Personality Disorder in Childhood and Adolescence comes of Age: a Review of the Current Evidence and Prospects for Future Research

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Abstract

In this article, the authors provide a narrative review of the mounting evidence base on personality disorder in childhood and adolescence. Topics covered include diagnostic validity, prevalence, developmental issues, comorbidity, risk and protective factors, and treatment. Novel indicated prevention and early intervention programs for borderline personality disorder in adolescence are given special priority. To conclude, directions for future research are provided.

Keywords: personality disorder; adolescence; diagnosis; early intervention; developmental psychopathology; psychotherapy; prevention

Introduction

Until recently, personality disorder (PD) was considered separately from other mental state disorders as a special and intractable form of adult mental disorder with a primarily environmental aetiology and a treatment refractory course (1,2). To paraphrase the Danish philosopher Søren Kierkegaard (3), it was as if PD was a sickness unto death. Fortunately, such beliefs—together with the associated therapeutic nihilism—have now been dispelled by empirical research. In adult mental health, PD is now widely recognized as a major mental disorder that is associated with severe psychosocial dysfunction and poor quality of life. Moreover, PD has come to be considered treatable and, in some cases, even to remit (4,5). This heightened recognition of PD is also reflected in the international proliferation of official treatment guidelines (6-9).

For decades, there has been general agreement, as reflected in the official diagnostic manuals, that PD has its onset at least by adolescence or early adulthood (10,11). By implication, this developmental perspective on PD opens up the possibility of identifying PD among children and young people. Historically, however, PD during childhood and adolescence has been a neglected area of empirical research and surrounded by controversy (12-17). Fortunately, research on PD in childhood and adolescence has flourished over the past two decades and shed light on many of the persistent clinical controversies and myths that surround these syndromes.

Despite the remarkable scientific progress of the past two decades, skepticism, unease, and misunderstanding with regard to PD diagnoses in adolescence seem to continue among some clinicians (18-21). Hence, a major goal of this special issue of the Scandinavian Journal of Child and Adolescent Psychiatry and Psychology is to increase researchers’ and clinicians’ awareness of the validity and importance of PD during adolescence so that it might be more readily identified and treated. We hope that this article, which reviews the current evidence base and offer suggestions for
future research, will help to ease some of these concerns by highlighting key research findings.

Synopsis Research Findings

Diagnosing personality disorder in children and adolescents

A source of controversy and misunderstanding has been whether PD diagnoses can be made or are permitted for children and adolescents. A common misperception among mental health professionals is that the official diagnostic systems—the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) (10) and the ICD-10 Classification of Mental and Behavioural Disorders (11)—do not permit PD diagnoses for individuals who are younger than 18 years (21). One possible reason for this misunderstanding is the ambivalent and contradictory phrasing employed in the DSM-5 (Section II) and the ICD-10 with regard to the diagnosis of PD in this age group. Despite the conceptualization of PD as a developmental disorder that usually has its onset by adolescence or early adulthood, the DSM-5 notes that PD diagnosis for individuals who are less than 18 years old should only be considered in “relatively unusual” circumstances (10) and ICD-10 considers the applicability of PD diagnoses in adolescence to be “highly unlikely” (11). The only exception to the allowance of diagnosing PD below age 18, is for antisocial PD, in the DSM-5, Section II, which explicitly requires individuals to be 18 years or older. Hence, despite allowing for PD diagnoses among individuals who are less than 18 years old, the use of such wording by the official diagnostic systems effectively discourages the use of this diagnosis. The DSM-5 confuses matters further by stating that the features of a PD only need to be present for one year when applying PD diagnoses to individuals who are less than 18 years old. This seems too short a period to accurately distinguish a mental state disorder from a PD (22). The division of the diagnostic manuals into separate sections on child and adolescent disorders versus adult disorders further contributes to the confusion. PD is not mentioned in the former but appears in the latter, with little account of its developmental origins and manifestations. The ICD-10 labeling of PDs as “Disorders of adult personality” is a case in point. As we demonstrate later in this review, such ideas enshrined in the current diagnostic manuals can no longer be supported. Section III of the DSM-5 and the forthcoming ICD-11 both reflect the progress made in understanding the reliability and validity of PD diagnoses (22) in childhood and adolescence, supporting the feasibility of their use and recognizing that they are as reliable and valid in young people as they are for adults (23-33).

Prevalence

Few studies have investigated the prevalence of PD in adolescence, and virtually none have looked at its prevalence in childhood. Extant studies have also used different sampling and assessment procedures. Accordingly, the prevalence data reviewed in this paragraph are at best tentative. The prevalence of PD in adolescent community samples and primary care settings generally ranges from 6% to 17% across studies (34). An exception to these estimates was a study by Lewinsohn and colleagues (35), which found a low prevalence of PD in the community (1.7% among participants without and 3.8% among participants with a history of other mental disorders). The relatively low prevalence estimates in this study are probably a result of the researchers using the International Personality Disorder Examination (IPDE) (36) for assessments, which required PD features to be present for 5 years, even in young people.

Prevalence estimates in clinical samples range from 41% to 64% (27,37), and from 36% to 88% in juvenile justice samples (38-40). These prevalence estimates are similar to or slightly higher than those reported for adults (41-43). The peak prevalence for PD is reported to occur during early and middle adolescence (23,44), whereas studies that have focused on late adolescence have obtained lower prevalence estimates comparable to those reported for adults (34,45). Consistent with these findings a community-based longitudinal study of PD trait levels found that PD peaks in early adolescence and subsequently declines in a linear fashion until the late 20s (46).

Additionally, studies have shown that, as in adult populations, the co-occurrence among specific PDs is frequent in adolescence (37,39,47,48). In terms of the DSM-5, Section II, grouping of PDs into three clusters on the basis of descriptive similarities, Cluster B PDs appear to be the most prevalent during adolescence (27,46), a finding that again converges with data for adult populations (49).

Continuity and change in personality disorder

Concerns about the temporal course of personality development are one possible source for the reticence of some clinicians to make PD diagnoses in adolescence. However, contemporary research has shown that personality development is a lifelong process, with no sudden changes occurring at age 18, and that personality stability and change coexist across the life course (22). From a research perspective, there are multiple ways to concept-
ualize the temporal course, continuity, and change of personality and its disorders throughout the life span (50-52). Here, we focus on the three most common methods used to do this: 1) rank-order continuity, 2) mean-level change, and 3) diagnostic stability.

**Rank-order continuity or differential continuity** refers to the consistency of the relative order of individuals on a given PD dimension or symptom over time, typically expressed as a test-retest correlation. The rank-order stability of PD symptoms in adolescence and early adulthood has typically ranged from .42 to .65 in longitudinal studies, thus indicating moderate to high stability (53,54). A longitudinal study that focused specifically on borderline PD features in childhood (in fourth through sixth graders) also reported moderate stability (55). A recent meta-analysis broadened these findings by showing that the rank-order stability of maladaptive personality traits and PD symptoms is moderately stable across childhood, increases in stability during early adolescence, and peaks in stability at around the age of 30 years (56).

**Mean-level change** addresses the increase or decrease in the average trait level of the population as a whole. Studies of mean-level change indicate that mean levels of PD symptoms peaks during early adolescence and then decline throughout middle adolescence, reaching levels comparable with those of adults in late adolescence or early adulthood (34,46,54). Prospective studies also show that the deviation of maladaptive personality traits increases from late adolescence to early adulthood (53,57,58). This could indicate that the significance of PD symptoms changes over time in relation to salient life tasks and environmental demands (53,58-60). Data from large community samples suggest that specifically for borderline PD, mean levels of severity scores remain relatively stable for the ages of 14 through 17 (61,62).

**Diagnostic stability** concerns the continuity of categorical PD diagnoses over time. Studies estimating the diagnostic stability of specific PDs in childhood and adolescence have generally reported low to moderate stability over time (23,24,34, 61,63,64); this could be conservatively interpreted as indicating modest diagnostic stability during adolescence (65).

How can we reconcile these research findings? To be sure, the issues surrounding the continuity and stability of PD are complex and unlikely to be easily resolved, for a number of reasons (66). First, we contextualize the results. Although diagnostic stability is low to moderate in adolescent populations, this is also the case in adulthood. A major finding from prospective follow-up studies of adult patients diagnosed with PDs is that diagnostic continuity is low to moderate, and that some patients even “remit” (22,51,67,68). However, diagnostic remission does not necessarily imply functional recovery (69). Indeed, most adult patients with PD who have been followed up for years remain significantly functionally impaired (5,67,70-73). Persons displaying PD symptoms below the threshold for a categorical diagnosis are considered to have remitted diagnostically, but they might continue to have clinically significant levels of subthreshold personality pathology. Accordingly studies show that individuals diagnosed with PD in adolescence often still have elevated PD traits in adulthood (46,74). Also, individuals with persistent impairments might change from one diagnostic category to another over time (74), perhaps indicating “heterotypic continuity” – that the underlying developmental and pathological processes remains the same despite changes in phenotypic presentation (16,75-77). Overall, the bulk of current research converges on demonstrating that persons diagnosed with PD in adolescence continue to have serious functional impairments well into adulthood (23,53,78,79).

Second, the framework of developmental psychopathology (80,81) implies the findings can be interpreted in light of results from normal personality development. Research has convincingly demonstrated that normal and abnormal personality are part of the same spectrum, and display a similar higher-order factor structure across age groups (22,82-87). However, Western folk psychology generally views children and adolescents as having personalities that are unstable or “under construction” whereas adult personalities are perceived as relatively unchanging (51,88). Research into normal personality development has challenged these assumptions by demonstrating that normal personality traits in childhood and adolescence, despite fluctuations within certain lower-order domains, are more stable than would commonly be expected, and also more stable than PD symptoms (87,89-92). Furthermore, contrary to common expectations, research reveals that normal personality undergoes normative changes throughout the entire lifespan (93). Hence, some degree of development and change in personality is to be expected throughout the life course, as a result of the complex interactions between heritable dispositions and the environment (94-99).

Third, it should be recognized that most longitudinal data on PD from childhood through adulthood stem from only one large prospective follow-up study, the Children in the Community (CIC) Study (53), and needs to be replicated (98). However, the findings of the CIC are consistent with cross-sectional prevalence studies of PDs.
during early adolescence; results from studies of normal personality reporting age-related decreases in negative traits (51,100,101); and with findings from large-scale epidemiological studies which indicate that the onset for many common mental health disorders peaks during adolescence (102-104). Given the continuity between PD criteria and normal personality traits, the research findings also beg the question of whether developmental changes in PD symptoms are part and parcel of the same process as the one that drives normal personality changes. Finally, it should be noted that other methodological issues relevant to understanding the PD continuity and change across the lifespan include the use of different assessment instruments and measurement error (56,98,105-109).

To summarize, the current evidence shows a predictable pattern of stability and change in PD across the life course. PD seems to change from childhood through adulthood in similar ways to normal-range personality (22). In adolescence, as in adulthood, the rank order stability of PD is moderate to high, whereas diagnostic stability is low. The stability of functional impairments associated with PD is high across the lifespan. There is no sudden increase in trait stability in the transition from the second to third decade of life.

Co-occurrence
Research on PD in adults has consistently demonstrated that these conditions frequently co-occur concurrently and prospectively with a wide range of other mental state disorders (110-112). This co-occurrence accounts for increases in impairment and treatment needs, higher rates of treatment seeking, poorer prognosis, and greater chronicity (113-117).

Studies examining patterns of co-occurrence in adolescent samples reveal that PD co-occur frequently with other mental disorders, such as affective and disruptive behavior disorders, post-traumatic stress disorder (PTSD), eating disorders, substance abuse, anxiety disorders, and psychosis spectrum disorders (37,53,114,118-122). Research also suggests that adolescent in- and outpatients with co-occurring PD and mental state disorders are substantially more impaired than those with only mental state disorders (28,118), and tend to display the most complex patterns of comorbidity (120). Moreover, PD co-occurring with other mental disorders in adolescence has been prospectively linked with elevated mental health service use, and elevated use of prescribed psychotropic drugs during early adulthood (123). The presence of PD together with other mental disorders is also a significant predictor of poor quality of life (124).

Data from the CIC Study have revealed that adolescents with co-occurring PD and other mental disorders have worse long-term prognoses for academic, occupational, and interpersonal functioning when followed for a period of more than 20 years (53,65,74). With regard to mental health outcomes, the CIC Study found that adolescents with co-occurring PD and mental state disorders had more severe current psychopathology and an almost nine-fold increase in the risk for future development of psychiatric disorders as compared with individuals with no disorders or those with only PDs or other mental disorders respectively (114). Additionally, reviews of major longitudinal studies suggest that PD co-occurring with other mental/behavioral disorders in adolescence increases the likelihood of PD continuing or worsening during young adulthood by up to 19 times and that it is more likely that improvement in PD leads to improvement in other co-occurring disorders than vice versa (51,53,57,65).

Adverse outcomes and adaptive functioning
Consistent with the literature on PD in adults (125-127), the presence of PD in adolescents is concurrently and prospectively associated with an elevated risk for suicidal ideation and suicide attempts in early adulthood (128-130). Psychological autopsy studies of completed suicides among adolescents support these findings. One study found that PDs—especially those belonging to Cluster B and Cluster C—were more common among suicide victims than community controls (131). This is consistent with another psychological autopsy study, which also reported a large proportion of PDs among suicide completers; notably the investigators found that borderline PD was present in 33% of the cases (132). PD during adolescence is also associated with non-suicidal self-injurious behavior such as cutting and burning (133-135).

PD in adolescence predicts conflictual romantic relationships (136), problems in friendships, poor educational achievements, problems at work (23,74,114,137,138), and problems with family members in early adulthood (34). PD in adolescence is also associated with high-risk sexual behaviors and a high number of sexual partners (139). Cluster A and Cluster B PDs in particular have been prospectively linked with an increased risk of violent and criminal behaviors in the community, during both adolescence and early adulthood (140,141). Cluster A PDs—most notably schizophrenia spectrum disorders in adulthood (64), thereby reinforcing the view that Cluster A PDs, at least in
some cases, may represent developmental precursors or prodromes to psychosis and schizophrenia spectrum disorders (53).

Studies find that adolescents with borderline PD report significantly more mental health service use as compared with healthy controls (142). Borderline PD in early adolescence also prospectively predicts low social functioning and life satisfaction, fewer attained adult developmental milestones, and lower academic and occupational attainment, independent of other psychiatric disorders and despite age-related borderline PD symptom decline over time (74). Finally, PD in adolescence significantly reduces concurrent and future quality of life (124,143), and increases the risk of unnatural and violent death amongst offenders (144).

Risk and protective factors

Until the last 15 years, most developmental studies of PD focused on early childhood experiences and how they affect later adult psychopathology. Although early childhood experiences are important, their effects on future development and outcomes are likely to be mediated or even reversed by later experiences (22,145), and there are currently only limited data to inform us about these processes. With regard to “distal” risk factors, most data come from the CIC Study. Low socioeconomic status in the family of origin, being raised by a single parent, receiving family welfare support, frequent parental conflicts, and parental illness or death have been identified as prospective risk factors for future development of PD (53,65). Maladaptive family functioning and parenting, including low emotional closeness between parent and child, use of harsh punishment during childhood, maternal over-control, and parental psychopathology, have also been found to precede the later development of PD (53,65,146-148). Childhood sexual, physical, and verbal abuse and childhood neglect increase the risk for development of PD in adolescence and adulthood (65,147,149-152).

Early disruptive behavior disorders—especially conduct disorder but also attention-deficit/hyperactivity disorder (ADHD) and oppositional defiant disorder—are strong long-term predictors for most types of PDs (35,65,153-158). The available research evidence indicates a link between ADHD in childhood and heightened risk of borderline PD in adolescence and early adulthood (158-160). Such findings might suggest that similar or identical phenomena (e.g., impulsivity and aggression) may be misleadingly characterized as mental state pathology in children and then later relabeled as personality pathology in adolescence and adulthood (161).

With regard to antisocial PD, the DSM-5, Section II, requires evidence of conduct disorder with onset before age of 15 years, in order for this diagnosis to be considered applicable to persons aged 18 years or older. The available research evidence supports to some extend this notion of conduct disorder in childhood and adolescence as a developmental precursor to antisocial PD (162-164). Yet, it should be noted that conduct disorder is also prospectively associated with a wide range of other mental disorders, including other specific PDs. Hence, the predictive value of conduct disorder does not appear to be limited to antisocial PD, but rather to a broad range of psychopathology including other specific PDs, primarily from Cluster B PDs (153,154,156,162). Within the externalizing spectrum of disorders, substance use disorders (particularly alcohol abuse) have also been identified as predictors of early adult borderline PD (165). With regard to internalizing disorders, major depression and anxiety disorder in childhood has been prospectively linked with a heightened risk of developing PD during young adulthood (155,156). Symptoms of social anxiety have also been directly linked with avoidant PD (53,155), and some investigators argue that generalized social phobia and avoidant PD are not separate disorders but rather part of a single spectrum (53).

Few studies have investigated PD in childhood and adolescence as a predictor of adult PD using prospective longitudinal designs. However, the available studies indicate that PD symptoms in childhood and adolescence are the strongest long-term predictors of PD diagnoses in adulthood, over and above other predictors such as disruptive behavior disorders and depression (23,25,53,55,74,78,155).

Few studies have examined the perinatal factors associated with PD. However, for schizotypal PD, and to some extend also schizoid PD, studies suggest links with prenatal malnutrition, exposure to prenatal stress, and influenza (166).

There is little empirical knowledge about resilience and protective factors for PD (167,168). One study has investigated the association between retrospective accounts of positive childhood experiences related to resiliency among adult patients with PD and prospective remission from avoidant, schizotypal, borderline, and obsessive-compulsive PD over the course of 4 years (167). This study found that positive achievement experiences were significantly associated with remission from avoidant and schizotypal PD. In addition, various types of positive interpersonal relationships were associated with remission from avoidant, borderline, and schizotypal PD. For obsessive-compulsive PD, they found no significant
predictors of remission, which the authors speculate could be due to the generally higher functioning of this group. Although competent parenting is considered important for the fostering of resiliency, perceived caretaker competence variables in this study were not found to be broadly associated with remission. The more general finding from the study was that the greater the number of positive experiences and the broader the developmental periods they spanned, the better the prognosis of the individuals with PDs (167).

Treatment: Prevention and early intervention

Whilst diagnosing PD during adolescence is evidence based and feasible, there would be little point in doing so unless corresponding treatments were available. The empirical evaluation of treatments has been slow to develop, but this is now changing.

Prevention and early intervention: The available data on PD in adolescence makes a compelling case for the development and implementation of empirically based prevention and early intervention programs (161,169,170). Like other forms of psychopathology, PD interferes with normative development and adaptation. PD can have severe repercussions, and its developmental disruptions have cascading effects (171-173) that potentially alter or divert the entire course of development (174). Prevention and early intervention programs hold the promise of not only alleviating present difficulties but also potentially averting future negative outcomes through targeting PD pathology before it become more ingrained and chronic (175).

Chanen and colleagues (161,169,176) have argued for applying preventive and early intervention strategies to PD during childhood and adolescence following the general framework for prevention of mental disorders outlined by the Institute of Medicine (177). An advantage of this framework is that it is not specifically concerned with aetiology, onset, and incidence—matters of which we only have limited knowledge—but rather focuses on risk factors associated with the persistence and maintenance of these disorders. Such a framework suits our current knowledge and understanding of PD. Chanen and colleagues argue that the available data do not yet support universal population based or selective risk-factor based prevention programs. Instead, they argue that indicated prevention and early intervention are currently the most feasible strategies (161,170,176). In contrast with conventional treatment programs that target individuals with established PD (i.e., those who meet the full criteria), indicated prevention programs target children and adolescents who display precursor signs and symptoms associated with PD (i.e., those who display some but not necessarily all of the required PD criteria). Early intervention programs aim for the early detection and treatment of the full-syndrome disorder. Consistent with knowledge on the course and development of PD, indicated prevention and early intervention programs should not just target the diagnostic features of PDs, which might naturally attenuate over time; rather, they should aim to improve adaptive functioning and alter the developmental trajectory of PD. Furthermore, it should be noted, that not all treatment that occurs for individuals who are less than 18 years old by definition is prevention or early intervention (161,169,178). For example, it is possible to see a 15-year-old child with many years of enduring personality pathology who is in need of standard treatment, and it is also possible to see a never-treated 24-year-old adult with subsyndromal personality pathology who is in need of indicated prevention.

Treatment programs: In adult populations, psychotherapy remains the treatment of choice for PDs (179,180), although most of the evidence is limited to borderline PD and antisocial PD. Similarly, treatment research on PD in adolescence primarily focuses on borderline PD, with most of the studies combining indicated prevention (subsyndromal cases) and early intervention (full-syndrome disorder). Of note, only two studies (181,182) explicitly included participants who had never before been treated for borderline PD (early intervention).

Three randomized controlled trials (RCTs) have been conducted to assess the effectiveness of cognitive analytic therapy (CAT) for adolescents with borderline PD. CAT is an integrative and time-limited form of psychotherapy that combines object relations theory with cognitive psychology. The initial study (181) compared the effectiveness of adding up to 24 sessions of CAT to the Helping Young People Early (HYPE) program (183) versus manualized good clinical care (GCC). Seventy-eight participants between the ages of 15 and 18 years who fulfilled two to nine DSM-IV borderline PD criteria completed the trial. No significant differences between the two treatment groups with regard to predetermined outcomes were found at 24 months. However, participants in the CAT group improved more rapidly. No adverse effects were observed for either treatment. Using a quasi-experimental design, this research group later compared the effectiveness of CAT and good clinical care (GCC) as determined by their RCT with historical data on treatment-as-usual (TAU) in
their clinic (182). Results from this study revealed that both HYPE with CAT and HYPE with GCC were more effective than TAU and that HYPE with CAT was the most effective. Recently, a pilot RCT (184) have also been conducted to investigate the feasibility of treating co-occurring first-episode psychosis and borderline PD in adolescents with a hybrid treatment model that mixed elements from the HYPE with CAT program with a specialized first episode psychosis treatment program. The preliminary results were promising, suggesting that the brief hybrid intervention program was safe and acceptable to this complex subgroup of adolescent patients.

Mentalization-based treatment (MBT) has also been adapted for adolescents (MBT-A) (185-187). An RCT (188) included 80 adolescents (73% of whom met full diagnostic criteria for borderline PD) who consecutively presented to mental health services with self-harm and co-occurring depression. Participants were randomly assigned to MBT-A or TAU (not manualized). MBT-A is an attachment and psychodynamically oriented treatment program comprised of weekly individual therapy sessions and monthly MBT family groups. Results indicated that MBT-A was more effective than TAU for reducing self-harm and depression and that the superior effectiveness of MBT-A was explained by improvements in mentalizing and borderline PD features as well as reduced attachment avoidance. Further studies of MBT-A are underway to investigate the efficacy and effectiveness of this treatment for adolescents with borderline PD (187,189,190).

Dialectical behavior therapy (DBT) is another treatment that has been implemented for the treatment of suicidal and self-harming adolescents (DBT-A) displaying features of borderline PD (191,192). DBT is a modified form of cognitive-behavioral therapy that combines cognitive-behavioral therapy techniques for emotion regulation and reality testing with Zen Buddhist and mindfulness concepts and techniques (193). The only RCT of DBT-A for adolescents with borderline PD compared the effectiveness of DBT with non-manualized enhanced usual care (EUC) for the reduction of self-harm (194). The study included 77 self-harming adolescents (of which 21% met full criteria for borderline PD) recruited from psychiatric outpatient clinics. The results revealed that DBT-A was superior to enhanced EUC for reducing self-harm, depressive symptoms, and suicidal ideation.

Two RCTs have investigated the effectiveness of emotion regulation training (ERT). ERT is a 17-session adjunctive program, based on the Systems Training for Emotional Predictability and Problem Solving (STEPPS) program for adults with borderline PD (195) that combines group-based skills training with family psychoeducation. In both studies, the effectiveness of ERT was compared with TAU. In the first study (196), 43 adolescents were randomized to ERT plus TAU or TAU alone. The results revealed a significant decrease in borderline PD symptoms in both groups, and there was no significant difference between the two groups in terms of improvements. In the second study (197), 109 participants with features of borderline PD (73% met the full criteria for this condition) were randomized to ERT plus TAU or TAU alone. This study also found no significant differences between the two treatment groups. Both groups improved equally on measures of borderline PD severity, general psychopathology, and quality of life.

**Psychopharmacological treatment:** To our knowledge, the only pharmacotherapeutic RCT for adolescents with borderline PD was a small (N = 15) post hoc subgroup analysis of a larger RCT that investigated the effects of long-chain omega-3 (n-3) polyunsaturated fatty acids (PUFAs) on functioning and psychiatric symptoms among young people with borderline PD who also met ultra-high-risk criteria for psychosis (198). Results indicated that fatty acid (n-3 PUFA) levels at baseline correlated positively with psychosocial functioning and negatively with psychopathology. At the end of the intervention, these fatty acids were associated with improved functioning and reduced psychiatric symptoms as compared with placebo.

**Taking the Dodo Bird serious: effective ingredients and common factors:** The RCTs just discussed suggest that indicated prevention, early intervention, and standard treatment programs for borderline PD in adolescents are acceptable and effective. It is noteworthy that all interventions, including manualized TAU and other control treatments, were effective. Hence it remains unclear to what extent the reported effects can be attributed to specific psychotherapeutic interventions (161). Of course, control treatments such as TAU or GCC should not be equated across studies, and research suggests that the choice of comparison treatment can considerably influence effect sizes in psychotherapy research (199,200), which has also been demonstrated in recent RCTs for treatments of borderline PD in adult patients (201-205). However, a general finding from RCTs for treatment of borderline PD in both adolescent and adult samples (206) and in reviews and meta-analyses of psychotherapy outcome research is that there is often little or no difference in efficacy.
among various *bona fide* psychotherapeutic treatments (207–210); a finding commonly referred to as the *Dodo bird verdict* (211). Taken together this points toward the importance of common factors, extra-therapeutic factors, and placebo effects (206,212-216). It may thus be proposed that some of the most important factors related to effecting change have less to do with the specific techniques promoted by the various schools of psychotherapy and more to do with the core and common elements shared across these various therapies (113,161,170,206,217-219).

On the basis of studies of adults, Fonagy (218) and other investigators (179,206,217) have identified a number of common features of effective treatments for borderline PD in adults, such as: 1) considerable efforts to enhance treatment compliance; 2) consistent focus on problem behaviors (e.g., self-harm) and interpersonal problems; 3) a coherent conceptual theory, framework, and language for the patient and the therapist/staff to share; 4) encouragement of a supportive attachment relationship between the therapist and the patient that is of relatively long duration; and 5) that the treatment is highly structured and well integrated with other services that the patient uses.

Recently, Chanen and colleagues (161,170) extended this line of reasoning to adolescents by identifying potential (common) key ingredients in effective prevention and early intervention programs for borderline PD in adults – including factors beyond individual psychotherapy related to models of service delivery. Among other things, they highlighted the importance of the following features: 1) assertive and psychologically informed case management integrated with the delivery of psychotherapy; 2) the capacity for outreach care into the community; 3) the active engagement and inclusion of family members and carers in the treatment process, including psychoeducation and brief family interventions delivered in accordance with the overall treatment model; 4) the consistent use of a plain and common language based on a shared model of the self and the psychopathology across all aspects of care; 5) the integration of general psychiatric care within the specialist treatment team, including assessment and treatment of co-occurring disorders; 6) the presence of a crisis team and availability of inpatient care programs with clear and time-limited goals; 7) access to a psychosocial recovery program; and 8) regular supervision of staff and quality assurance. Elements such as those highlighted by Chanen and colleagues must be implicated in our future understanding of why structured treatments, including those in the control conditions of the RCTs, for adolescents with borderline PD appear to be equally effective.

In passing it should be noted, that many of the key elements highlighted by Chanen and colleagues (161) are also identified and used in the adolescent mentalization-based integrative therapy (AMBIT) approach to hard-to-reach adolescents with multiple mental health problems and vulnerabilities (220,221). This could indicate that they have wider applicability beyond borderline PD, for management and treatment of youth with complex psychopathology.

First, do no harm: dropout and iatrogenic harm: A more disheartening finding from the previously described RCTs for borderline PD in adolescence is that the dropout rates appear to be relatively high across the studies and in both the treatment and control groups (181,188,194,196,197). As a result of differences in defining and reporting dropout in the trials, it is not possible to compute and compare exact estimates of dropout rates across the trials and treatment conditions. But based on the published data from these RCTs, there are indications that approximately 20% to 54% of the participants appear to dropout of treatment prematurely. More generally, it is estimated that 20% to 70% of persons, across all age groups and diagnoses, who begin psychosocial mental health treatment discontinue such treatment against their clinicians’ recommendations (222). For adolescents specifically, a study suggests that about a third of patients in mental health psychosocial treatments dropout prematurely (223). A systematic review that included 25 studies of non-completion among PD treatments found a median non-completion rate of 37% (224). Taken together, such data suggest that dropout or premature termination from psychotherapy is a major challenge that should be addressed explicitly in future treatment research.

Another important issue to consider is the iatrogenic or harmful effects of therapies. Both quantitative and qualitative reviews find that around 75% to 80% of those individuals treated with psychotherapy benefit from it (225,226). However, a somewhat neglected but crucial finding of such reviews is that 5% to 10% of those who participate in treatment trials get worse. For child psychotherapy, these numbers may be even higher, with up to 24% of children between the ages of 4 and 17 years who are treated in community mental health settings deteriorating (227). A recent uncontrolled treatment study of adolescent inpatients with PD found that 26% of the participants showed reliable change and moved into a normative range of symptom severity; the rest of the participants did not change or only displayed modest symptom reduction, and 9% deteriorated (228). Data from an RCT study of CAT for PD in adults have also

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demonstrated that TAU can act as a “nocebo” condition in which harmful effects arise from a placebo treatment (161,229,230). Furthermore, studies have demonstrated that therapists are not good at predicting patients’ outcomes or at determining patients’ perceptions of the quality of the therapeutic relationship or of group relationships; the therapists tend to underestimate the number of patients who are deteriorating during therapy (231-233). Research has also consistently demonstrated that the therapeutic alliance is one of the most consistent and robust predictors of therapeutic outcome (234,235) and that it is therapist variability—rather than patient variability—that brings about most of this alliance–outcome association (234,236). Moreover, intervention research suggests that focusing on the therapeutic relationship or transference seems to have the strongest effect for patients with personality problems within the context of a weak alliance (237-239), whereas it can have negative effects for patients without personality problems and in the context of a strong alliance (240). Taken together, these data make a compelling case for implementing routine outcome monitoring systems in the treatment of PD so that clinicians can respond adequately and flexible if progress is lacking or when signs of deterioration become apparent (113,233,241,242).

Conclusions and clinical implications
On the basis of the preceding selected review of the available research evidence, the following conclusions and clinical implications can be drawn with regard to PD in adolescence:

- PD can be diagnosed as reliable and valid in adolescents as in adults.
- The point prevalence of PD diagnoses peaks in early adolescence and then declines reaching estimates comparable to those for adults by late adolescence.
- Studies suggest that 41% to 64% of adolescents in clinical settings meets diagnostic criteria for PDs, indicating they are highly prevalent
- Co-occurrence between PDs is frequent.
- PD changes from childhood through adulthood in similar ways to normal-range personality. In adolescence, as in adulthood, the rank order stability of PD is moderate to high, whereas diagnostic stability is low.
- The functional impairments associated with PD are stable across the lifespan.
- PD co-occurring with other mental disorders is frequent, and associated with a poorer prognosis.
- PD is associated with considerable treatment needs and mental health service use.
- RCTs show that indicated prevention and early intervention programs are promising and effective for adolescents with borderline PD.
- There is currently no evidence to support the superiority of one treatment over another for adolescents with borderline PD.
- Considering the very limited evidence for the psychopharmacological treatment of PD in adolescence (and even during adulthood), this type of treatment cannot be recommended at present.

Hume’s Guillotine: Barriers and Potential Risks
Although diagnosing PD during adolescence is feasible, this does not necessarily imply that one ought to diagnose it during this period. As the moral philosopher David Hume (243) pointed out long ago, one cannot automatically make a normative claim solely based on facts: in moral matters, claims of what is must be severed from claims about what ought to be. Indeed, mental health professionals who work with children and adolescents often report concerns about stigma as a reason for not using PD diagnoses (20). Researchers and clinicians should always be wary of the potential harmful effects of diagnostic labeling. PD generally—and borderline and antisocial (including psychopathy) PD more specifically—are stigmatized among some mental health professionals, patients, the judicial system, and society at large (244-247). However, well-intentioned clinicians who purposefully refrain from using PD diagnoses with adolescent patients in order to avoid stigma or discrimination may thereby unwittingly be reinforcing and perpetuating the very stigma that they wish to avoid (170). This in turn may increase the risk of inappropriate diagnosis and iatrogenic harm (e.g., from polypharmacy), which may hinder young people from receiving targeted evidence-based treatment (170). We propose that, on balance, the potential harmful effects of labeling young people via the diagnosis of PD are outweighed by the risk of them not receiving appropriate treatment. In our clinical experience, most patients and families welcome the diagnosis and the implicit acknowledgement of their difficulties and needs. Arguably, evidence-based prevention and early intervention programs for these conditions may also prove to be cost-effective for society at large (124). This favorable disposition toward early detection and intervention through a diagnosis of PD during
adolescence is also reflected in national guidelines (6,7), alternative classification models (60,98,248), and is likely to be included in the forthcoming ICD-11 (249).

Although we are enthusiastic about these developments within the field, it should also be recognized that the removal of age-related caveats from the diagnostic criteria for PD will in all likelihood lead to more young people being diagnosed and treated, and some of these individuals may not meet the full criteria for PD (i.e., they may exhibit subthreshold PD) (22). In this context, we need to recognize that the potential benefits arising from such changes will need to be weighed against the potential risks, such as the “medicalizing” of common or normative problems, as well as the problems associated with over-treatment, side effects, stigma, and iatrogenic harm (169,250).

**Future Research**

Although the current evidence converges to support the clinical utility and feasibility of diagnosing PD in adolescence, it also reveals the limitations inherent to our current diagnostic systems. Despite the similarities between the adolescent and adult PD phenotypes, it is important to note that these diagnostic categories were originally derived from descriptions of adult patients. Hence, the downward extension of these runs the risk of “adultomorphizing” (251) PD during childhood and adolescence, potentially not encompassing the whole domain of preadult personality pathology during childhood and adolescence (60,98,252,253). Both the DSM-5 (Section III, alternative PD classification system) and the ICD-11 proposal for PD classification are promising because they incorporate developmental evidence regarding PD in adolescence, remove age criteria, and take a dimensional approach to classification (10,249,254).

These alternative classification schemes combine a dimensional approach with ratings of impairment in personality functioning and/or severity. Improvement in the classification of PD is likely to lead to improvements in the design and delivery of effective prevention and early intervention programs (4,22).

In an effort to extend contemporary approaches to the classification of PD, we propose a transdiagnostic clinical staging approach (255), eschewing diagnostic syndrome categories and arbitrary age criteria in favor of focusing on defining the stage of progression of PD at a particular point in time, and assessing symptom severity and persistence, need for care, and the proportionality of treatment interventions (256). The clinical staging approach to PD (257,258) attends to where an individual is currently placed on the continuum of the course of PD. The individual’s treatment needs and the severity of PD will differ as a function of the stage or progression of the disorder, with treatment in theory being more benign (i.e., less intensive and invasive) and effective during the early stages (170). In accordance with this approach and its inherently transdiagnostic nature, the task for future research is to identify and describe a range of risk syndromes for the later development of psychopathology. Such risk syndromes can act as indicators for preventive and early intervention programs (259).

Prospective studies are required to advance our understanding of the course of the full range of personality pathology throughout the life span and to counter our current overreliance on data from the CIC Study. The meta-theoretical framework of developmental psychopathology could be used in the design of such studies (80,81). Moreover, we need greater knowledge on continuity and change dynamics, different developmental trajectories, and risk and protective factors associated with both adaptive and maladaptive development, including pathogenesis and salutogenesis. Future studies must include infants or children, and should ideally incorporate genetic/biological, individual, and environmental/societal factors into their designs. This would further our understanding of the factors, dynamics, and risk syndromes that are prospectively associated with onset, development, and maintenance of PD, as well as of the factors and processes associated with resilience and remission.

Although results from the available RCTs are promising, we still need follow-up data from these to evaluate whether they effectively alter the life course trajectory of PD and lead to stable improvements in functioning over time. Prospectively improving quality of life and adaptive functioning should indeed be the main aims of future prevention and early intervention programs targeting PD in adolescence. Improving patient retention in the treatment programs and reducing iatrogenic harm are also high priorities for future research to address. The use of client feedback and outcome tracking systems has been shown to be effective in psychotherapy research (260) for the reduction of the harmful effects of treatments. We therefore hypothesize that this could also be the case for the treatment of PD in childhood and adolescence. Moreover, the future development of novel prevention and early interventions programs targeting PD in adolescence should focus more on common factors and effective ingredients rather than specific “brand name” psychotherapies (161,179,261). This would include targeting both the
young person as well as that person’s environment, including his or her family members and other relevant systems. Research is also needed to identify those subgroups that do not benefit from treatment or deteriorates, so that we can prevent adverse effects and develop new interventions for the non-responders. Finally, we recommend that future research focus on relatively simple treatment programs to enhance the external validity of those programs, thereby enabling their implementation in routine clinical practice so that they might ultimately lessen the burden of PDs on individuals, families, and society.

References


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