



## The CPAP-Q: A Q-Sort Assessment Procedure for assessing traits and emerging personality patterns in childhood

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### ABSTRACT

**Introduction:** Different from psychopathological assessment, personality assessment considers an individual's entire range of functioning. The evaluation of personality during childhood is more complex than assessment in other life phases, but crucial for understanding the risk and protective factors for personality pathology. This paper has two main goals. The first goal is to describe the CPAP-Q, including its development and features. The CPAP-Q is a 200-item clinician-report tool that can be used by therapists of any orientation. The second goal is to provide additional preliminary data on the validity of the CPAP-Q.

**Method:** A sample of 257 clinicians completed the CPAP-Q to assess the personality features of 257 children (aged 4–11 years) who had been in their care for 2–12 months. Clinicians also completed a clinical questionnaire to provide information on themselves, their child patients, and their patients' families; and the Child Behavior Checklist (CBCL) to evaluate patients' behavioral problems and social competencies.

**Results:** The CPAP-Q seems to represent a useful assessment tool with good concurrent validity. Correlations between the CPAP-Q and the CBCL revealed strong convergent and divergent validity. Furthermore, the associations between personality prototypes and syndromic scales concurred with the clinical literature.

**Conclusion:** The CPAP-Q is a new tool for assessing child personality, from a clinical perspective. It is effective at identifying personality styles, even during childhood.

### 1. Introduction

The idea of personality assessment often evokes thoughts of personality disorders (PD). However, different from psychopathological assessment, personality assessment concerns individuals' entire range of functioning. Personality is determined by a complex pattern of *relatively stable* psychological traits that describe ways of thinking, feeling, behaving, and relating to others. Such characteristics—which influence individuals' adaptation and lifestyle—are, in turn, the result of temperamental, developmental, social, and cultural factors (Lingiardi & Gazzillo, 2014). Problematically, there is not yet wide consensus on the meaning of *relatively stable*. Research has shown that personality is fluid and dynamic, and capable of changing at any age (Esterberg et al., 2011). Furthermore, while temperament and traits remain relatively stable over time, both can become more or less adaptive, depending on life circumstances.

Some authors have argued that personality and its disorders cannot be investigated during development, because personality is constantly evolving and an early diagnosis may lead to stigmatization (e.g.,

Cicchetti & Crick, 2009; Shapiro, 1990). For these reasons, the study of personality has historically focused on adults and the reconstruction of an adult patient's childhood in psychotherapy. However, the clinical work of authors such as Kernberg et al. (2000) and Bleiberg (2001) has shown that PDs exist—and are treatable—even in childhood. Additionally, empirical research has shown that personality and PDs can be investigated during development (Bernstein et al., 1993; De Clercq et al., 2009; De Clercq & De Fruyt, 2012; Edmonds et al., 2013; Fortunato et al., 2021, 2022a,b; Golombek et al., 1986; Shiner, 2009; Tackett, 2010). For these reasons, personality researchers have recently begun to explore the importance of childhood personality assessment for preventive intervention (Caspi et al., 2005; Edmonds et al., 2013; McAdams & Olson, 2010; Tackett et al., 2012).

The investigation of personality during development is more complex than assessment in other life phases. This is due to the intricate interweaving between the different acquisitions and tasks specific to each developmental phase and the specific features of childhood clinical syndromes, which makes the diagnostic process fluid and dynamic. Moreover, the presence of some personality traits in childhood is not

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necessarily predictive of later personality pathologies. However, if important risk factors are present, children may struggle to respond adaptively to the demands of certain developmental stages, and experience greater vulnerability to psychopathology. Additionally, the presence of certain traits may meet the diagnostic criteria for a PD. Therefore, the evaluation of childhood personality is important to: (a) identify risk and protective factors and the developmental trajectories of personality pathology, (b) obtain a more thorough understanding of children's mental functioning, and (c) better understand childhood clinical pathologies and childhood personality styles.

The *Psychodynamic diagnostic manual—Second edition* (PDM-2; [Linardi & McWilliams, 2017](#)) provides a framework for the personality evaluation of patients aged 4 years and older. It considers personality and its pathologies as dynamic, and distinguishes between normal developmental and pathological patterns. Furthermore, in addition to being the only diagnostic framework for children aged 4–11 years, the PDM-2 is also the only framework that considers personality during development.

The PDM-2 employs a multidimensional approach drawing on three axes of functioning: mental functioning, personality, and symptomatic patterns. The mental functioning axis (MC Axis) considers cognitive and affective processes, identity and relationships, defense and coping, and self-awareness and self-direction. This is the first level of evaluation, on which the assessment of emerging personality patterns and difficulties (PC Axis) is based. The PC Axis evaluates personality organization, taking into account identity, object relations, defensive levels, and reality testing. Moreover, it considers epigenetics, temperament, neuropsychology, attachment style, defensive style, and sociocultural influences as factors that affect the development of personality. Of note, from a clinical perspective, child personality can only be evaluated after crucial aspects of mental functioning are considered.

The PDM-2 limits the evaluation of children's personality to personality organization, on the basis of a lack of systematic and extensive research on personality patterns in children, and in consideration of the debate over whether it is possible to classify emerging personality patterns in childhood. Accordingly, the framework describes children's personality organization on a continuum from relatively healthy to more or less compromised (i.e., neurotic, borderline, psychotic). With the introduction of childhood personality organization ([Kernberg et al., 2000](#)), the assessment of personality came to be based on the evaluation of mental functioning and behavioral patterns. Indeed, persistent personality traits such as aggression, inflexible coping strategies, and insecure attachment can significantly impact the development of PDs, by affecting the emergence of a sense of unity, a sense of self, affect modulation, styles of thought, connection with the outside world, empathy, and impulsiveness. The final PDM-2 axis, the SC Axis, describes the subjective experience of symptomatic patterns. This is the final dimension of the diagnosis, as symptoms are better understood in the context of a profile of mental functioning and an overall personality configuration.

A recent review ([Fortunato & Speranza, 2018](#)) of research over the past 20 years highlighted a wealth of studies regarding personality features, and a scarcity of systematic and longitudinal studies on childhood personality. Importantly, it also revealed a lack of childhood-tailored tools to evaluate childhood personality from a developmental perspective. There are various challenges associated with childhood personality evaluation tools. For example, while interviews tend to be accurate and widely used in the general personality domain, they may not be effective with children, as children may struggle to understand all questions. Projective tests may also be used to detect the presence and severity of PDs and to evaluate constructs such as reality testing, thought disturbances, cognitive functioning, affection regulation, and representations. An example of a projective test for children is the Pictorial Personality Traits Questionnaire for Children (PPTQ-C; [Maćkiewicz & Ciecuch, 2016](#)), which represents personality traits as images. The PPTQ-C is considered a valid tool for evaluating personality traits,

especially in children aged 7–10 years. However, the problem with projective tests, in general, is that they are not capable of supporting a diagnosis.

With regard to self-report measures, an example of a specific tool for childhood that provides a diagnostic description is the Coolidge Personality and Neuropsychological Inventory for Children (CPNI; [Coolidge et al., 2002](#)). However, one of the limitations of this questionnaire is that it is compiled by parents or teachers. Parents may underestimate or fail to indicate difficulties faced by their children; additionally, children are not always able to supply self-reports.

To overcome these problems, scholars have recently introduced several clinician-report tools for childhood personality assessment. For example, the Psychodiagnostic Chart–Child (PDC–C; [Malberg et al., 2017](#)), based on the PDM-2, measures children's mental functioning, emerging personality patterns, and subjective experiences of symptoms. It was designed to guide clinicians in the formulation of psychodynamic diagnoses, and it was recently validated in an Italian sample ([Fortunato et al., 2022a](#)), demonstrating good psychometric characteristics. The CPNI was also recently applied to an Italian sample as a clinician-report measure, and good psychometric characteristics were confirmed ([Fortunato et al., 2022b](#)).

Based on these considerations, we developed the Childhood Personality Assessment Procedure Q-Sort (CPAP-Q; [Fortunato et al., 2021](#)) to evaluate personality from a developmental perspective.

Consistent with the clinical and empirical literature, the present paper has two main goals: (1) to describe the CPAP-Q, its development, and its features; and (2) to provide additional preliminary data to verify the validity of the CPAP-Q and support its use as a childhood personality assessment tool with good concurrent (convergent and discriminant) validity.

We hypothesized that a healthy personality would negatively correlate with syndromic problems; a borderline personality would co-occur with externalizing problems; inhibited, obsessive, and dysphoric personalities would co-occur with internalizing problems; and a schizoid personality would compromise personality most significantly.

## 2. The Childhood Personality Assessment Procedure Q-Sort (CPAP-Q)

In line with the literature, we developed a clinician-report Q-sort tool inspired by the Shedler–Westen Assessment Procedure (SWAP-200), which focuses on the evaluation of personality in adult and adolescent samples ([Westen et al., 2003](#); [Westen et al., 2014](#); [Westen & Shedler, 1999a,b](#)). We called the tool the Childhood Personality Assessment Procedure Q-Sort (CPAP-Q), as it aims at assessing emerging personality patterns in children aged 4–11 years.

The Q-sort methodology requires raters to assign a certain number of items to each category, in accordance with a fixed distribution ([Block, 1978](#)) of the phenomenon that is being observed and evaluated. As use of the Q-sort methodology by clinicians seems to be the most useful and reliable way to investigate personality in adolescents and adults, we believed that the same would hold true for personality assessment in childhood. Notably, the Q-sort methodology may be utilized to assess personality, evaluate the presence of PDs, and identify specific personality taxonomies. Recently, the methodology was also used to evaluate defense mechanisms ([Di Giuseppe et al., 2021](#)). This is reasonable, because children's ability to express themselves directly is limited, due to normal cognitive and psychological developmental processes. Evidence shows that the Q-sort methodology is appropriate for evaluating complex constructs such as defense mechanisms and personality at an early age.

Personality assessment in childhood must evaluate all aspects of a child's functioning. Importantly, the presence of some traits may suggest the development of a structured pathology later in life ([Caspi et al., 2003](#)). Specifically, the literature documents developmental trajectories, precursors, and pathways that may lead to PDs (e.g., [Fortunato &](#)

Speranza, 2018). However, personality assessment during childhood must always be performed with caution. It must not aim at “labeling” children, as doing so could risk stigmatization. Furthermore, any personality assessment must accompany a wider evaluation of children's developmental issues, biological vulnerabilities, and environmental risk factors. Performed well, childhood personality assessment can inform longitudinal studies and theoretical approaches regarding personality development and psychopathology that may shed new light on etiological factors, preventive measures, and interventions.

### 2.1. Development of the CPAP-Q

The development of the CPAP-Q proceeded through three phases:

- phase 1: a literature review to inform the theoretical model for the tool;
- phase 2: validity testing of the theoretical model and individual items through both theoretical and statistical consensus; and
- phase 3: validation of the tool.

In more detail, the first phase involved two steps. Step one was a review of the theoretical and clinical literature (for a complete description, refer to Fortunato & Speranza, 2018). From this, we derived four personality organizations and eight emerging personality patterns. The first personality organization was the healthy personality. The second was the neurotic personality, which included inhibited/withdrawn, pathological obsessive, and dysphoric emerging personality patterns. The third was the borderline personality, which included dysregulated and pathological narcissistic emerging personality patterns. The fourth was the psychotic personality, which comprised suspicious and schizoid emerging personality patterns. These personality patterns were used as the basis for the theoretical model of the CPAP-Q, much as the DSM-IV-TR (American Psychiatric Association, 2000) provided the basis for the SWAP-200 (Westen & Shedler, 1999a,b).

The second step consisted of deriving CPAP-Q items from the descriptions of the personality patterns. Focusing on the four domains of mental functioning defined by the PDM-2 (i.e., cognitive and affective processes, identity and relationships, defense and coping, self-awareness and self-direction; Lingiardi & McWilliams, 2017), we delineated the characteristics of each pattern and developed 200 items describing specific configurations of affect, cognition, motivation, and behavior in childhood.

In the second phase, we subjected the instrument to a preliminary validation test through theoretical and statistical consensus. For the theoretical consensus, 30 experienced clinicians evaluated each pattern and item on a five-point Likert scale. All patterns were rated 4 or 5, and most items were rated similarly, with only a few obtaining a rating of 3. The statistical consensus involved 42 clinicians who assessed 42 children ( $M = 7.92$ ; 64 % male). Mean scores and standard deviations (SDs) were calculated for each item. Only 16 of the 200 items had an SD lower than 1.50 and a small mean. Subsequently, we used Cronbach's alphas to evaluate the internal coherence of each pattern. All patterns showed good or excellent internal coherence (healthy personality  $\alpha = 0.88$ , inhibited/withdrawn  $\alpha = 0.91$ , pathological obsessive  $\alpha = 0.92$ , dysphoric  $\alpha = 0.90$ , dysregulated  $\alpha = 0.94$ , pathological narcissistic  $\alpha = 0.94$ , suspicious  $\alpha = 0.84$ , schizoid  $\alpha = 0.92$ ).

The prototypes and items obtained excellent results in the theoretical and statistical consensus. In line with the results, we modified problematic items to obtain the final version of the instrument. It is important to highlight that the prototypes were not used as PD scales (as in the SWAP-200; Westen & Shedler, 1999a; Westen et al., 2003; Westen et al., 2014), but as basic components, as there is no unanimous agreement on the possibility of diagnosing PDs during development. Thus, the prototypes remain a theoretical proposal (Fortunato & Speranza, 2018).

The third phase, regarding the validation of the CPAP-Q, is still in progress. However, preliminary data were recently published (Fortunato

et al., 2021), and others will be described in this paper.

### 2.2. Composition of the CPAP-Q

All 200 items of the CPAP-Q are expressed in simple, a theoretical language without jargon, so the instrument can be used by therapists of any orientation. Moreover, clinicians are prompted to express their clinical judgments and observations of their patient's personality configuration in a similar style. The resulting clinical descriptions can be quantified and compared with psychological descriptions provided by other mental health professionals, or analyzed statistically. The items describe all eight prototypes of emerging personality patterns and other clinical conditions, including sleep, feeding, and neurodevelopmental disorders.

The CPAP-Q combines both top-down (theoretical) and bottom-up (research) perspectives and is grounded in empirical and clinical evidence (Fortunato et al., 2021; Fortunato & Speranza, 2018).

### 2.3. Derivation of the empirical classification of children's emerging personality patterns: Q-factors

A particular form of factor analysis known as Q-factor analysis (of Q-analysis) was applied to CPAP-Q data provided by clinicians, in order to empirically identify naturally occurring diagnostic groupings. Q-analysis is a statistical technique that identifies groups of people characterized by a common syndrome—or configuration of symptoms—that distinguishes them from other groups. In the present research, we used it to identify personality configurations considering broadband psychological domains, including affective regulation, defense mechanisms, interpersonal functioning, cognitive capacities, identity aspects, and resources and strengths (see Fortunato et al., 2021), drawing on all 200 items in the CPAP-Q.

Table 1 describes the seven Q-factors: psychological health, borderline/impulsive, borderline/dysregulated, schizoid, inhibited/self-critical, obsessive, and dysphoric/dependent. These consider a broad range of psychological dimensions, including affect and impulse regulation, interpersonal functioning, cognitive capacities, representations of the self and others, and resources.

The obsessive and schizoid Q-factors resemble personality pathologies that have been shown to emerge in adolescent and adult samples (Westen et al., 2003; Westen et al., 2014; Westen & Chang, 2000). It is no coincidence that these personality traits show strong homotypic continuity (Fortunato & Speranza, 2018). Psychological health, which describes positive and clinically relevant resources, also shows continuity, and represents a useful index of global personality functioning in childhood. The other factors describe important constellations of personality traits and features that are often observed in children in clinical settings. Tables 2–8 report the main items associated with each Q-factor.

### 2.4. How it works

The CPAP-Q comprises 200 statements or items that clinicians or raters sort into eight categories. These categories range from those that are irrelevant or not descriptive of the patient (assigned a value of 0) to those that are highly descriptive of the patient (assigned a value of 7). Intermediate categories include statements that may apply, to varying degrees.

As previously stated, the Q-sort method normally requires a fixed distribution. In line with the SWAP-200 (Westen & Shedler, 1999a; Westen & Chang, 2000; Westen et al., 2003; Westen et al., 2014), the CPAP-Q requires clinicians to follow a semi-constrained procedure that establishes a fixed distribution for the most descriptive categories, including categories 5, 6, and 7 (Westen et al., 2003). Specifically, clinicians are asked to place approximately 30 items in each of the most descriptive categories: 8 items in category 7, 10 items in category 6, and 12 items in category 5. By establishing this distribution, we hoped to

**Table 1**  
Description of the CPAP-Q<sup>a</sup> Q-factors.

Q-factor	Description
Psychological health	They are dynamic and expansive, conscientious, responsible, creative, and empathetic, and have moral and ethical standards. They tend to express affects appropriate to the situation, in both quality and intensity. They tend to use age-appropriate language; to appreciate and respond to humor; and to use talents, skills, and energy in an effective and productive way. They have relationships based on intimacy and closeness, and they let others console them when faced with negative situations. They tend to enjoy challenges and to be able to cope with stress or stressful situations and conflicts with appropriate feelings.
Inhibited/self-critical	They are passive, not very assertive, anxious, depressed, dejected, inhibited, shy, and withdrawn. They tend to feel ashamed or embarrassed; to think of themselves as having little value; and to worry about being criticized, disapproved of, rejected, or abandoned. They tend to find little or no pleasure, satisfaction, or enjoyment in everyday activities and to have difficulty feeling strong pleasurable emotions. They tend to have poor social skills and to be very sensitive to criticism at school.
Obsessive	They tend to be anxious, worried, hypervigilant, and controlling. They are very polite, conscientious, and responsible because they are worried about being criticized and disapproved of. They are self-critical and inhibited but competitive and afraid of getting angry. They tend to express aggression in passive and indirect ways. They tend to swing from being very dependent and needy to being very independent and avoidant. They tend to waste a lot of time doing things the way they think they should be done; to stick rigidly to daily routines; and to be excessively worried about rules, practices, order, organization, tidiness, and cleanliness.
Dysphoric/dependent	They tend to be needy or over-dependent; to be afraid of everything; to be excessively anxious; and to feel inadequate, inferior, or incompetent. They have difficulties with reading, writing, and arithmetic, and generally learning anything. They are easily frustrated and fairly uncoordinated, clumsy, and awkward. They tend to display a worsening of their usual functioning, to the extent that previously acquired skills are lost because they tend to have panic attacks accompanied by intense physical reactions. They tend to develop somatic symptoms in response to stress or conflict and to use their own medical or psychological issues as an excuse to miss school or fail to meet responsibilities. They tend to feel powerless, weak, or at the mercy of forces beyond their control.
Borderline/dysregulated	They tend to spiral out of control, and subsequently experience extreme anxiety, unhappiness, anger, or excitement. They tend to be subject to sudden mood swings or emotional shifts and to express emotions in an extravagant, dramatic fashion. They tend to feel angry and conflictual, and to be easily frustrated and impulsive. They tend to arouse extreme reactions and strong feelings in others. They tend to establish relationships characterized by fear of being rejected or abandoned, intrusiveness and controlling behaviors, hostility, detachment, role reversal, and manipulation. They have experienced trauma, neglect, various kinds of abuse, or other major stressors.
Borderline/impulsive	They are impulsive and tend not to consider the consequences of their behavior and actions. They tend to be angry, aggressive, conflictual, and difficult; and to get into power struggles with adults. They tend to be easily frustrated and easily distracted. They tend to be inflexible, stubborn, sulky, irritable, and disobedient. They tend to resort to violence or intimidation to control someone deemed important, to have difficulty maintaining friendships, and to blame others for their own failings or flaws. They tend to lie or cheat, and to be unreliable and irresponsible.
Schizoid	They tend to have a very limited range of affect; to be shy, timid, and withdrawn; and to have neither close relationships nor friends. They tend to lack empathy; to have poor social skills; and to be ignored, neglected, or avoided by their peers. They tend to resort to magical thinking, fantasy, and strange ideas; to behave in unusual ways; to think in concrete terms; and to describe experiences in general terms. Their speech

**Table 1 (continued)**

Q-factor	Description
	tends to be tortuous, vague, disconnected, and fairly inarticulate. They learned to walk and/or talk later than other children and are fairly uncoordinated, clumsy, and awkward. They have problems with concentration and are easily frustrated. They tend to play in a way that is not age-appropriate and to have set rituals linked to urinating or defecating, going to bed, or eating.

<sup>a</sup> CPAP-Q = Childhood Personality Assessment Q-Sort (Fortunato et al., 2021).

**Table 2**  
Example CPAP-Q<sup>a</sup> items associated with the psychological health prototype.

Items
Tends to use age-appropriate language
Tends to finish what they have begun
Tends to appreciate and respond to humor
Tends to use talents, skills, and energy in an effective and productive way
Tends to be conscientious and responsible
Tends to be creative
Tends to be liked by others
Tends to have relationships based on intimacy and closeness; has best friends
Tends to be empathetic, sensitive, and responsive to the needs and feelings of others
Tends to feel at ease in social situations

<sup>a</sup> CPAP-Q = Childhood Personality Assessment Q-Sort (Fortunato et al., 2021).

**Table 3**  
Example CPAP-Q<sup>a</sup> items associated with the borderline/impulsive prototype.

Items
Tends to be conflictual, difficult, or ready to disagree
Tends not to consider the consequences of their behavior and actions
Tends to get into power struggles with adults
Tends to be impulsive or to act without thinking
Tends to be inflexible, stubborn, sulky, or irritable
Tends to be disobedient at home and at school
Tends to feel angry and conflictual (both overtly and covertly)
Tends to resort to violence or intimidation to control someone deemed important (e.g., siblings, parents)
Tends to get easily frustrated (e.g., gives up easily)
Tends to shout a lot

<sup>a</sup> CPAP-Q = Childhood Personality Assessment Q-Sort (Fortunato et al., 2021).

**Table 4**  
Example CPAP-Q<sup>a</sup> items associated with the borderline/dysregulated prototype.

Items
Tends to spiral out of control, and subsequently experience extreme anxiety, unhappiness, anger, excitement, etc.
Tends to establish various forms of reciprocal control relationships with adults (e.g., victim-aggressor, victim-rescuer, or some other caricature-like role)
Tends to be subject to sudden mood swings or emotional shifts
Tends to express emotions in an extravagant dramatic way
Tends to be afraid of being rejected or abandoned by people who are emotionally important to them
Tends to express anger in a way that is disproportionate to the situation
Tends to feel angry and conflictual (both overtly and covertly)
Tends to get easily frustrated (e.g., gives up easily)
Tends to be impulsive or to act without thinking
Tends to provoke intrusive and controlling or hostile and detached parenting behaviors

<sup>a</sup> CPAP-Q = Childhood Personality Assessment Q-Sort (Fortunato et al., 2021).

**Table 5**  
Example CPAP-Q<sup>a</sup> items associated with the schizoid prototype.

Items
Tends to have a very limited range of affect
Tends to have neither close relationships nor friends
Tends to resort to magical thinking, fantasy, and strange ideas (inappropriate for their age)
Tends to behave in strange ways
Tends to be shy, timid, and withdrawn, especially in social situations
Tends to have poor social skills; in social situations, tends to behave awkwardly and inappropriately
Tends to display a worsening of their usual functioning, to the extent that previously acquired skills are lost
Speech tends to be tortuous, vague, disconnected, full of digressions, etc.
Tends to think in concrete terms and to interpret things in an excessively literal way; not very skilled at appreciating metaphors, analogies, or shades of meaning (for their age)
Tends to lose interest or be easily distracted; has problems with concentration

<sup>a</sup> CPAP-Q = Childhood Personality Assessment Q-Sort (Fortunato et al., 2021).

**Table 6**  
Example CPAP-Q<sup>a</sup> items associated with the inhibited/self-critical prototype.

Items
Tends to feel ashamed or embarrassed
Tends to be passive and not very assertive
Tends to be anxious
Tends to be inhibited or subject to coercion; has trouble recognizing or expressing their own desires and impulses
Tends to think of oneself as having little value
Tends to worry about being criticized, disapproved of, or rejected in social situations
Tends to be afraid of being rejected or abandoned by people who are emotionally important to them
Tends to be shy, timid, and withdrawn, especially in social situations
Tends to be indecisive or very uncertain when faced with choices
Tends to feel bored, unhappy, depressed, and dejected

<sup>a</sup> CPAP-Q = Childhood Personality Assessment Q-Sort (Fortunato et al., 2021).

**Table 7**  
Example CPAP-Q<sup>a</sup> items associated with the obsessive prototype.

Items
Tends to be anxious
Tends to be very polite and respecting of social norms and conventions (to an excessive degree)
Tends to be worried, to have false expectations, or to be dissatisfied with school results
Tends to be hypervigilant and controlling
Tends to worry about being criticized, disapproved of, or rejected in social situations
Tends to waste a lot of time doing things the way they think they should be done; a perfectionist at the expense of flexibility, open-mindedness, and efficiency
Tends to be competitive (both overtly and covertly)
Tends to be very sensitive to criticism at school
Tends to be afraid of getting angry; does not want to appear aggressive (e.g., freezes in moments of intense emotion)
Tends to be worry excessively about tidiness and cleanliness (e.g., after falling down, washes themselves straightaway)

<sup>a</sup> CPAP-Q = Childhood Personality Assessment Q-Sort (Fortunato et al., 2021).

verify whether the rigid constraints of a fixed distribution (as used for adults and adolescents in the SWAP-200) are appropriate for use with children. Moreover, we hoped that the approach would maximize participants' response rate, given that the standard Q-sort procedure is relatively time-consuming and articulated.

Once the clinician completes the evaluation, the most descriptive items are used to determine the similarity of the child's profile to the eight Q-factors. Based on the degree of similarity, the child may be determined as presenting a trait (when similarity is partial), or diagnosed with an emergent personality pattern (when similarity is high). As

**Table 8**  
Example CPAP-Q<sup>a</sup> items associated with the dysphoric/dependent prototype.

Items
Tends to be anxious
Tends to be very sensitive to criticism at school
Tends to be needy or over-dependent (e.g., demanding excessive reassurance or approval, being over-attached to friends and parents)
Tends to be afraid of everything, consistent with the anxieties and fears of their parents
Tends to have excessive social anxiety that does not decrease with familiarity
Tends to have difficulties with reading, writing, and arithmetic, or generally learning anything
Tends to have problems with food (e.g., eating too little or too much, selective eating)
Tends to display a worsening of their usual functioning, to the extent that previously acquired skills are lost
Tends to have panic attacks lasting from a few minutes to several hours, accompanied by intense physical reactions (e.g., elevated heart rate, shortness of breath, a choking sensation, nausea, dizziness)
Tends to use their own medical or psychological issues as an excuse to miss school or fail to meet responsibilities (both overtly and covertly)

<sup>a</sup> CPAP-Q = Childhood Personality Assessment Q-Sort (Fortunato et al., 2021).

definitive validation data—and therefore scores for calculating similarity—are not yet available, use of the instrument is currently limited to the clinical context.

Patients and their families need not be involved in the evaluation. The tool is applicable as soon as clinicians feel they know a child patient sufficiently well.

### 3. Methods and materials

#### 3.1. Procedure

An Italian sample of experienced clinicians was recruited from the membership rosters of national associations of developmental psychotherapy and centers specialized in the treatment of children, using a practice network approach. Clinicians had at least 3 years of post-psychotherapy licensure experience and treated children for at least 10 h per week. They agreed to participate in a study on childhood psychological assessment and collected data about children in their care without the patients' direct involvement. No sensitive data on the children and their families were collected. The only data used in the study were provided by the clinicians. All clinicians provided informed written consent to participate in the research, and received no compensation.

To ensure that the entire sample of child patients displayed a broad range of personality patterns, each clinician was asked to describe a single child patient they were treating or evaluating who displayed enduring and maladaptive patterns of thought, feeling, motivation, or behavior (i.e., maladaptive personality traits) that caused distress or dysfunction. Specifically, clinicians were asked to select one patient in their caseload according to the following inclusion/exclusion criteria: (a) aged 4–11 years; (b) no psychotic psychiatric disorder based on the DSM-5 (American Psychiatric Association, 2013) classification system; (c) no drug therapy for psychotic symptoms; (d) no traumatic brain injury, neurological disorder, and/or clinically significant cognitive impairment; (e) no autistic spectrum disorder; and (f) under evaluation or treatment for 2–12 months. To minimize patient selection bias, clinicians were also asked to provide data on the last patient they saw in the previous week who met the study criteria. Initially, clinicians were sent a link to access the clinical questionnaire, the CPAP-Q, and the Child Behavior Checklist (CBCL). All instruments were accessible online (see "Measures" section). Once clinicians completed these measures, they were sent a second link to access other tools (not analyzed in the present study). The overall response rate was approximately 15 %.

Study approval was obtained from the Ethical Committee of the Department of Dynamic and Clinical Psychology, and Health Studies, Faculty of Medicine and Psychology, Sapienza University of Rome, Italy

(n. 25/2017).

### 3.2. Measures

In addition to the CPAP-Q described above, several questionnaires and assessment procedures were included in the battery of instruments employed in this research project on children's personality. The most relevant measures are described below.

#### 3.2.1. Clinical questionnaire

We constructed a questionnaire to collect general information about the clinicians, their patients, and their therapies. Clinicians provided demographic data about themselves, including their age, gender, and profession (i.e., psychiatrist or psychologist), years of experience, and theoretical orientation. They also provided information on their patients' demographics, diagnoses, and developmental and family histories. Specifically, they reported on patients' traumatic experiences (e.g., neglect and mistreatment, parental abandonment, early separation) and the therapy (e.g., treatment length).

#### 3.2.2. Child Behavior Checklist–Clinician Version

The Child Behavior Checklist–Clinician Version (CBCL, 4–18; Achenbach, 1991) is a questionnaire that assesses behavioral and emotional difficulties and social competencies in children and adolescents. It explores a broad spectrum of developmental characteristics, evaluating behavior through two scales assessing internalizing and externalizing symptomatology, respectively. Its 128 items are grouped into 11 problem scales and 4 competence scales. In the present study, each clinician completed a clinician-report version of the parent-report CBCL. Similar to the parent- and teacher-report versions of the instrument, the clinician-report version has been shown to demonstrate high levels of validity and reliability (Achenbach, 1991; Achenbach & Rescorla, 2000). In an Italian validation study (Frigerio et al., 2004), the scales showed satisfactory internal consistency, with high alpha coefficients evidencing good applicability of the instrument in Italy.

#### 3.3. Clinician characteristics

The sample comprised 257 clinicians, of whom 224 (87.2 %) were female and 33 (12.8 %) were male. Clinicians' principal theoretical and clinical approaches included psychodynamic/psychoanalytic ( $n = 148$ ; 57.6 %), cognitive/behavioral ( $n = 53$ ; 20.6 %), systemic/relational ( $n = 12$ ; 4.7 %), integrated ( $n = 33$ ; 12.8 %), and other ( $n = 11$ ; 4.3 %). Clinicians' specializations were psychology ( $n = 40$ ; 15.6 %), psychotherapy ( $n = 207$ ; 80.6 %), and psychiatry ( $n = 10$ ; 3.9 %). Average length of clinical experience was 10.67 years ( $SD = 7.8$ ; range = 3–35). Average length of treatment was 7.11 months ( $SD = 3.74$ ; range = 2–12). Treatment took place in private settings ( $n = 147$ ; 57.2 %), public clinics and institutions ( $n = 55$ ; 21.4 %), and other settings ( $n = 55$ ; 21.4 %).

#### 3.4. Child characteristics

The sample of children included 257 patients, of whom 79 (30.7 %) were female and 178 (69.3 %) were male. Children's average age was 8.7 years ( $SD = 1.7$ ; range 4–11). Among them, 167 (65 %) had a DSM–5 (American Psychiatric Association, 2013) psychiatric diagnosis, including a specific learning disorder ( $n = 40$ , 15.6 %), an anxiety disorder ( $n = 39$ , 15.2 %), attention deficit and hyperactivity disorder ( $n = 34$ , 13.2 %), a disruptive, impulse control, and conduct disorder ( $n = 30$ , 11.7 %), an emotional disorder ( $n = 29$ , 11.3 %), a communication disorder ( $n = 18$ , 7 %), a relational disorder ( $n = 12$ , 4.7 %), a depressive disorder ( $n = 11$ , 4.3 %), a motor disorder ( $n = 7$ , 2.7 %), obsessive-compulsive disorder ( $n = 6$ , 2.3 %), post-traumatic stress disorder ( $n = 6$ , 2.3 %), or an evacuation disorder ( $n = 6$ , 2.3 %). The remaining 7.4 % were diagnosed with a sleep-wake disorder, bipolar disorder, a

feeding disorder, an attachment disorder, or a somatic symptom disorder.

#### 3.5. Family characteristics

The 257 mothers had an average age of 41.5 years ( $SD = 5.2$ ; range 26–58). Fathers' average age was 44 years ( $SD = 6.8$ ; range 29–70). Of the mother-father couples, 199 (77.4 %) were married/cohabiting, while 58 (22.6 %) were separated/divorced. Among all parents, 24 (9.3 %) mothers and 18 (7 %) fathers had a DSM–5 (American Psychiatric Association, 2013) psychiatric diagnosis. Among all children, 177 (68.9 %) had at least one sibling, and among all siblings, 22 (8.6 %) had a DSM–5 (American Psychiatric Association, 2013) psychiatric diagnosis.

## 4. Results

Cronbach's alpha was calculated to verify the internal consistency of all CPAP-Q Q-factors. As illustrated in Table 9, all Q-factors had an alpha greater than 0.80.

To understand the degree to which each item was useful in describing the children, we asked clinicians to rate the CPAP-Q items on a four-point Likert scale ranging from 1 (*I was able to express most of the things I consider important about my patient*) to 4 (*I was not able to express the things I consider important about my patient*). Table 10 shows that 94.1 % of clinicians rated the CPAQ-Q items as 1 or 2. This means that clinicians considered the items useful or very useful in describing their patients' personalities.

Bivariate correlations (Pearson's  $r$ , two-tailed) were calculated to examine the associations between CPAP-Q Q-factors and children's behavioral and interpersonal problems and internalizing and externalizing symptomatology (assessed using the CBCL–Clinician Version), to investigate the concurrent (criterion) validity of the CPAQ-Q.

Tables 11 and 12 show the correlations between Q-factors and CBCL scales, and the strong convergence and divergence patterns between them. Psychological health negatively correlated with all CBCL scales, especially total problems. As expected, borderline/impulsive and borderline/dysregulated prototypes had a significant positive correlation with CBCL social and attention problems and delinquent and aggressive behaviors. They were also significantly related to CBCL externalizing and total problems. The schizoid prototype correlated with CBCL withdrawal, social problems, thought problems, and attention problems. Of note, it was also strongly related to CBCL total problems. Finally, inhibited/self-critical, obsessive, and dysphoric/dependent prototypes were related to CBCL anxious/depressed, withdrawal, and social problems. All three were also related to CBCL internalizing problems.

With respect to the DSM-oriented scales, the inhibited/self-critical and dysphoric/dependent prototypes were strongly related to affective and anxiety problems. Anxiety was also related to the obsessive prototype. Finally, the borderline/impulsive and borderline/dysregulated prototypes were strongly related to attention deficit/hyperactivity problems, oppositional-provocative problems, and conduct problems.

**Table 9**  
Cronbach's alphas of the CPAP-Q<sup>a</sup> Q-factors (N = 257).

Q-factor	$\alpha$
Psychological health	0.94
Borderline/impulsive	0.96
Borderline/dysregulated	0.94
Schizoid	0.93
Inhibited/self-critical	0.89
Obsessive	0.89
Dysphoric/dependent	0.86

<sup>a</sup> CPAP-Q = Childhood Personality Assessment Q-Sort (Fortunato et al., 2021).

**Table 10**  
Evaluation of the usefulness of CPAP-Q<sup>a</sup> items (N = 257).

	Frequency	Percentage
1	125	48.6
2	117	45.5
3	15	5.8
4	0	0
Tot	257	100
Mean 1.6		

<sup>a</sup> CPAP-Q = Childhood Personality Assessment Q-Sort (Fortunato et al., 2021).

**5. Discussion**

This paper has introduced the CPAP-Q as a new tool for assessing children's personality. The CPAP-Q aims at evaluating childhood personality from both developmental and clinical perspectives. Consistent with a previous study (Fortunato et al., 2021), the data presented in this paper support the validity of the CPAP-Q as a clinically sensitive diagnostic tool. Moreover, the CPAP-Q taxonomy (i.e., the seven Q-factors described in Tables 1–8) offers an empirically grounded, psychometrically robust, and clinically meaningful model for diagnosing children's emerging personality patterns. Finally, the CPAP-Q and its Q-factors show that it is possible to evaluate personality patterns even during childhood, and that children do possess emerging personality styles. This is confirmed by the excellent internal consistency (Streiner, 2003) of all Q-factors (illustrated in Table 9), as well as clinicians' ratings of the

usefulness of each Q-factor and CPAP-Q item. Specifically, more than 90 % of clinicians rated the items as useful in describing what they consider important about their patients.

Regarding the second aim of the paper, the CPAP-Q emerged as a valid assessment tool with good concurrent validity. The correlations between children's personality profiles (Q-scores) and specific CBCL scales (Tables 11 and 12) revealed strong convergence and divergence validity. Furthermore, the associations between prototypes and syndromic scales concurred with the clinical literature and confirmed our hypotheses.

Notably, psychological health showed a significant negative correlation with almost all syndromic scales. A possible explanation for any positive or non-significant correlation was that all children were in treatment or under evaluation for some form of developmental maladjustment. Nonetheless, the high negative correlations between psychological health and social and attention problems, aggressive behavior, and externalizing and total problems are particularly meaningful, as are the correlations with ADHD, OPP, and CD. The fact that these externalizing problems and pathologies were so negatively correlated with the healthy personality prototype is not only consistent with the literature, but it also highlights the fact that these problems and pathologies are perceived by adults as highly problematic. Internalizing problems in children are significantly less reported.

The borderline/dysregulated and borderline/impulsive prototypes revealed high positive correlations with social and attention problems, aggressive and delinquent behavior, and externalizing and total problems. Again, this concurs with the literature (Bleiberg, 2001; Calkins &

**Table 11**  
Bivariate correlations between CPAP-Q<sup>a</sup> prototypes and CBCL<sup>b</sup> behavioral and emotional difficulties and social problems (N = 257).

CPAP-Q	CBCL									
	Anxious/depressed	Withdrawal	Social problems	Thought problems	Attention problems	Delinquent behavior	Aggressive behavior	Internalizing	Externalizing	Total problems
Psychological health	0	-0.29**	-0.46**	-0.21**	-0.53**	-0.34**	-0.40**	-0.14*	-0.41**	-0.46**
Borderline/impulsive	0.08	0.03	0.54**	0.23**	0.63**	0.72**	0.84**	0.08	0.86**	0.71**
Borderline/dysregulated	0.34**	0.08	0.50**	0.27**	0.39**	0.52**	0.70**	0.29	0.69**	0.67**
Schizoid	0.18**	0.38**	0.68**	0.42**	0.63**	0.42**	0.40**	0.32**	0.43	0.64**
Inhibited/self-critical	0.67**	0.59**	0.42**	0.20**	0.12	0.05	0.10	0.72**	0.09	0.43**
Obsessive	0.60**	0.35**	0.18**	0.08	-0.17**	-0.14	-0.07	0.57**	-0.10	0.18**
Dysphoric/dependent	0.61**	0.35**	0.52**	0.22**	0.28**	0.14	0.17	0.62**	0.18	0.51**

<sup>a</sup> Childhood Personality Assessment Procedure-Q Sort (Fortunato et al., 2021).

<sup>b</sup> Child Behavior Checklist – Clinician Version (Achenbach, 1991).

\*  $p \leq .05$ .

\*\*  $p \leq .01$ .

**Table 12**  
Bivariate correlations between CPAP-Q<sup>a</sup> prototypes and CBCL<sup>b</sup> DSM-oriented scales (N = 257).

CPAP-Q	CBCL					
	DSM 1	DSM 2	DSM 3	DSM 4	DSM 5	DSM 6
Psychological health	-0.26**	-0.08	0.03	-0.42**	-0.38**	-0.37**
Borderline/impulsive	0.28**	0.07	0.00	0.66**	0.78**	0.79**
Borderline/dysregulated	0.41**	0.32**	0.15*	0.42**	0.62**	0.56**
Schizoid	0.35**	0.29**	0.05	0.48**	0.34**	0.35**
Inhibited/self-critical	0.56**	0.62**	0.24**	-0.03	0.08	-0.02
Obsessive	0.31**	0.56**	0.25**	-0.23**	-0.10	-0.21**
Dysphoric/dependent	0.54**	0.63**	0.36**	0.15*	0.10	0.07

Note. DSM 1 = affective problems; DSM 2 = anxiety problems; DSM 3 = somatic problems; DSM 4 = attention deficit/hyperactivity problems (ADHD); DSM 5 = oppositional-provocative problems (OPP); DSM 6 = conduct problems (CD).

<sup>a</sup> Childhood Personality Assessment Procedure-Q Sort (Fortunato et al., 2021).

<sup>b</sup> Child Behavior Checklist – Clinician Version (Achenbach, 1991).

\*  $p \leq .05$ .

\*\*  $p \leq .01$ .

Keane, 2009; Campbell, 1995; Sharp & Tackett, 2014; Stepp et al., 2012; Wertz et al., 2018), as does the strong correlation of these prototypes with ADHD, OPP, and CD. Of note, correlations with the borderline/impulsive prototype were stronger than those with the borderline/dysregulated prototype, which was also correlated with affective and anxiety problems. The two borderline factors had common associations, but the borderline/impulsive prototype was much more problematic with respect to behavior, while the borderline/dysregulated prototype appeared to have a stronger impact on emotions.

The schizoid prototype was correlated with withdrawal, social, thought, attention, and total problems. This finding is consistent with the literature, which shows high impairment associated with this personality trait (Lenzenweger & Willett, 2009). However, it should be added that the schizoid prototype was also highly correlated with delinquent and aggressive behavior, and with ADHD. This result is partially in contrast with the (slightly weaker) correlation with internalizing, anxious, and affective problems, as well as the lack of correlation with externalizing problems. While the literature on adolescence (Westen et al., 2014) links the schizoid personality to the internalizing spectrum, the present results suggest a different relationship in childhood. A possible explanation for this may be that adults perceive schizoid children as problematic, destructive, and bizarre, even though the children are struggling with great inner turmoil. It is possible that the withdrawal associated with internalizing problems presents later, in adolescence.

The inhibited/self-critical and dysphoric/dependent prototypes were related to anxious/depressed, withdrawal, and social and internalizing problems, as well as to affective and anxiety problems. This result is also aligned with the literature (Boone et al., 1999; Eggum et al., 2009; LaFreniere, 2009; Martensdottir et al., 2003; Meyer, 2002; Rettew, 2000; Warner et al., 2004). Similarly, the obsessive prototype was significantly correlated with anxious/depressed, withdrawal, internalizing, and anxiety problems, in accordance with previous findings (Andrews et al., 1990; Parker & Stewart, 1994; Stone, 1993). It should be noted that the inhibited/self-critical prototype had the most significant correlation with withdrawal, consistent with its description. Also, the inhibited/self-critical and dysphoric/dependent prototypes were much more significantly correlated with total problems than the obsessive prototype. This may be because adults perceive obsessive children as more adapted, due to their perfectionism. The obsessive and dysphoric/dependent prototypes were also slightly correlated with inattention and behavioral problems, perhaps due to difficulties concentrating and obsessive thoughts, resulting in frustration.

## 6. Conclusions

The data presented in this paper are preliminary. A much larger sample is needed to validate the CPAP-Q and to obtain a definitive classification of child personality types (Q-factors). However, the preliminary results show that the CPAP-Q possesses good construct and criterion validity, and that the Q-factors have good internal coherence. Overall, they suggest that the CPAP-Q represents a useful tool for evaluating children's functioning.

Albeit preliminary, the classification of personality traits provided in this paper contributes significantly to the debate over childhood personality, the assessment of childhood personality, and whether PDs and maladaptive traits also exist in childhood. Of course, it is important to note that assessment and diagnosis are dynamic processes, at any age. During childhood, it is particularly important for clinicians to highlight the continuity patterns that characterize each disorder and to identify risk and protective factors. By doing so, they may trace evolutionary, non-deterministic trajectories and potentially intervene at an early stage. In the future, longitudinal studies should aim at gaining further insight into the role of risk and protective factors. Diagnostic indicators may also allow for new reflections on diagnoses. Researchers often discuss different ways of considering clinical disorders and their

symptomatic descriptions, including ADHD and autism. Further research into children's personality functioning might shed new light on these and other diagnoses, allowing us to, for example, better understand the meaning of a symptom that is shared by children with different personalities.

The present research was grounded in the PDM-2 (Lingiardi & McWilliams, 2017) framework and complex evaluation process. Specifically, it adhered to the PC Axis, which limits the evaluation of childhood personality patterns to personality organization. Future editions of the PDM should incorporate personality styles, to support a more thorough evaluation of personality in childhood and beyond.

It seems that, even in children, the Q-sort procedure is the most suitable for evaluating personality, since it encourages clinicians to think about a wide range of child characteristics. This procedure tends to be much more tiring than self-report; however, it represents a useful framework for evaluation and treatment. Indeed, the tool stimulates raters to reflect on all of the possible features of patients' functioning, including aspects that have not yet been observed, thus providing new food for thought and helping clinicians and researchers develop a clear and global picture of their patients. This highlights another important point: the CPAP-Q may be useful for not only the initial assessment of a child, but also the evaluation of the therapeutic process and outcome.

A key strength of the CPAP-Q over other widely used tools (e.g., self-report questionnaires) is the use of clinicians as first raters. The tool enables clinicians to conduct the assessment without the involvement of their patient or their patient's family, thereby preserving both the therapeutic relationship and the therapeutic setting. However, we believe that multi-informant and multi-tool assessments are always desirable; thus, additional tools might be useful to evaluate different aspects of children's functioning more thoroughly.

## 7. Limitations

Some limitations of the research design should be acknowledged. First, the sample was exclusively comprised of children under evaluation or in treatment. This was necessary, because the CPAP-Q requires a trained clinician rater; however, not all children have a clinical diagnosis. Second, there was an exclusive use of clinician-report instruments to obtain data on the children. Future research should include multiple observers and tools to confirm the diagnostic and clinical utility and validity of the CPAP-Q.

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## Institutional Review Board statement

The present study was conducted according to the guidelines of the Declaration of Helsinki and approved by the ethical committee of the Department of Dynamic and Clinical Psychology, and Health Studies, Faculty of Medicine and Psychology, Sapienza University of Rome, Italy (protocol code n. 25/2017). All participants provided informed written consent to participate in the research project without compensation.

## Consent for publication

All authors read the manuscript and agreed to its publication.

## Availability of data and material

The research data are not currently available due to ongoing research projects.



## CRediT authorship contribution statement

**Alexandro Fortunato:** Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Writing – original draft. **Annalisa Tanzilli:** Formal analysis, Investigation, Methodology, Project administration, Writing – review & editing. **Vittorio Lingiardi:** Methodology, Project administration, Supervision, Writing – review & editing. **Anna Maria Speranza:** Methodology, Project administration, Supervision, Writing – review & editing.

## Declaration of competing interest

The authors declare no conflict of interest. The funders had no role in the design of the study; in the collection, analyses, or interpretation of data; in the writing of the manuscript, or in the decision to publish the results.

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