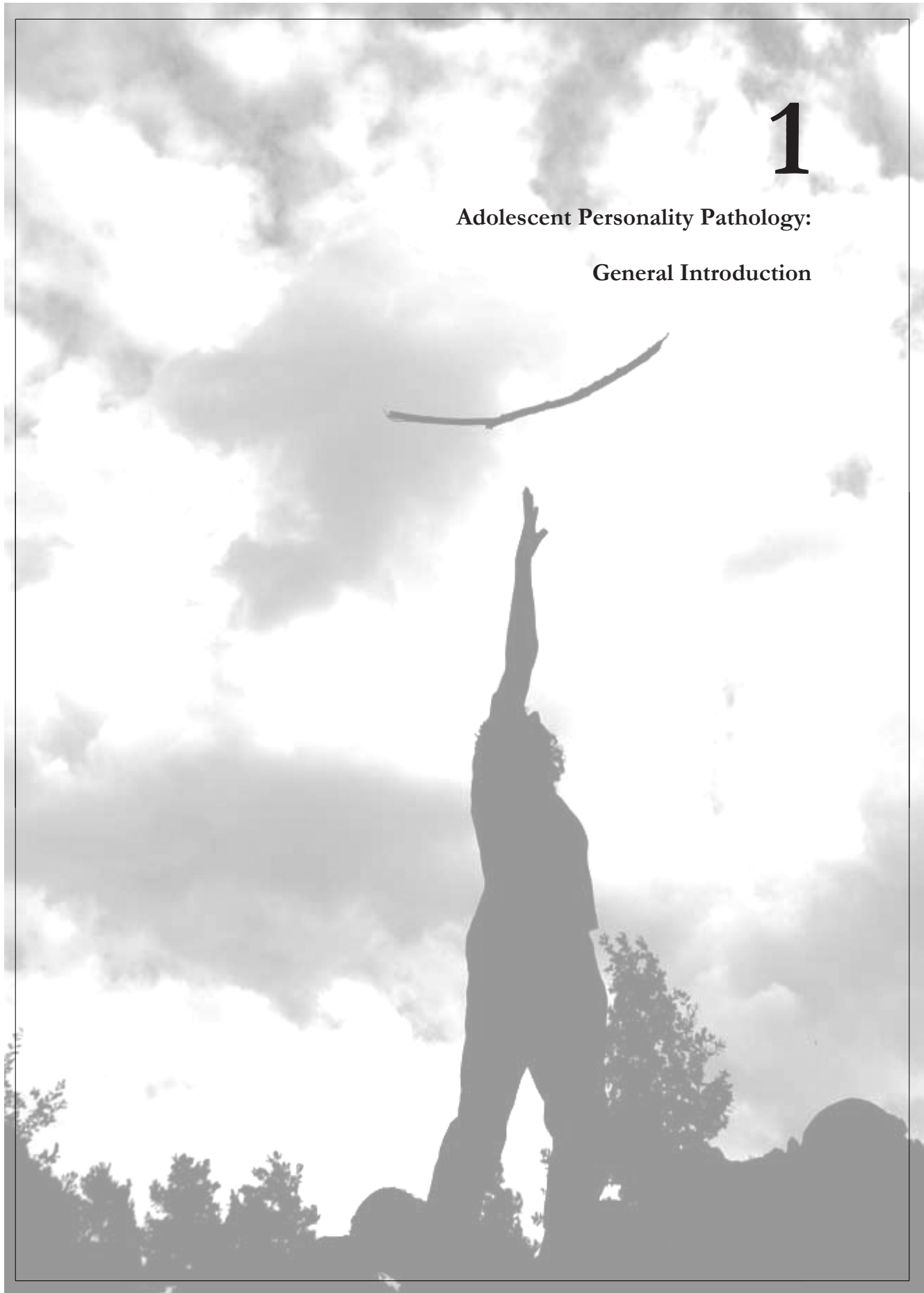
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Adolescent Personality Pathology:

General Introduction



Introduction

Personality encompasses a wide range of individual differences in people's tendencies to think, feel, and behave in consistent ways. Personality differences are visible early in life (Caspi, 2000; De Fruyt et al., 2006; Shiner & Caspi, 2003). For example, some children are eager to approach novel situations, whereas others prefer familiar circumstances. Some children are quick tempered, others are more even-tempered. Personality traits become pathological or disordered when they lead to distress or impairment in functioning. According to the *Diagnostic and Statistical Manual of Mental Disorders (DSM)*, the most widely used taxonomy for the classification of psychiatric disorders, a personality disorder (PD) is "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" (APA, 2000, p. 685). The *DSM-IV-TR* (APA, 2000) describes three PD clusters (A, B, and C) totaling ten official categories, and places two additional categories in an appendix. Cluster A includes the Paranoid, Schizoid, and Schizotypal PDs and is identified as the odd/eccentric cluster. The dramatic/erratic cluster (Cluster B) includes the Antisocial, Borderline, Histrionic, and Narcissistic PDs. Finally, Cluster C, identified as the fearful/anxious cluster, includes the Avoidant, Dependent, and Obsessive-Compulsive PDs. The Depressive and Passive-Aggressive PDs are described in an appendix. Apart from the general definition cited above, each of these PD categories is characterized by a unique set of features (Table 1.1).

Most of what is currently known on PDs originates from studies conducted in adult populations. The limited PD research in adolescent populations is in contrast with the large quantity of PD studies in adults. The introduction of PDs on a separate axis in the *DSM-III* (APA, 1980) resulted in a remarkable increase in adult PD research over the past three decades. A broad search in the Pubmed-database¹ focused on PD resulted in 281 published studies on adult PDs in the 10-year-period from 1981 to 1990, 693 in the 10-year-period from 1991 to 2000, and 755 studies published in the 9-year-period 2001 to present. A similar search for adolescent studies in the Pubmed-database² yielded smaller numbers. Nevertheless, here too, a hopeful increase in the amount of published articles could be observed. In the 10-year-period from 1981 to 1990 the search yielded 118 published studies on adolescent PDs, 269 between 10-year-period from 1991 and 2000, and 315 studies published in the 9-year-period 2001 to present.

The research agenda for the future edition of the *DSM* draws attention to the need to study developmental antecedents of personality pathology (First et al., 2002). According to some, childhood and adolescent temperament and personality are among the best candidates as general broadband developmental antecedents for adult PDs (cf. Mervielde, De Clercq, De Fruyt, & Van Leeuwen, 2005). However, several issues seem to have hampered research into childhood and adolescent personality pathology. First, the current version of the *DSM*, the *DSM-IV* (APA,

¹ Search executed September 2009. Search term was 'DSM AND "personality disorder"' and ages of subjects were limited to 19 and above.

² Search executed September 2009. Search term was 'DSM AND "personality disorder"' and ages of subjects were limited to 13 to 18 years.

Table 1.1 - **Characteristic features of *DSM-IV* personality disorders (PDs)**

Cluster A PDs (Odd/eccentric)	
Paranoid	Pervasive mistrust of others such that their motives are interpreted as malevolent
Schizoid	Pervasive pattern of detachment from social relationships accompanied by a restricted range of affect and emotional expression in interpersonal situations
Schizotypal	Pervasive pattern of social deficits characterized by acute discomfort with and diminished capacity for close relationships accompanied by cognitive and perceptual distortions and behavioral eccentricities
Cluster B PDs (Dramatic/erratic)	
Antisocial	Pervasive pattern of disregard for and violation of the rights of others characterized by deceit and manipulation
Borderline	Pervasive pattern of interpersonal, affective, and identity instability, as well as marked impulsivity
Histrionic	Pervasive pattern of excessive emotionality and attention seeking
Narcissistic	Pervasive pattern of grandiosity (behavioral or in fantasy), need for admiration, and inability to empathize
Cluster C PDs (Fearful/anxious)	
Avoidant	Pervasive pattern of social inhibition, feelings of inadequacy, and hypersensitivity to negative evaluation
Dependent	Pervasive pattern of clinging and submissive behavior motivated by the need to be taken care of and fears of separation
Obsessive-Compulsive	Pervasive pattern of preoccupation with orderliness, perfectionism, and mental and interpersonal control, at the expense of flexibility, openness, and efficiency
Appendix PDs	
Depressive	Pervasive pattern of depressive cognitions and behaviors present in a variety of contexts
Passive-Aggressive	Pervasive pattern of negativistic attitudes and passive resistance to demands for adequate performance

2000), is ambiguous in its statements on the applicability of the PD diagnosis in childhood and adolescence. Although the *DSM* permits PD categories, with the exception of Antisocial PD, to be applied to children or adolescents, it is quite explicit in its warnings to do so. For example, it asserts that “it should be recognized that the traits of a PD that appear in childhood will often not persist unchanged into adult life” (APA, 2000, p. 687). A second obstacle impeding research on childhood and adolescent personality pathology concerns the doubts that have been raised on the stability of PDs at young ages. The estimates of the stability for PD categories have ranged from low to moderate (Bernstein et al., 1993; Mattanah, Becker, Levy, Edell, & McGlashan, 1995). Since stability has long been seen as a defining feature of *DSM*-defined PD, the validity of the PD diagnosis in children and adolescents has been questioned. Finally, there is no widely

accepted, reliable, and valid instrument for the assessment of personality pathology in adolescents.

Research on adolescent personality disorders

Despite the warnings set forth in the *DSM*, researchers have applied the PD criteria to adolescent populations. This has resulted in interesting findings on several aspects of adolescent PDs. Across adolescent PD studies, research questions have focused on prevalence, stability, and gender differences. In addition, risk and associated factors, and long-term outcomes have been examined. Each of these topics will be discussed below.

Prevalence

Research has shown high prevalence rates of PD diagnosis in adolescents. In general population samples, the reported prevalence rates for 'any PD' ranged from 6 to 31.4 percent (Bernstein et al., 1993; Daley et al., 1999; Johnson et al., 2000b; Kasen, Cohen, Skodol, Johnson, & Brook, 1999; Serman, Johnson, Geller, Kanost, Zacharapoulou, 2002). Several studies have reported prevalence rates for clustered PDs. The rates for Cluster A PDs ranged from 5.5% to 8.5%, percentages for Cluster B varied from 6.6% to 13.0%, and for Cluster C from 4.0% to 12.8% (Bernstein, Cohen, Skodol, Bezirgianian, & Brook, 1996; Chen et al., 2004; Johnson et al., 2000b; Kasen et al., 1999; Zaider, Johnson, & Cockell, 2000). Reported prevalence rates for specific PDs in the general population varied from as low as 0% for Paranoid, Schizoid, Schizotypal, Histrionic, and Narcissistic PD to as high as 21% for Borderline PD (Bernstein et al., 1993; Chabrol, Montovany, Chouicha, Callahan, & Mullet, 2001; Johnson et al., 2000b; Serman et al., 2002; Zaider et al., 2000).

These findings do not seem to allow for firm conclusions regarding the prevalence of adolescent PDs in the general population. First, the number of studies on PDs among adolescents in the general population is relatively small. Moreover, many of these findings originate from the same large community-based study, the Children in the Community Study (Cohen, Crawford, Johnson, & Kasen, 2005). Furthermore, different sampling and assessment procedures have been used. Some studies have used semi-structured interviews such as the Structured Clinical Interview for *DSM-IV* Axis II Personality Disorders (SCID-II; First, Spitzer, Gibbon, & Williams, 1997), which is based directly on the *DSM*-criteria and -thresholds (e.g., Serman et al., 2002), whereas others have used self-constructed instruments to assess *DSM*-defined PDs combining items from different sources (e.g., Bernstein et al., 1993) or used instruments assessing one specific PD (e.g., Chabrol et al., 2001). However, based on the evidence that is available from studies using *DSM*-criteria, findings seem to indicate that PDs among adolescents are as prevalent as, or slightly more prevalent than among adults in the general population (Lenzenweger, 2008).

Not surprisingly, studies in clinical samples have reported higher prevalence rates than those in community samples (Brent, Zelenak, Bukstein, & Brown, 1990; Grilo et al., 1998; Johnson et al., 1995; Marton et al., 1989; Westen, Shedler, Durrett, Glass, & Martens, 2003).

Studies have reported prevalence rates for 'any PD' close to 75% in a small mixed inpatient sample ($N = 66$) of suicide attempters and never-suicidal psychiatric controls (Johnson et al., 1995). A study in a large sample ($N = 296$) of adolescent in- and outpatients in treatment for personality pathology yielded approximately the same percentage for 'any PD' (Westen et al., 2003). With regard to specific PD diagnoses, Westen and colleagues (2003) reported prevalence rates that were especially high for Antisocial (38%), Avoidant (35%), Paranoid (29%), Borderline (28%) and Schizoid PD (24%). In a sample of 138 adolescent inpatients, Becker and colleagues (2000) reported an even higher prevalence rate for Borderline PD (49%), followed by a rate of 20% for Passive-Aggressive PD, and rates for all other PDs below 7%. Brent and colleagues (1990) studied *DSM*-defined PDs in 23 affectively ill inpatient and outpatient adolescents and found percentages up to 39% for Passive-Aggressive PD, 22% for Borderline PD, 17% for Histrionic PD, and below 4% for all other PDs. Although no firm conclusions can be drawn regarding the prevalence of clustered or specific PDs, the findings show that PDs do occur quite frequently in inpatient and outpatient adolescent samples, as well as in general population samples of adolescents.

Stability

Stability is one of the general criteria for PDs, and it is generally considered the key characteristic that distinguishes PDs from the clinical disorders on Axis I. However, recent findings from longitudinal studies, drawn together in a special issue of *Journal of Personality Disorders* in 2005, suggest that *DSM* diagnoses are remarkably unstable (Livesley, 2005). Changes not only occur in the years from adolescence into early adulthood in community-dwelling people, but also in adult patients seeking treatment (Cohen, Crawford, Johnson, & Kasen, 2005b; Skodol et al., 2005; Zanarini, Frankenburg, Hennen, Reich, & Silk, 2005).

The traditional concept of PD stability as put forward in the *DSM-IV* has also been challenged by another recent finding concerning the identification of both fluctuating and stable symptoms within PD diagnoses (Pukrop & Krischer, 2005). For example, Zanarini and colleagues (2005) postulated a two-component stability model for Borderline PD. Acute symptoms, such as self-harming behavior, are key markers for the disorder, and often the main reason for treatment seeking. Temperamental symptoms, such as fear of abandonment, are non-specific for Borderline PD, and are related to persistent impairment. Skodol and colleagues (2005) linked the acute symptoms to learning and development, whereas the temperamental symptoms may be associated with genetic and biological mechanisms. It has been suggested that changes in temperamental symptoms, as assessed using the five-factor model of general personality traits (Costa & McCrae, 1992), lead to subsequent changes in the acute symptoms (Warner et al., 2004). The *DSM-IV* definition of PD as a pattern of maladaptive functioning that is stable over time may thus need reconsideration.

Studies on adult and adolescent PDs have yielded comparable stability findings when similar procedures were used (Johnson, Bromley, Bornstein, & Sneed, 2006). Stability estimates for personality disturbances may vary according to the way they are measured. Estimates have ranged from moderate to high for PD traits measured as dimensional variables (Crawford,

Cohen, & Brook, 2001; Daley et al., 1999; Daley, Rizzo, & Gunderson, 2006). When personality disturbance is assessed as categorically defined diagnoses, stability estimates have ranged from low to moderate (Bernstein et al., 1993; Mattanah et al., 1995). The differences in stability estimates across assessment methods may be attributed to threshold effects when a categorical definition of PD is applied. Due to fluctuations in personality symptoms above and below the threshold necessary to qualify for a PD diagnoses, stability estimates of PD diagnoses are lower than those of PD traits.

Research has suggested that there is a natural decline in personality pathology over time during adolescence. Maladaptive personality traits seem to be more prevalent during early and middle adolescence than during late adolescence (Bernstein et al., 1993; Cohen et al., 2005a; Daley et al., 1999; Johnson et al., 2000a; Zaider et al., 2000). This may imply that developmental processes during adolescence affect the expression or occurrence of personality pathology, suggesting that the *DSM*-criteria and -thresholds, representing fixed categories originally developed for adults, may be less applicable to adolescents.

Gender Differences

According to the *DSM-IV-TR* (APA, 2000) some PDs, such as Paranoid, Schizoid, Antisocial, and Narcissistic, occur more frequently in men than in women, whereas other PDs (Histrionic, Borderline, and Dependent) are found mostly in women. Little empirical research is available on gender differences in PDs in adolescent populations. A study in a moderately sized sample of adolescent inpatients showed that females were significantly more likely than males to meet the criteria for Borderline PD, whereas Narcissistic PD was diagnosed only in males (Grilo et al., 1996). In addition, one study suggested that gender affects how certain PDs are manifested. For example, narcissistic female adolescents are found to be more devaluing and aloof, whereas male narcissistic adolescents boasted more (Kernberg, Hajal, & Normandin, 1998). Similarly, the expression of Borderline PD seems to be influenced by gender, with female patients being more internalizing and emotionally dramatic, and male patients being more behaviorally disinhibited, externalizing, and angry (Bradley, Zittel Conklin, & Westen, 2005).

Risk Factors

Among a number of environmental factors that have been associated with risk for PD, maladaptive or traumatic interpersonal experiences have been studied most. Prospective studies and studies consulting official records regarding childhood maltreatment have provided evidence that childhood abuse and neglect, and maladaptive parenting are associated with elevated risk for PDs during adolescence and adulthood (Johnson, Cohen, Brown, Smailes, & Bernstein, 1999a; Johnson, Smailes, Cohen, Brown, & Bernstein, 2000c; Johnson et al., 2001). In addition to traumatic experiences, dysfunctional attachment style in (one of) the parents may influence the offspring's socialization processes. Since a pattern of maladaptive interpersonal behavior is often seen in PD patients (Clark, Livesley, Schroeder, & Irish, 1996), parental dysfunctional attachment style may be associated with the risk for the development of a PD. A family study of PDs in adult relatives of adolescent inpatients with and without PD points to familial aggregation of Avoidant

and Borderline PDs (Johnson et al., 1995). Moreover, genetic factors seem to contribute to the development of PD traits (Livesley, Jang, Jackson, & Vernon, 1993).

Associated Factors

Several studies have provided evidence for associations between adolescent PDs and behavioral, emotional, and psychosocial problems. Research has indicated that adolescent PDs are associated with significant impairment and distress, maladaptive personality traits, elevated risk for Axis I disorders, interpersonal aggression, police contact, suicide, educational and occupational difficulties, stressful life events, high-risk sexual behavior, substance use, and psychiatric rehospitalization (Johnson et al., 2000c; Levy et al., 1999; Lofgren, Bemporad, King, Lindem, & O'Driscoll, 1991; Westen et al., 2003).

Long-Term Outcomes

Despite the moderate stability estimates, longitudinal studies have shown that PD diagnoses and traits during adolescence are associated with increased risk of a wide range of adverse outcomes. These include psychological distress, functional impairment, partner conflict, less advanced education, early parenthood, interpersonal stress, Axis I disorders, suicide, criminal behavior, drug use, and future psychiatric hospitalizations (Bernstein et al., 1993; Chen et al., 2004; Cohen et al., 2005a; Daley et al., 1999; Daley et al., 2006; Johnson et al., 1999b; Johnson et al., 2000b; Levy et al., 1999).

To conclude, the available research suggests that adolescent PDs constitute a serious problem in need of attention. However, the large majority of research described above conceptualizes adolescent personality pathology according to the categorical PD definitions as described in the *DSM*-system. In recent years, this system has been the subject of debate and controversy.

Categorical approach to personality pathology

The *DSM-IV* (APA, 2000) conceptualizes personality pathology as distinct categories. It combines diagnostic criteria into pre-defined categories to form diagnoses. The resulting PD categories are conceived of as discrete, discontinuous, and either present or absent. The categorical system has been widely criticized (Trull & Durrett, 2005; Widiger & Samuel, 2005), and dissatisfaction with the system is widespread among researchers and clinicians (Bernstein, Iscan, & Maser, 2007).

The criticism on the categorical system has focused on a large variety of issues (Trull & Durrett, 2005). An often-heard issue regards the within-category heterogeneity. For example, there are 848 combinations of criteria that can result in the diagnosis of Antisocial PD and 256 ways to meet the criteria for Borderline PD (Trull, Tragesser, Solhan, & Schwartz-Mette, 2007). Moreover, two individuals meeting the diagnostic threshold for the same PD may not even share the same traits (e.g., Obsessive-Compulsive, Narcissistic, and Antisocial PDs). Another point of critique concerns high between-category overlap, which contradicts the idea underlying the

categorical system that personality pathology can be classified into distinct categories. The extensive co-occurrence among diagnoses indicates that the current diagnoses do not “carve nature at its joints”. Third, the categorical approach assumes discontinuity between normal and abnormal personality, suggesting a qualitative difference between normal and abnormal. However, recent research has suggested that the domains of normal and abnormal personality are largely overlapping (Livesley & Jang, 2005; O’Connor, 2002). Fourth, criticism has been expressed regarding the failure to provide adequate coverage of the maladaptive personality traits that are frequently encountered by clinicians and studied by psychopathologists. To accommodate the possibility of diagnosing people with obvious personality disturbances who do not meet the criteria for any of the specific PD diagnoses, the *DSM-IV* included the “wastebasket” category of PD-not otherwise specified (PD-NOS). The high prevalence of this diagnosis (Verheul & Widiger, 2004) seems to indicate that the *DSM-IV* does not have diagnostic constructs to cover many of the conditions clinicians consider personality pathology. Criticism has also focused on the development of the descriptions of the PD categories. According to Livesley, Jackson and Schroeder (1992), these are ‘largely the result of committee deliberations with very limited empirical support’ (p. 432). Other points of critique on the *DSM-IV* system to classify PDs concern the limited diagnostic agreement across raters and assessment instruments, low stability rates of the PD diagnoses, the incapacity to classify subthreshold PD traits, and the inconsistencies with the phenotypic structure and genetic architecture of PDs (Livesley, 2007).

Dimensional approach to personality pathology

It has been argued repeatedly that a dimensional model of personality pathology offers a valid and comprehensive alternative to the categorical *DSM*-system (Clark, 2007; Trull & Durrett, 2005). Within dimensional models, PDs are conceptualized as extreme or maladaptive variants of combinations of personality traits. Different dimensional models have been proposed. In general, these models can be divided into two categories: those that assess dimensions of normal personality, and those that assess dimensions of abnormal personality. Although these models originate from different backgrounds and were constructed using different techniques, they share a common ground in terms of their underlying structure of four to five (mal)adaptive trait dimensions. Dimensions of normal and abnormal personality are essentially congruent at the higher-order level, with four broad factors that have been labeled Emotional (In)stability, Extraversion/Introversion, (Dis)agreeableness, and Conscientiousness/Compulsivity, occasionally extended with a fifth dimension labeled Openness (Widiger & Simonsen, 2005). The discussion remains whether a dimensional model of normal personality is sufficiently capable of capturing the dysfunctional characteristics inherent in disordered personality (Livesley, 2001). Within dimensional models of normal personality, PDs are defined as extreme variants of the normal personality traits Neuroticism, Extraversion, Openness to Experience, Agreeableness, and Conscientiousness (Widiger & Frances, 2002). However, while extreme scores on normal traits may indicate abnormal personality, disordered personality may encompass more than pure statistical deviance.

Whether conceptualized using normal or abnormal personality traits the advantages of dimensional models, compared to the categorical *DSM*-system, are many. They provide more reliable scores (e.g., across raters, across time), elucidate within-category heterogeneity and extensive between-category overlap, and retain important information about subthreshold traits and symptoms (Trull & Durrett, 2005). In addition, a dimensional system would have greater clinical utility in terms of selecting interventions, with most interventions focusing on specific features rather than on global diagnoses (Lowe & Widiger, 2009). In contrast to the descriptions of PDs as articulated in the *DSM*-system, most dimensional structures were developed empirically, and associated measurement instruments were developed according to the general principles of test construction. Furthermore, research applying a dimensional approach to PDs has repeatedly provided evidence for a strong and stable dimensional structure underlying *DSM*-defined PD categories (Widiger & Simonsen, 2005). Moreover, this structure is consistent with trait models of normal personality (Widiger & Simonsen, 2005). In addition, the phenotypic structure has been shown to parallel an underlying genetic architecture (Livesley, Jang, & Vernon, 1998). Finally, examination of the factorial structure of traits underlying PDs in an adult personality disordered sample and in an adult general population sample showed essentially similar results (Livesley, Jackson, & Schroeder, 1992). This finding is in contradiction with a class model such as that underlying the *DSM*-system, which implies discontinuities between samples that differ in the presence of PD. Not surprisingly, a careful but certain movement towards a dimensional approach to personality pathology can be observed in the field of adult psychiatry (see Widiger, Simonsen, Krueger, Livesley, & Verheul, 2005).

Dimensional approach to adolescent personality pathology

Above and beyond the general advantages of a dimensional approach described above, this approach may have additional advantages for describing personality pathology in adolescence. For example, knowledge on the structure of adolescent personality pathology is limited (but see De Clercq, De Fruyt, Van Leeuwen, & Mervielde, 2006), and in applying the *DSM*-criteria and -thresholds – that were developed for adults on an a priori basis – to adolescent populations, questions on this structure remain unanswered. In addition, when the *DSM* classifications are applied to adolescents, symptomatology is most likely not interpreted in the context of adolescent psychological development. For example, behaviors that are considered pathological in adults may be – at least temporarily – part of normal development in adolescents (e.g., shyness, identity problems, emotional instability). Finally, the often-heard criticism of the *DSM* classification regarding its inability to classify subthreshold traits and symptoms may be especially valid in adolescent samples. In applying PD diagnoses, only personality pathology at the severe end of the continuum is assessed, whereas in adolescents, especially those at risk for developing full-blown pathology, the number of symptoms may not yet have reached the level to qualify for a PD diagnosis. Dimensional models retain important information concealed in subthreshold symptom levels (Trull & Durrett, 2005).

Although the dimensional approach has clear advantages over a categorical approach, this does not necessarily mean that the categorical and dimensional approaches are mutually exclusive. The categorical approach may be advantageous in terms of clinical communication and decision-making. Several researchers who have proposed new models to conceptualize personality pathology have also included an initial categorical step into their models to define whether or not a person qualifies for a PD (Livesley & Jang, 2000; Parker et al., 2004). A subsequent step in these models consists of a dimensional description of individual differences in personality traits.

Dimensional assessment of adolescent personality pathology

Despite the many advantages of a dimensional approach to personality pathology in adolescents, there was no widely accepted, reliable, and valid instrument for the dimensional assessment of adolescent personality pathology at the onset of the present dissertation project. In recent years, several (semi-)dimensional instruments have been designed to assess personality pathology in adulthood, including the Shedler-Westen Assessment Procedure 200 (SWAP-200; Shedler & Westen, 1998), the Schedule for Nonadaptive and Adaptive Personality (SNAP; Clark, 1993a), and the Dimensional Assessment of Personality Pathology – Basic Questionnaire (DAPP-BQ; Livesley & Jackson, 2009). Adaptations of the SWAP-200 and SNAP were introduced to represent early personality pathology. The SWAP-200 for Adolescents (SWAP-200-A; Westen et al., 2003) is a Q-sort instrument including 200 statements, and was primarily designed for use by clinicians. The SNAP Youth version (SNAP-Y; Linde, Clark, & Simms, 2003) is still under construction, and includes 375 self-report items in a true-false format. In addition, the Dimensional Personality Symptom Item Pool (DIPSI; De Clercq et al., 2006) was primarily designed to assess parent-reported personality pathology in children using a combination of bottom-up and top-down approaches, resulting in 172 trait-pathology items. No age-appropriate version of the DAPP-BQ had been constructed prior to the current project. The DAPP-BQ is a self-report questionnaire including 290 items in a five-point Likert scale format. Given the extensive body of (empirical) literature describing the DAPP-BQ's promising construction techniques and its excellent psychometric properties in adult populations across different cultures it was decided to examine an adolescent version of the DAPP-BQ.

The major objective of the present thesis is twofold. First, its aim is to conceptualize and operationalize personality pathology in adolescent populations using a dimensional model. The second aim is to extend knowledge on personality pathology dimensions in adolescence, departing from a dimensional approach. To address these aims, the investigations focus on the hierarchical structure of adolescent personality pathology and the psychometric properties of the DAPP-BQ for Adolescents (DAPP-BQ-A), a newly adapted operationalization of personality pathology for adolescents. In addition, it was examined how this dimensional operationalization of personality pathology relates and compares to the categorical *DSM*-system of PDs. Subsequently, it was investigated how dimensional models of normal and abnormal personality are related to *DSM*-defined PD symptoms, in order to increase understanding of the maladaptive characteristics of adolescent disordered personality. Furthermore, adolescent personality

pathology dimensions were related to domains of dysfunction, to shed light on the dysfunction associated with elevated scores on dimensions of personality pathology. Moreover, from an assessment perspective, the value of a multi-informant approach to the assessment of adolescent personality pathology was examined. Finally, a wide range of possible correlates of adolescent personality pathology dimensions was examined.

To arrive at these objectives, the present thesis builds on an empirically-based conceptualization of adult personality pathology developed by Livesley and colleagues and operationalized in the DAPP-BQ (Livesley, 2006; Livesley & Jackson, 2009; Livesley et al., 1992; Livesley et al., 1998). Embedded in the dimensional approach, this conceptualization identifies personality pathology dimensions in a hierarchical structure, with 4 higher-order and 18 lower-order dimensions. The first higher-order dimension, Emotional Dysregulation, is characterized by 11 lower-order dimensions: Submissiveness, Cognitive Distortion, Identity Problems, Affective Instability, Oppositionality, Anxiety, Social Avoidance, Suspiciousness, Insecure Attachment, Narcissism, and Self Harm. The second higher-order dimension, Dissocial Behavior, is defined by lower-order Stimulus Seeking, Callousness, Rejection, and Conduct Problems. Inhibitedness, the third higher-order dimension, consists of Restricted Expression and Intimacy Problems. Finally, the higher-order dimension Compulsivity is characterized only by lower-order Compulsivity.

Research has supported the structural stability of the DAPP-BQ across clinical and nonclinical samples (Livesley et al., 1998), and across sociodemographic and cultural contexts (Bagge & Trull, 2003; Brezo, Paris, Tremblay, Vitaro, & Turecki, 2008; Maruta, Yamate, Imori, Kato, & Livesley, 2006; Pukrop, Gentil, Steinbring, & Steinmeyer, 2001; Van Kampen, 2002; Wang, Du, Wang, Livesley, & Jang, 2004). Research has also investigated the genetic structure underlying the lower-order traits of the DAPP-BQ in order to increase confidence in the structure emerging from phenotypic studies (Livesley et al., 1998). The findings showed that the phenotypic structure of the DAPP-BQ closely reflects the underlying genetic architecture. In addition, the higher- and lower-order dimensions show strong resemblance to dimensions of normal personality, both conceptually and empirically (Clark & Livesley, 2002; Clark et al., 1996; Jang & Livesley, 1999; Schroeder, Wormworth, & Livesley, 2002; Van Kampen, 2006). Furthermore, the DAPP-BQ has shown adequate internal consistency, and test-retest reliability (Livesley et al., 1998).

Issues addressed in this thesis

DAPP-BQ-A as an operationalization of adolescent personality pathology

Considering the well-established psychometric properties and cultural invariance of the DAPP-BQ in adult populations, the present thesis examines whether the DAPP-BQ is a similarly adequate operationalization of personality pathology dimensions in adolescent populations. This examination departs from the assumption that personality pathology is traceable to and identifiable in adolescence. Moreover, it assumes that expressions of personality pathology in adolescence are similar to those in adulthood. As such, the present thesis builds upon a growing body of research recognizing the occurrence of *DSM*-defined personality pathology in

adolescence, supporting its validity as a construct, and high prevalence in both clinical and non-clinical populations (for a review, see Johnson et al., 2006). In addition, the relevance for understanding personality pathology prior to adulthood is underscored by recent work on normal personality development, including evidence on commonalities between temperament and personality traits, a common structure of individual differences across childhood, adolescence, and adulthood, and the stability of personality across the lifespan (Shiner, 2005).

The original English-language DAPP-BQ questionnaire was translated into Dutch and adapted to ensure age-appropriate assessment. Chapter 2 includes a detailed description of the procedures followed to arrive at a Dutch adolescent version of the DAPP-BQ. Several psychometric properties of this age-appropriate version, denoted DAPP-BQ for Adolescents (DAPP-BQ-A), are investigated: the factorial structure, internal consistency, test-retest reliability, and classification accuracy. In addition, gender and age effects on personality pathology, and differences in personality pathology across subsamples of non-referred adolescents, referred adolescents without a PD-diagnosis, and referred adolescents with a PD-diagnosis are investigated. The results of the psychometric analyses are described in Chapter 2.

Finding evidence for adequate psychometric properties could result in the implementation of the DAPP-BQ-A in future studies examining personality pathology across a wider age range than currently possible. In addition, a reliable and valid DAPP-BQ-A may be applied in clinical practice for diagnostic purposes. Furthermore, a reliable and valid dimensional assessment of adolescent personality pathology may facilitate the study of developmental antecedents of adult personality pathology. Finally, a comparable operationalization of personality pathology across different ages may facilitate the investigation of the longitudinal course of personality pathology across the life span.

Dimensional and Categorical Approaches to Personality Pathology

In view of the debate on categorical versus dimensional approaches to personality pathology, the present thesis relates and compares these two approaches in a sample of referred adolescents. This empirical investigation, described in Chapter 3, can help to understand the manifestations of adolescent PDs when assessed from a dimensional perspective. Knowledge on the relations between the personality pathology dimensions and the global PD categories could provide a more differentiated view on what exactly constitutes adolescent personality pathology. Moreover, the obtained relations, especially those at the level of lower-order dimensions, may provide specific clues for selecting intervention strategies for adolescent with personality pathology.

Normal and Abnormal Personality

To further extend our knowledge on adolescent personality pathology, the present thesis investigates how the domains of normal, abnormal, and disordered personality are related. The results are presented in Chapter 4. In a sample of referred adolescents, dimensions derived from the Big Five of normal personality (Digman, 1990) and from Livesley's conceptualization of personality pathology are related to *DSM*-defined symptoms of disordered personality. Some

researchers have advocated the Big Five normal personality traits and their underlying facets as an adequate conceptualization of disordered personality (Widiger, Costa, & McCrae, 2002). However, other researchers have argued that the full complexity of disordered personality and its associated impairment is conceptually more completely covered by dimensions of personality pathology (Nestadt et al., 2008). A supplementary model, including dimensions of normal and abnormal personality, may be the most valuable model to understand the dimensional representation of disordered personality. Moreover, investigating which dimensions of personality pathology differentiate between adolescent PDs above and beyond individual differences accounted for by the dimensions of normal personality can extend our understanding of adolescent personality pathology.

Multi-informant Approach and Relations to Dysfunction

As a self-report instrument to assess personality pathology, the DAPP-BQ-A may be hampered by the important limitation of not providing an accurate and truthful description of the respondent's personality (Ganellen, 2007). Several researchers have argued that for a more comprehensive understanding of personality pathology it may be important to incorporate proxy reports (Clark, 2007; Oltmanns & Turkheimer, 2006; Westen & Shedler, 1999). In the case of adolescent respondents, information obtained from parents may provide valuable additional contributions to understanding adolescent personality pathology, and to decision-making in diagnostic and intervention procedures. Chapter 5 investigates similarities and differences in reports of adolescents and parents on dimensions of adolescent personality pathology. In addition, the unique contribution of personality pathology ratings by each informant (adolescent and parent) to variance in clinician-rated adolescent dysfunction is examined.

Associated Factors of Adolescent Personality Pathology

Of great interest from prevention and clinical perspectives, is knowledge on the factors that are associated with a dimensional representation of personality pathology in adolescence. Chapter 6 investigates associations between a wide range of possible personal and ecological factors and dimensions of personality pathology in an adolescent general population sample. The findings may be of interest to clinicians to better identify adolescents at risk, to focus interventions, and to arrive at better assessment and diagnostic procedures. Knowledge on associated factors may also help researchers to identify variables that could be the focus of future etiological studies of personality pathology, and at the same time to identify variables that need to be controlled for statistically in those studies. Furthermore, it may influence management decisions regarding the organization of the treatment program in order to be compatible with the patient population. And finally, teachers who encounter students with adverse correlates must be aware of the possibility that high levels of personality pathology are present.

General Discussion

The thesis closes with a general discussion of the findings presented in the preceding chapters. Chapter 7 provides a comprehensive evaluation of the DAPP-BQ-A as an age-

CHAPTER 1 *General Introduction*

appropriate conceptualization and operationalization of the dimensional model of personality pathology for use in adolescents. In addition, this chapter attempts to provide a description of adolescent personality pathology and its associated factors. The chapter continues with a discussion of the strengths and limitations of the present study. Subsequently, the chapter presents several general conclusions that can be drawn based on the findings. The chapter closes with a description of the implications of the findings and possible future directions in the study of personality pathology in adolescence.