A Five-Factor Model Framework for Understanding Childhood Personality Disorder Antecedents

Barbara De Clercq and Filip De Fruyt
Ghent University

ABSTRACT The present contribution reviews evidence that supports the relevance of childhood antecedents of personality disorders, and advocates that the validity of a Five-Factor Model framework for describing general trait differences in childhood can be extended towards the field of developmental personality difficulties. In addition, we suggest that several traditional childhood Axis I conditions include a substantial trait component that may be responsible for the recurring finding that childhood Axis I disorders are predictive for adult Axis II disorders. Given the valuable information provided by a trait assessment, we further propose to integrate dimensional personality and personality pathology measures as standard tools in mental health assessments at a young age.

After a long tradition of no interest in early signs of personality dysfunction, researchers have systematically applied the—sometimes slightly adapted—adult DSM-IV (American Psychiatric Association [APA], 1994) Axis II criteria in the course of childhood personality disorder (PD) assessment (Cohen, Crawford, Johnson, & Kasen, 2005; Durrett & Westen, 2005). Apparently, this top-down approach is a direct consequence of the fact that DSM-IV does not provide an alternative for describing this childhood PD field from a more developmentally oriented way. It can be criticized, however, because it harms one of the most fundamental conditions of validity by assuming that phenotypic manifestations of personality dysfunction are similar across very different developmental contexts. Beyond the established diagnostic problems associated with the current DSM-IV

Correspondence concerning this article should be addressed to Barbara De Clercq or Filip De Fruyt, Department of Developmental, Personality and Social Psychology, Ghent University, H. Dunantlaan 2, B-9000 Gent, Belgium. Email: BarbaraJ.DeClercq@ugent.be.

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nomenclature (Widiger & Clark, 2000), this lack of developmental perspective makes the current DSM-IV Axis II criteria even more invalid for younger age groups.

Ironically, a major advantage of this absence is that DSM has never proposed a categorical representation of early personality pathology. From an alternative dimensional perspective on personality disorders, childhood personality dimensionalists hence do not need to compete with a long-standing categorical tradition that proposes discrete types of personality disorders, as is still the case in adulthood. The current contribution overviews the rising evidence for such dimensional representation of early personality pathology, suggesting that a Five-Factor Model framework represents a viable alternative for a developmentally oriented dimensional description of personality-related dysfunction. Trait dimensions are not only especially suited for use in younger age groups to account for the presumed larger malleability of early psychopathology, childhood Axis I comorbidity, and heterogeneity; they also have the capacity to describe complex interactions with environmental variables (Tackett, Balsis, Oltmanns, & Krueger, 2009; Tyrer, 2005). Furthermore, they define the aspects in need of intervention at a concrete and behaviorally oriented level that is much more workable and less stigmatizing than a static Axis II diagnosis.

THE HISTORICAL ABSENCE OF CHILDHOOD PERSONALITY DISORDER MANIFESTATIONS IN DSM-IV

The current DSM-IV (APA, 1994) edition still neglects a developmental perspective on personality pathology and explicitly states that personality disorders can only be diagnosed from the age of 18 onwards. From the assumption that personality characteristics before young adulthood are still malleable and subject to change, trait-related pathology is considered too unreliable to make diagnostic inferences. It is acknowledged, however, that children and adolescents may show some personality disorder features, but that these symptoms “will often not persist unchanged into adult life” (APA, 2000, p. 687). Consequently, a personality disorder diagnosis is only allowed in those relatively unusual instances when the symptoms of the child cannot be understood in the course of any other mental disorder. An exception is made for the adult antisocial personality
disorder that formally requires a childhood condition of conduct disorder before the adult diagnosis can be made. Although *DSM-III* (APA, 1980) did consider potential antecedent conditions for some of the remaining personality disorders (Widiger, De Clercq, & De Fruyt, 2009), they either disappeared or were subsumed by other disorders in subsequent editions of the *DSM*.

There are many reasons for this lack of an Axis II developmental perspective in the *DSM* system. A more general reason results from the fact that taxonomic research on child and adolescent disorders has historically been conducted by a group of experts who worked independently from the researchers specializing in adult disorders, leading to distinct sections of child and adult mental disorders in the *DSM* manual. Two other reasons in particular are relevant for the personality disorder section. First, personality is assumed to be more malleable in childhood and adolescence, making it difficult to distinguish normal personality variation from symptoms indicative of personality pathology (De Clercq, De Fruyt, & Widiger, 2009). Second, there may be a reluctance to use diagnostic labels for children and adolescents that suggest a more stable nature of problems and a profound, impairing impact on many life domains. Finally, and probably most important, early personality pathology precipitants are not included in the current edition of the *DSM* manual because at the time the *DSM-IV* was constructed, there was little, if any, empirical evidence on antecedent conditions of personality disorders (Cohen, 2008; Widiger et al., 2009).

**GENERAL EVIDENCE FOR A DEVELOPMENTAL PERSPECTIVE ON PERSONALITY PATHOLOGY**

The past decades have witnessed a wealth of research that broke down the artificial but anchored boundary between the childhood and adult *DSM-IV* Axis I sections of psychopathology, introducing a life span perspective on maladaptation and indicating that the same disorder can be present across the life span but varies in its expression or manifestation due to differences in developmental context (Shaffer, Widiger, & Pincus, 1998). Inspired by this developmental perspective on Axis I–related maladaptation and growing evidence on the biological (New, Goodman, Triebwasser, & Siever, 2008) and genetic basis of personality disorders (Jang, Livesley, Vernon, &
Jackson, 1996; Reichborn-Kjennerud, 2008), a smaller number of researchers specifically focused on childhood personality difficulties and crossed the border of 18 years toward younger ages, in an effort to explore the etiological processes that precede the much impairing adult PD diagnoses.

The earliest evidence supporting the existence of early signs of personality pathology was generated by the researchers of the well-known Children in the Community Study (CIC; Cohen & Cohen, 1996), who reported from their longitudinal design that personality disorder symptoms are traceable in adolescence and have important prognostic value for later personality dysfunction. PD symptoms were generally suggested to significantly decline across adolescence (Johnson et al., 2000), although interindividual variability indicated an overall increase in personality disorder symptoms for a significant number of adolescents. Across developmental stages, individuals appeared to maintain their rank-order position relative to age peers in the presence of absolute declines on personality disorder symptoms. Crawford and colleagues (2005) further showed that those with the highest personality disorder score level differed increasingly from the normative (declining) trend, suggesting that these individuals showed a stable risk profile for personality pathology across time. The founding evidence from the CIC (Cohen & Cohen, 1996) has stimulated the field toward a more critical view on the development of personality disorders and has substantially contributed to our knowledge on the etiology and course of early personality difficulties. Ever since, accumulating evidence on the significance of personality disorder symptoms in childhood and adolescence (for a review, see De Clercq, De Fruyt, et al., 2009) has been published and has inspired several journals to release special issues on this neglected topic. These latest special issues have successfully integrated comprehensive overviews of personality disorder precipitants across the 10 PDs (Cicchetti & Crick, 2009; Kobak, Zajac, & Smith, 2009; Shiner, 2009; Tackett et al., 2009; Widiger et al., 2009), with evidence on specific Axis II disorder antecedents such as the cluster A disorders (Esterberg, Goulding, & Walker, 2010) and the borderline (Beauchaine, Klein, Crowell, Derbidge, & Gatzke-Kopp, 2009; Bornovalova, Hicks, Iacono, & McGue, 2009; Cole, Llera, & Pemberton, 2009; Crawford, Cohen, Chen, Anglin, & Ehrensaft, 2009; Fonagy & Luyten, 2009; Gratz et al., 2009), narcissistic (Barry & Wallace, 2010; Bukowski, Schwartzman,
Santo, Bagwell, & Adams, 2009; Thomaes, Bushman, De Castro, & Stegge, 2009), antisocial (Beauchaine et al., 2009), avoidant (Eggum et al., 2009), and obsessive-compulsive (Aelterman, Decuyper, & De Fruyt, 2010) personality disorders.

Although meaningful, this general evidence on personality disorder precipitants relies heavily on the adult DSM Axis II criteria and is therefore in need of three important notes. First of all, prevalence rates of personality disorders in younger age groups may not be accurate when relying exclusively on the DSM criteria because these criteria are not drawn from the developmental literature. Second, and related to this, specific Axis II personality diagnoses seem to be quite unstable when adolescents grow older (Cohen et al., 2005). This diagnostic instability may be intuitively interpreted as recovery, but it often points to the fact that people shift from one diagnostic category to another. This change in symptom patterns across time can be understood as heterotypic continuity and may be most explicit in the fast developing phase of childhood and adolescence, with varying age-specific manifestations of an underlying trait vulnerability (Cicchetti & Crick, 2009). Third, applying adult criteria of personality disorders in younger age groups does not guarantee a comprehensive coverage of personality disorder manifestations at a younger age (De Clercq, De Fruyt, Van Leeuwen, & Mervielde, 2006). These three limitations directly result from the lack of developmental context within DSM-IV and emphasize that the Axis II system in younger age groups is hence untenable. Beyond the generally accepted limitations of the current Axis II system, such as the comorbidity within and between axes, heterogeneity, and lack of empirical cut-offs (Clark, 2007; Trull & Durrett, 2005), these additional issues call for a different and age-specific conceptualization of PD precipitants.

AN ALTERNATIVE PERSPECTIVE ON CHILDHOOD PERSONALITY DIFFICULTIES

De Clercq, De Fruyt, et al. (2009) suggested that dimensional representations of personality disorders not only counter the failures of the current Axis II system, but may also generate the conceptual framework for the inclusion of personality disorder precipitants in childhood and adolescence. In this respect, Shiner (2009) indicated
that much can be learned from normal personality trait development in childhood and adolescence, suggesting that a crucial element in the study of personality disorder development entails insight in the pathways through which children with more extreme scores on general traits develop in increasingly deviant ways over time. Based upon extensive research supporting the reconceptualization of personality disorders in terms of the dimensions of the Five-Factor Model (FFM; Costa & Widiger, 2002; Samuel & Widiger, 2008; Widiger & Lowe, 2007) as well as the tremendous amount of literature underscoring the suitability of the FFM to describe individual differences from childhood onward (Caspi, Roberts, & Shiner, 2005; De Fruyt et al., 2006; Shiner, 1998), it is hence reasonable to suggest that general trait dimensions may provide the common dimensional ground for conceptualizing personality pathology across different age groups, with unique age-specific operationalizations of similar underlying trait constructs that deal with the phenotypic heterogeneity of traits across age. Moreover, the Five-Factor Model dimensions show strong conceptual and empirical relations with various established temperamental constructs, indicating that the FFM may serve as a basis for integrating the historical, diverse temperament and personality research traditions in childhood. In this respect, Caspi and colleagues (2005) suggested from their conceptual taxonomy that temperament and personality share many features and show increasing structural similarities as children grow older.

Over the past 15 years, our research group has extensively focused on personality and personality pathology at a young age, mainly adopting this Five-Factor Model framework and its validity for exploring personality development and conceptualizing personality disorder precursors. Parallel to adult research, a first phase of this developmental personality disorder research focused on the FFM—personality disorder interrelations, including an FFM measure at the predictor side in relation to Axis II measures at the criterion side. Restricted by available measures for describing early personality dysfunction, these studies implicitly assumed—although criticized—the applicability of Axis II in youth. In addition, these studies only included adolescent samples because the age of adolescence is naturally linked to adulthood and thus represents the candidate age stage to explore personality disorder precipitants by administering adult measures of personality disorders.
De Clercq and De Fruyt (2003) were among the first to extend the Five-Factor Model perspective on personality disorders towards adolescence, examining in a large community sample whether general higher order and lower order trait dimensions were similarly related to the Axis II personality disorders as in adulthood (Widiger, Trull, Clarkin, Sanderson, & Costa, 2002). They built upon evidence that the NEO PI-R (Costa & McCrae, 1992) could be reliably administered to adolescents (De Fruyt, Mervielde, Hoekstra, & Rolland, 2000), whereas the Assessment of DSM-IV Personality Disorders (ADP-IV; Schotte et al., 2004) was used to evaluate the Axis II personality disorders. They examined the predictions on FFM facet and personality disorder relationships (Widiger et al., 2002) in a community sample of 419 adolescents who were administered the NEO PI-R and the ADP-IV (Schotte et al., 2004). The results at the FFM domain level largely replicated the findings for adults (Saulsman & Page, 2004) and demonstrated that 7 of the 10 disorders were positively related to Neuroticism, whereas the majority correlated negatively with Agreeableness. Six disorders, except schizoid, narcissistic, avoidant, and obsessive-compulsive disorder, related negatively to Conscientiousness, and six, except antisocial, borderline, histrionic, and narcissistic, correlated negatively with Extraversion. Finally, only three showed moderate negative associations with Openness to Experience, i.e., schizoid, avoidant, and dependent. All significant correlation patterns were convergent across the 10 disorders (i.e., positive with Neuroticism and overall negative with Extraversion, Agreeableness, Conscientiousness, and Openness). The parallel associations in adolescence and adulthood between general personality measures and personality disorder constructs have been further confirmed by De Clercq, De Fruyt, and Van Leeuwen (2004) using the Hierarchical Personality Inventory for Children (HiPIC; Mervielde & De Fruyt, 1999; Mervielde, De Fruyt, & De Clercq, 2009), a lexically based and age-specific FFM personality inventory. Parallel to earlier findings, De Clercq and colleagues (2004) found that shared variance among the personality disorders accounted for substantial variance, potentially suggesting that personality pathology is less crystallized in younger age groups or
reflecting that personality disorder symptoms as described in the adult Axis II criteria are not appropriate expressions of personality symptomatology in younger age groups.

The explained personality pathology variances by the NEO PI-R in the first study versus the HiPIC factors in the second study were comparable across FFM measures and underscored that a substantial amount of personality disorder variability in adolescence can be understood from the Five-Factor Model framework. More recent work has corroborated these studies and extended the associations between FFM traits and personality pathology in adolescence. Decuyper, De Clercq, De Bolle, and De Fruyt (2009) examined the validity of FFM PD counts to identify Axis II personality disorders, including psychopathy, whereas Salekin, Debus, and Barker (2010) described relations between adolescent psychopathy assessed with the Youth Psychopathic Traits Inventory (YPI; Andershed, Kerr, Stattin, & Levander, 2002) and the Interpersonal Adjective Scale Revised-Big 5 (IASR-B5; Trapnell & Wiggins, 1990). Both studies confirmed the usefulness of the Five-Factor Model dimensions for understanding personality pathology manifestations in adolescence.

This Five-Factor-Model-based evidence emphasizes the connection of normal (or general) personality with personality disorder symptoms already at a much younger age than previously assumed. Normal personality development can therefore be considered highly relevant for developmental processes related to personality difficulties. In addition, general traits represent the unique integrative framework for understanding the significant interrelations between personality disorders and the more common Axis I disorders across the life span (Krueger, 2005; Mervielde, De Clercq, De Fruyt, & Van Leeuwen, 2005). Understanding the developmental pathways from early Axis I to adult Axis II disorders from a shared trait hypothesis (Krueger, 2005) may therefore potentially elucidate why early Axis I–related dysfunction has a potential prognostic value for adult personality problems.

**TRANSLATING CHILDHOOD PSYCHOPATHOLOGY AND COMORBIDITY INTO FIVE-FACTOR MODEL TRAIT VULNERABILITY**

It is surprising that the wealth of research on childhood Axis I conditions and their predictive validity for later Axis II disorders has
not been linked more systematically to underlying stable trait vulnerabilities that may give rise to expressions of psychopathology either classified as Axis I conditions in childhood or Axis II conditions in adulthood. Only one systematic link between early psychopathology (conduct disorder) and later personality disorders (antisocial personality disorder) has been proposed in *DSM-IV*, which stimulated a wealth of research on the predictive validity of childhood conduct problems for antisocial outcomes (Kimonis & Frick, 2010). From a trait perspective, the predictive validity of the underlying childhood callous-unemotional characteristics (present in a subgroup of children with conduct disorder who can be typified as a group with a persistent form of antisocial behavior, further characterized as children with lack of guilt and empathy) for adult antisocial personality disorder has been demonstrated from prospective studies (see McMahon et al., 2010), underscoring that callous-unemotional traits have a stable nature over time and may represent the connection between early disruptive disorders and the adult antisocial outcomes. Moreover, it has been successfully demonstrated that these callous-unemotional traits (and the construct of childhood psychopathy in general) represent a constellation of characteristics that can be drawn from the higher order (Lynam et al., 2005) and lower order (Salekin et al., 2010) level of the general Five-Factor Model of personality.

However, a number of other Axis I disorders can also, to some extent, be translated in terms of trait vulnerabilities. More specifically, this reconceptualization of certain chronic Axis I conditions can be framed within a Five-Factor Model perspective and may be a fruitful avenue to enhance our understanding of the chronicity of certain forms of Axis I maladaptation and their tendency to predict adult patterns of personality pathology.

From an internalizing perspective on childhood psychopathology, Hale, Klimstra, and Meeus (2010) have, for instance, recently demonstrated that the more chronic aspect of “worry” as described for childhood generalized anxiety disorder shares many of the characteristics of the Neuroticism trait, underscoring the trait-like quality of this traditional childhood Axis I symptom. In addition, the *DSM-IV-TR* (APA, 2000) childhood generalized anxiety disorder (Cohen et al., 2005) as well as social phobia (Rettew, 2000) have been found to overlap with the adult avoidant personality disorder profile, thus suggesting that their shared characteristics may potentially be
understood from the underlying trait of Neuroticism. Similarly, the shared features that have been found for some autistic spectrum symptoms and the schizoid personality disorder (Cohen et al., 2005), as well as for the prodromal phase of schizophrenia and the schizotypal profile in adolescence (Esterberg et al., 2010), may be understood from this shared trait hypothesis, which may be more specifically translated in FFM terms as maladaptive Introversion and Openness to Experience, respectively. Recent genetic studies underscore this perspective, demonstrating, for instance, that the genetic determinants of Neuroticism and Extraversion entirely account for the genetic liability of specific phobic disorders that typically have their onset in childhood or adolescence (Bienvenu, Hettema, Neale, Prescott, & Kendler, 2007).

From an externalizing perspective on childhood psychopathology, a growing body of literature suggests that early attention-deficit/hyperactivity disorder (ADHD) symptoms are closely linked to personality structure. More specifically, several studies have adopted a Five-Factor Model framework of childhood ADHD symptoms and demonstrated significantly lower levels of Conscientiousness and Agreeableness, and sometimes higher levels of Neuroticism (De Pauw & Mervielde, 2011; Miller, Miller, Newcorn, & Halperin, 2008; Nigg et al., 2002). Moreover, this Five-Factor Model trait perspective on ADHD revealed that FFM traits have a mediating effect on genetic risk and ADHD symptomatology (Martel, Nikolas, Jernigan, Friderici, & Nigg, 2010), and that they may account for the phenotypic heterogeneity found within the ADHD symptomatology (Martel, Goth-Owens, Martinez-Torteya, & Nigg, 2010). Although various studies have indicated a link between early ADHD and later personality disorders, it has recently been accentuated that it is in particular the children with persisting ADHD symptoms who are at increased risk for a personality disorder outcome (Matthies et al., 2011; Miller et al., 2008). From their findings, Martel, Goth-Owens, et al. (2010) broaden the traditional view on ADHD as an exclusive childhood condition and hypothesize that the high degree of shared features between ADHD and several personality disorders may point towards the phenomenon of heterotypic continuity, in which both may represent different phenotypic expressions of a single underlying vulnerability. Indeed, aspects of poor self-regulation, affective instability, impaired social relationships, and hypersensitivity to social cues are characteristic of both
childhood ADHD and the adult paranoid, borderline, and antisocial personality disorders. Interestingly, each of these shared features can be subsumed within the Five-Factor Model trait framework.

The abovementioned examples have varying prevalence rates in youth, but as a whole they reflect a considerable proportion of the psychopathology that can be observed in the pediatric clinic, indicating that the current *DSM-IV* Axis I childhood section includes strong personality-related mental disorders that can be delineated from a general trait framework and that are important to consider in the discussion on new conceptualizations of the *DSM* (Clark, 2007; Widiger & Clark, 2000). The call for a trait perspective on certain Axis I–related conditions, however, is not to be interpreted as an attempt to reduce these conditions strictly to personality-related problems (see also Widiger, 2010) or to give up the distinction between personality disorders and other mental conditions. However, drawing the attention toward the idea that traits may represent the underlying shared vulnerability of more overt dysfunction manifested at the Axis I level in childhood that continues into adult (Axis II) dysfunction highlights the relevance of assessing them at childhood age across disorders. Furthermore, a childhood trait assessment fits with the dimensional nature of *DSM-IV* disorders at a young age (see, e.g., Walton, Ormel, & Krueger, 2011) and naturally build bridges between the childhood Axis I section and the adult Axis II section. As such, the study of general traits not only stimulates the developmental perspective on personality disorders, but also creates opportunities for a continued attention toward childhood conditions with a lasting nature, such as ADHD.

**ASSESSMENT OF CHILDHOOD PERSONALITY PATHOLOGY: GENERAL TRAITS FIRST**

The qualities of a general trait measure for understanding childhood psychopathology in general, and childhood personality dysfunction in particular, are highly valuable. First, most traditional clinical instruments do not allow a child to score better than “no problem” in a particular area, whereas the measurement of general traits in the course of a clinical child assessment has the potential to provide a more comprehensive picture that includes both a child’s vulnerabilities as well as aspects of resiliency. Second, this joint description of
strengths and weaknesses not only speaks to the reality of human functioning, but also allows for welcome information to parents and other caregivers regarding a child’s available resources. Third, the dimensional nature of personality traits is additionally providing a detailed quantitative description including rich clinical information in contrast to simply categorizing children in terms of disordered or healthy (De Clercq, Rettew, Althoff, & De Bolle, 2012). However, in the course of personality pathology assessment, it has been argued from adult studies (Krueger & Eaton, 2010; Nestadt et al., 2008) that general trait measures may not capture the personality pathology variance at the most comprehensive level, given that they were not designed to describe maladaptive personality functioning. Similarly, De Clercq, De Fruyt, et al. (2009) underscored the contribution of specific childhood maladaptive trait measures for an adequate coverage of early maladaptive traits that represent the core features of personality dysfunction at a young age. This idea can also be understood from the studies discussed earlier on the FFM–personality disorder associations in adolescence (De Clercq & De Fruyt, 2003; De Clercq et al., 2004). Although these results underscored the validity of a general FFM trait measure to describe personality disorder manifestations in younger age groups, the findings also showed a significant amount of unexplained variance by general trait facets. This may indicate that the richness of personality disorder symptoms may not be entirely captured by general trait measures (Clark, 2007). In this respect, Aelterman et al. (2010) recently demonstrated that obsessive-compulsive personality disorder symptoms can be more comprehensively described by complementing a maladaptive trait measure with a general trait measure of personality. In a related vein, Decuyper, De Bolle, De Clercq, and De Fruyt (in press) suggested that an age-specific maladaptive trait measure explained additional variance of childhood psychopathy, beyond a general personality trait measure.

In a second phase of developmental PD research, our research group therefore concentrated on an empirically built dimensional representation of age-specific personality symptom manifestations. The universality of the Five-Factor Model framework is, however, well reflected in this dimensional taxonomy of maladaptive traits in childhood, given the similarities in terms of structure and content, with a proposed dimensional structure that maps neatly onto the FFM dimensions. Moreover, since the construction of this child-
hood maladaptive trait taxonomy relied heavily on creating extreme items of a child-specific general FFM measure (as described in the section below), this maladaptive taxonomy can be reasonably considered as rooted in the Five-Factor Model tradition.

**AGE-SPECIFIC EMPIRICALLY BUILT TRAIT TAXonomies FOR INDIVIDUAL DIFFERENCES IN CHILDREN**

_The Hierarchical Personality Inventory for Children_

Mervielde and De Fruyt (1999, 2002) adopted the lexical approach (De Raad, 2000) to construct a comprehensive child and adolescent personality taxonomy. They assembled a large pool of personality descriptions of 6–13-year-old Flemish children, each generated by one of the parents who described typical characteristics of his or her child (Kohnstamm, Halverson, Mervielde, & Havill, 1998). Almost 10,000 generated trait descriptors were sorted in a personality descriptive lexicon comprising 14 major categories—including the Big Five supplemented with specific temperament categories—that were further split into approximately 100 homogeneous categories in terms of personality descriptive content. For each of these categories two to three personality items were written, and this item set was administered to large samples of parents and teachers providing ratings of children aged 6 to 12.

Factor analysis clearly pointed towards five factors that were labeled as extraversion, benevolence, conscientiousness, emotional instability or neuroticism, and imagination. Mervielde and De Fruyt (1999, 2002) additionally examined the lower-level structure and identified 18 traits unequally distributed across the main factors. They subsequently constructed the HiPIC (Mervielde & De Fruyt, 1999; Mervielde et al., 2009), with five domain factors and 18 facets, each assessed by eight items. An overview of the HiPIC domain and facet structure with sample items is given in Table 1. Some of the HiPIC domain labels differ somewhat from the lexical adult Big Five (Goldberg, 1993). The HiPIC dimensions extraversion, conscientiousness, and emotional instability refer to content similar to their adult Big Five counterparts and hence received the same label. The HiPIC benevolence factor, however, refers to a broader set of traits than the adult Agreeableness factor because it includes traits linked to the “easy-difficult” child concept described in the temperament
literature (Thomas, Chess, Birch, Herzig, & Korn, 1963), referring to differences in the manageability of the child from a parental perspective. The HiPIC imagination domain comprises both intellect and openness to experience items, blending the two alternative labels for the fifth factor emerging from adult adjective-based lexical studies (Goldberg, 1993) and the questionnaire-oriented FFM approach (Costa & McCrae, 1992). Given its construction background, comprehensiveness, and empirical justification for its facet structure, the HiPIC can be considered as a sensitive measure to assess general personality traits at a young age (De Clercq et al., 2004).

### Table 1
HiPIC Domains, Facets, and Sample Items

<table>
<thead>
<tr>
<th>Domain/Facet</th>
<th>Sample Item</th>
</tr>
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<tbody>
<tr>
<td>Emotional Stability</td>
<td></td>
</tr>
<tr>
<td>S1: Anxiety (–)</td>
<td>Quick to panic</td>
</tr>
<tr>
<td>S2: Self-confidence</td>
<td>Feels inferior to others (RK)</td>
</tr>
<tr>
<td>Extraversion</td>
<td></td>
</tr>
<tr>
<td>E1: Energy</td>
<td>Is constantly on the move</td>
</tr>
<tr>
<td>E2: Expressiveness</td>
<td>Says little on own initiative (RK)</td>
</tr>
<tr>
<td>E3: Optimism</td>
<td>Enjoys life</td>
</tr>
<tr>
<td>E4: Shyness (–)</td>
<td>Withdraws into him/herself</td>
</tr>
<tr>
<td>Imagination</td>
<td></td>
</tr>
<tr>
<td>I1: Creativity</td>
<td>Has original ideas</td>
</tr>
<tr>
<td>I2: Intellect</td>
<td>Is quick to understand things</td>
</tr>
<tr>
<td>I3: Curiosity</td>
<td>Is interested in everything</td>
</tr>
<tr>
<td>Benevolence</td>
<td></td>
</tr>
<tr>
<td>B1: Altruism</td>
<td>Takes others into account</td>
</tr>
<tr>
<td>B2: Dominance (–)</td>
<td>Takes the lead in games with peers</td>
</tr>
<tr>
<td>B3: Egocentrism (–)</td>
<td>Does everything to get his/her own way</td>
</tr>
<tr>
<td>B4: Compliance</td>
<td>Respects rules of politeness</td>
</tr>
<tr>
<td>B5: Irritability (–)</td>
<td>Quick to lash out</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td></td>
</tr>
<tr>
<td>C1: Concentration</td>
<td>Forgets anything and everything (RK)</td>
</tr>
<tr>
<td>C2: Perseverance</td>
<td>Keeps at it when the going gets tough</td>
</tr>
<tr>
<td>C3: Orderliness</td>
<td>Makes a mess of things (RK)</td>
</tr>
<tr>
<td>C4: Achievement striving</td>
<td>Makes heavy demands on him/herself</td>
</tr>
</tbody>
</table>

*Note.* HiPIC = Hierarchical Personality Inventory for Children; RK = reversed keyed item; – = facet loads negatively on higher-order factor.
A wide range of studies has supported the reliability and validity of the HiPIC as a childhood personality measure. From a psychometric view, construct validity was empirically demonstrated by De Fruyt et al. (2000), suggesting substantial correlations between the HiPIC and the NEO PI-R (Costa & McCrae, 1992) trait dimensions. Structural replicability of the HiPIC has been empirically established, indicating factorial invariance across time both in referred (De Bolle et al., 2009) and nonreferred (De Fruyt et al., 2006) samples of parental ratings, as well as nonreferred samples of teacher ratings (Prinzie & Dekovic, 2008). De Fruyt, Mervielde, and Van Leeuwen (2002) further showed significant relations of the HiPIC dimensions to the broad internalizing and externalizing dimensions of the Child Behavior Checklist (CBCL; Achenbach, 1991), whereas other studies have associated the HiPIC domains and facets with specific disorders from the internalizing spectrum, such as anxiety disorders and depression in childhood and adolescence (De Bolle, De Fruyt, & Decuyper, 2010), and the externalizing spectrum, such as psychopathy (Decuyper et al., 2009).

The five HiPIC personality dimensions are characterized by substantial stability (De Bolle et al., 2009; De Fruyt et al., 2006; Prinzie & Dekovic, 2008) in terms of mean-level and differential continuity, and proved to be significant predictors of stability and change in child and adolescent problem behavior (Prinzie, Onghena, & Helinckx, 2005; Van den Akker, Dekovic, & Prinzie, 2010). In addition, aspects of predictive validity were provided with regard to resiliency (Waaktaar & Torgersen, 2010) and quality of life (De Bolle, De Clercq, De Fruyt, & Benoit, 2008; Van Hoecke, De Fruyt, De Clercq, Hoebeke, & Vande Walle, 2006). From an environmental perspective, significant and replicable interactions with parental behavior were demonstrated (Van Leeuwen, Mervielde, Braet, & Bosmans, 2004) as predictors of childhood psychopathology from both a variable- and person-centered approach on the HiPIC trait dimensions. The person-centered perspective on HiPIC traits was recently corroborated from a latent class perspective by De Clercq, Rettew, et al. (2012), proposing four different HiPIC personality types that significantly contribute to our understanding of childhood (mal)adaptation over time.

Based upon this growing source of empirically based evidence supporting its adequate psychometric properties and validity, the HiPIC can be proposed as a useful tool for describing individual
differences in childhood and adolescence within the Five-Factor Model framework. Moreover, the availability of the HiPIC in different languages creates opportunities for its application in more internationally oriented research.

The Dimensional Personality Symptom Item Pool for Children

The evidence from adult literature that extreme positions on general traits are indicative of personality dysfunction (Costa & Widiger, 2002) as well as the idea that the richness of personality disorder symptoms may not be entirely covered by general trait measures (Clark, 2007) formed two guiding principles for the construction of an age-specific dimensional taxonomy of childhood maladaptive traits. In line with the first principle, De Clercq and colleagues (2006) started with the compilation of a comprehensive set of maladaptive trait items to denote personality dysfunction in childhood, with each of the items reflecting a more extreme and/or maladaptive content for four dimensions of the HiPIC (Mervielde & De Fruyt, 1999; Mervielde et al., 2009). As discussed below, maladaptive items for the HiPIC imagination domain were not considered. According to the second principle, the item pool was further complemented with items from Axis II personality disorder inventories, including the ADP-IV (Schotte, De Doncker, Vankerckhoven, Vertommen, & Cosyns, 1998) and the Structured Clinical Interview for DSM-IV Axis II (SCID-II; First, Gibbon, Spitzer, Williams, & Benjamin, 1997), that were judged applicable to children after adaptation consistent with a child’s developmental context. All items were theoretically classified by three independent experts, followed by extensive empirical procedures in order to obtain reliable and unidimensional facets (for a detailed overview of these analyses, see De Clercq et al., 2006). These procedures resulted in 172 items, structured in 27 lower level facets, that were to be rated on a 5-point Likert scale (see Table 2 for sample items). Factor analyses on the 27 facets revealed a four-dimensional higher order structure, replicable across referred and nonreferred groups of both children and adolescents (De Clercq et al., 2006). This four-dimensional higher-order structure proved to be conceptually consistent with adult dimensional representations of personality pathology, as suggested by O’Connor (2005), Saulsman and Page (2004), and Widiger and Simonsen (2005), and can be described as disagreeableness, emotional instability, introversion,
Table 2
DIPSI Domains, Facets, and Sample Items, Presented According to the Factor Structure

<table>
<thead>
<tr>
<th>DIPSI Domain/Facet</th>
<th>Sample Items</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Disagreeableness</strong></td>
<td></td>
</tr>
<tr>
<td>Hyperexpressive traits</td>
<td>Exhibits his/her inner feelings at all occasions</td>
</tr>
<tr>
<td>Hyperactive traits</td>
<td>Quickly gets impatient</td>
</tr>
<tr>
<td>Dominance/Egocentrism</td>
<td>Tries very hard to get his way</td>
</tr>
<tr>
<td>Impulsivity</td>
<td>Often acts without thinking</td>
</tr>
<tr>
<td>Irritable/Aggressive traits</td>
<td>Is extremely touchy</td>
</tr>
<tr>
<td>Disorderliness</td>
<td>Is constantly leaving big messes</td>
</tr>
<tr>
<td>Distraction</td>
<td>Often has problems with focusing attention</td>
</tr>
<tr>
<td>Risk taking</td>
<td>Seeks adventure all the time</td>
</tr>
<tr>
<td>Narcissistic traits</td>
<td>Believes he/she has a right to preferential treatment</td>
</tr>
<tr>
<td>Affective lability</td>
<td>Has extreme mood swings</td>
</tr>
<tr>
<td>Resistance</td>
<td>Cheats all the time</td>
</tr>
<tr>
<td>Lack of empathy</td>
<td>Does not care for other children</td>
</tr>
<tr>
<td><strong>Emotional Instability</strong></td>
<td></td>
</tr>
<tr>
<td>Dependency</td>
<td>Only feels secure when others are around</td>
</tr>
<tr>
<td>Anxious traits</td>
<td>Worries all the time about minor things</td>
</tr>
<tr>
<td>Lack of self-confidence</td>
<td>Always feels less worthy than other children</td>
</tr>
<tr>
<td>Insecure attachment</td>
<td>Often clings to other people</td>
</tr>
<tr>
<td>Submissiveness</td>
<td>Always submits to other children</td>
</tr>
<tr>
<td>Ineffective coping</td>
<td>Is easily upset in stressful situations</td>
</tr>
<tr>
<td>Separation anxiety</td>
<td>Often fears that his/her parents will desert him/her</td>
</tr>
<tr>
<td>Depressive traits</td>
<td>Often feels spiritless</td>
</tr>
<tr>
<td>Inflexibility</td>
<td>Cannot adjust to changes</td>
</tr>
<tr>
<td><strong>Introversion</strong></td>
<td></td>
</tr>
<tr>
<td>Shyness</td>
<td>Fears contact with other children</td>
</tr>
<tr>
<td>Paranoid traits</td>
<td>Is convinced that other children always have bad intentions</td>
</tr>
<tr>
<td>Withdrawn traits</td>
<td>Is very reserved towards others</td>
</tr>
<tr>
<td><strong>Compulsivity</strong></td>
<td></td>
</tr>
<tr>
<td>Perfectionism</td>
<td>Always makes detailed plans when doing something</td>
</tr>
<tr>
<td>Extreme achievement striving</td>
<td>Makes too high demands for him/herself</td>
</tr>
<tr>
<td>Extreme order</td>
<td>Feels an extreme need for an orderly environment</td>
</tr>
</tbody>
</table>

*Note. DIPSI = Dimensional Personality Symptom Item Pool.*
and compulsivity. Each of these four higher order maladaptive trait factors represents unique trait constructs that are associated with, but not isomorphic with, the well-known higher order dimensions of internalizing and externalizing problem behavior (De Clercq, Van Leeuwen, De Fruyt, Van Hiel, & Mervielde, 2008) as described in the CBCL (Achenbach, 1991). De Clercq et al. (2008) found a substantial association between the four Dimensional Personality Symptom Item Pool (DIPSI) traits and the internalizing/externalizing CBCL dimensions (Achenbach, 1991), but only a small overlap in item content between both sorts of dimensions. Moreover, at a super-order structure, the four DIPSI dimensions empirically merged in a two-dimensional trait structure of internalizing and externalizing traits that were again related but not similar to the broad internalizing and externalizing dimensions of childhood general psychopathology, as described by the CBCL (Achenbach, 1991). This connection between higher order DIPSI trait dimensions and general childhood psychopathology dimensions broadens the bridge between adult Axis I–related and Axis II disorders (Krueger, 2005) toward childhood and suggests that the overall structure of psychopathology is similar across age groups.

The majority of the lower order DIPSI facets are to be interpreted along the extremes of general lower order traits (Widiger, De Clercq, et al., 2009), although some DIPSI facets also provide an additional and more differentiated description of pathological features that are not fully isomorphic with the facets of general trait or temperament models (De Clercq et al., 2009). From a conceptual point of view, it has been demonstrated that the DIPSI lower order traits show notable coverage of potential personality disorder precursors (De Clercq, De Fruyt, et al., 2009) as delineated by Geiger and Crick (2001).

Since its inception, the DIPSI has been used in several studies underscoring its construct and discriminant validity in childhood and adolescence. De Clercq, Van Leeuwen, et al. (2009) examined the structural differential and mean-level continuity of the four higher order DIPSI dimensions in a longitudinal childhood community sample. Using individual growth curve modeling, they examined the stability of maternal ratings on the DIPSI dimensions and demonstrated a small but significant decline for three of the four dimensions, which was less pertinent for high-scoring individuals on maladaptive traits. The introversion domain (including shyness, withdrawn, and paranoid traits) appeared to remain stable over time,
hence reflecting a less natural plasticity of this childhood maladaptive trait domain (De Clercq, Van Leeuwen, et al., 2009). The results of this prospective multiwave study on the short-term developmental course of maladaptive trait dimensions in childhood underscore a comparable stability for dimensional and age-specific PD precursors at a young age with stability ratings for adult maladaptive trait dimensions, hence indicating the presence of a similar underlying maturation principle across age groups. The DIPSI stability findings are also largely in line with other studies on personality trait continuity in children (De Fruyt, et al., 2006), underscoring a conceptual spectrum view of personality disorder traits as the extremes of general FFM traits (Costa & Widiger, 2002), even at this early age.

From a person-environment perspective, De Clercq et al. (2008) explored in a multi-informant design how interactive processes between child maladaptive personality and parental behavior affect the presence of child psychopathology and showed that disagreeable and emotionally unstable children were at increased risk for presenting externalizing problem behavior when growing up with highly controlling parents. Furthermore, they demonstrated a protective effect of high positive parenting in disagreeable children for the development of internalizing psychopathology. Although the main effects for the maladaptive DIPSI trait dimensions explain larger proportions of variance in childhood internalizing and externalizing problems, the interactions between child personality and parenting variables demonstrated that parents may have a concrete impact on childhood outcomes.

During the construction phase of the DIPSI, there was an increasing consensus among dimensionalists to represent personality disorders in a four- rather than a five-dimensional model (i.e., O’Connor, 2005; Saulsman & Page, 2004; Widiger & Simonsen, 2005), mainly resulting from the fact that factor-analytic studies of Axis II symptoms recurrently failed to empirically delineate a maladaptive Openness factor. Consistent with the relatively low representation of maladaptive Openness variants within adult dimensional models of personality disorder, we decided not to construct a maladaptive imagination domain in the DIPSI. This decision mainly resulted from our experience that maladaptive imagination items that resulted strictly from HiPIC items often appeared to represent content that was not necessarily reflecting maladaptation. For instance, HiPIC imagination items include “likes to learn new
things” (curiosity item) or “grasps the meaning of things quickly (intellect item). It is rather difficult to consider the extremes of such characteristics as maladaptive in terms of personality. However, the difficulty we experienced in representing a maladaptive imagination domain may have partly been the result of the specific item content as represented in the HiPIC measure, since it reflects the active personality vocabulary that parents use to describe their children. Whereas the broad domain of imagination or openness to experience generally includes a substantial inner component in terms of sensory experiences and thoughts, parental imagination descriptions may represent a more overt component that is associated with their observer perspective. Consequently, maladaptive items that are compiled from more observable and behaviorally oriented general imagination items may refer to traits that connect insufficiently with the expected maladaptive trait components that would result from clinical literature or case studies of children with cognitive-perceptual aberrations.

Recent evidence in adults has pointed to the potential value of including an oddity (Watson, Clark, & Chmielewski, 2008), peculiarity (Tackett, Silberschmidt, Krueger, & Sponheim, 2008), maladaptive openness (Ross, Lutz, & Bailey, 2002), or experiential permeability factor (Piedmont, Sherman, & Sherman, 2012) for a more inclusive and adequate description of pathology related to schizotypal dysfunction and cognitive-perceptual distortions in general (Tackett et al., 2008). Whether or not this fifth factor is to be considered distinct from openness (Watson et al., 2008) or to be represented strictly along the extremes of the FFM Openness domain (Widiger, 2010) is an empirical issue that should be addressed in future work. Nevertheless, the specific relevance of this research area can be considered evenly important for younger age groups, provided the evidence that early cluster A–related characteristics are already observable at a young age (Tackett et al., 2009). Also, the stability of such symptoms across time and the vulnerability of these children for later severe psychiatric disorders within the schizophrenic or disassociative spectrum imply that childhood potentially represents a vulnerable life stage for developing cognitive-perceptual aberrations (Putnam, Helmers, & Horowitz, 1995). We therefore decided to reexamine this area in an attempt to empirically delineate a fifth dimension of personality pathology in childhood and constructed a specific item pool for children, relying on somewhat different compilation procedures than those described in De Clercq and colleagues (2006).
In a first step, we wrote extreme childhood variants of the NEO PI-R (Costa & McCrae, 1992) facets that were considered most relevant in childhood, which are openness to fantasy, openness to feelings, and openness to actions, as well as extreme variants of the HiPIC facet creativity. Extreme variants of the two other HiPIC imagination facets (intellect and curiosity; see Table 1) were not considered relevant to represent trait-related pathology. Likewise, concerns related to the specific age group of childhood and the associated developmental status of certain abilities led to the exclusion of openness to aesthetics, ideas, and values. Finally, openness to actions was not included because a substantial part of these NEO items refers to content that is often regulated by parents and not by the child (e.g., trying new food, planning a holiday in an unknown country). On the other hand, maladaptive low variants of openness to actions may already be included in the current DIPSI facet of inflexibility. This facet turned out to load the emotional instability factor, but this loading was not substantial (see De Clercq et al., 2006). It can hence be hypothesized that a factor analysis on a more comprehensive set of facets (including facets of a fifth factor) may result in a shift of this inflexibility facet toward the presumed fifth factor. Preliminary support for the hypothesis that the DIPSI inflexibility facet includes an openness-related content can be found in the study of De Clercq and colleagues (2010), where inflexibility accounted for a significant amount of variance within the childhood autistic spectrum symptomatology, which is to some extent aligned with developmental cluster A pathology (Widiger, 2010).

In a second procedure, we collected descriptors that were assumed relevant to represent the cognitive-perceptual distortion area at a young age based upon childhood case studies. After similar conceptual classification procedures as outlined in De Clercq et al. (2006), we retained 25 items that have the potential to represent a fifth factor in a dimensional model of childhood personality pathology. Data collection is ongoing both in adolescent and childhood community and referred samples, including both cross-sectional and longitudinal designs. Empirical analyses on these items should further verify the psychometric properties of these items, their empirical clustering into reliable and unidimensional facets and an eventual higher-order factor, their relations with general childhood personality traits, and their integration into the established DIPSI structure.
A FIVE-FACTOR-MODEL-BASED ASSESSMENT PROCESS FOR DESCRIBING EARLY PERSONALITY PATHOLOGY

Although it is premature to speak of a personality pathology diagnosis in childhood, it is timely to call for a trait description in the childhood mental health assessment process. As reviewed above, there are many arguments to favor the relevance of trait assessment for a more comprehensive understanding of a child’s dysfunction, eventually including a more in-depth understanding of concrete aspects that are in need of intervention. In addition, trait information may help to set more feasible goals and to choose the most optimal therapeutic methods that connect with the personality of the child.

From the age-specific perspective on childhood trait assessment that we have been advocating, we propose that childhood traits may be measured within the Five-Factor Model tradition in a reliable, valid, and age-specific manner. More specifically, we suggest implementing a four-step process of personality (pathology) assessment that may have a relevant contribution across all disorders in childhood. Such assessment may in particular be appropriate in children with a long history of mental health services attendance, often signified by relapse profiles or shifts in problematic behavior, or by a chronic and refractory course of psychopathology, as well as in children who are hard to classify within the current DSM-IV Axis I childhood section of mental disorders.

A first step in this process entails a description of general traits across the domains and facets of the HiPIC (Mervielde et al., 2009) that generates a comprehensive personality profile, including both vulnerabilities and strengths as reflected in the specific scores (see Mervielde et al., 2009). If children tend to have an extreme position on one or more of these general trait dimensions, we suggest administering the DIPSI in a second step. This additional DIPSI assessment of a child or an adolescent scoring outside the average range of normal trait variation may offer an age-specific description of facet-level personality symptoms along the broader dimensions of disagreeableness, emotional instability, introversion, and compulsivity.

These two steps parallel to some extent the stepwise assessment process suggested for adults (Livesley, 2003; McCrae, Löckenhoff, & Costa, 2005; Widiger et al., 2002) and are further in line with the suggestion of Nestadt et al. (2008) to include clinical measures in
the assessment of personality pathology beyond general trait measures. The surplus value of such maladaptive trait assessment in childhood is therefore especially hypothesized for elevated scores on general personality traits resulting from Step 1, because the DIPSI is particularly constructed to represent extremes of these adaptive-range traits at the most comprehensive and differentiated level. Accordingly, Step 2 serves to further explore abnormal trait variation and is not to be considered necessary for children scoring in the average range of general personality functioning. The third and fourth steps serve to further explore the failures that are experienced (Step 3) in a number of specific contexts that are pertinent in childhood age and the associated stress for both the child and his or her environment, respectively (Step 4). These contexts include family, school, and peer-group functioning and should all be incorporated in the assessment from a multiple-informant perspective (including child, parent, and teacher ratings of the child’s daily functioning; Tackett, 2010).

From a broad perspective, this general and maladaptive trait description may be mapped onto Axis I–related conditions, thus generating a more inclusive picture of a child’s mental health condition. This integrative trait-psychopathology perspective may provide insight in underlying trait components that are involved in specific Axis I disorders within the universal structure of the Five-Factor Model and represents what is most likely a promising way to explore the developmental processes that give rise to the adult condition of personality disorder.

REFERENCES


