



Review

Some critical considerations in applying the construct of psychopathy to research and classification of childhood disruptive behavior disorders

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ABSTRACT

The recent inclusion of callous-unemotional traits in the diagnostic criteria for serious conduct problems has led to renewed interest in more comprehensive integrations of the construct of psychopathy into research and clinical classification of childhood disruptive behavior disorders. There have been a number of recent reviews of research focusing the many potential benefits for this integration. However, there are also a number of issues that could reduce these benefits and even potentially lead to harmful effects. The current paper focuses on several of these issues, some of which are common when attempting to integrate research findings across areas that have been conducted independently of each other. Other issues are more specific to the construct of psychopathy. Specifically, the current paper focuses on the lack of agreement on the necessary and sufficient dimensions needed to define psychopathy, the need to consider developmental relationships among these dimensions, the implications of the different associations among the dimensions of psychopathy with conduct problems in children and adolescents, the need to consider how these dimensions relate to existing constructs used in the classification of disruptive behavior disorders, and the potential harmful effects of labeling something “a dimension of psychopathy”. These issues have several clear implications for using the construct of psychopathy to guide research on and diagnostic classification of childhood disruptive behavior disorders.

Despite not being part of most formal diagnostic systems for mental disorders, the construct of psychopathy has a long history of use for advancing clinical classification of adults who exhibit antisocial behavior (Cleckley, 1976; Hare, 1993; Lykken, 1995; McCord & McCord, 1964). That is, the construct of psychopathy has focused on a number of emotional and interpersonal features that can lead to very severe, violent, and chronic antisocial behavior (see Blais, Solodukhin, & Forth, 2014; Leistico, Salekin, DeCoster, & Rogers, 2008; Walters, 2003 for meta-analytic reviews). Further, psychopathic traits are associated with a number of emotional and cognitive correlates that differ between antisocial individuals with and without psychopathic features and this research has led to theories specifying how the causes of the serious antisocial behavior may differ between these two groups of individuals (see De Brito et al., 2021; Raine, 2018 for reviews and discussions of this research). Because of this substantial evidence in support of the clinical and etiological validity of the construct, there have been a number of attempts to extend the construct of psychopathy earlier in development over the past half century to determine if the construct can be identified in children and adolescents and, if so, does it show similar

features to that found in adult samples (Andershed, Hodgins, & Tengstrom, 2007; Frick, O'Brien, Wootton, & McBurnett, 1994; Lynam, 1996; Quay, 1993; Sica, Ciucci, Baroncelli, Frick, & Patrick, 2020).

Such extensions of the construct of psychopathy have great potential for guiding important advances in clinical intervention and for theories of the causal processes leading to psychopathic traits. While research clearly shows that, contrary to many earlier views of persons with psychopathy as being untreatable, persons with psychopathy can respond to some interventions (Edens, 2006; Salekin, Worley, & Grimes, 2010). However, it is highly likely that treatment can be even more effective earlier in development when personality traits are typically more malleable (Frick, Ray, Thornton, & Kahn, 2014a). Further, given the high cost associated with the violent and criminal behavior that are often displayed by persons with psychopathy, interventions that prevent such behavior from developing or reduce it early in the lifespan can have many important benefits to society (Burt et al., 2018). In addition, studying processes earlier in development can be instrumental in separating correlates that may be a consequence of a lifelong pattern of antisocial behavior from those that may predate the onset of antisocial

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behavior and be involved in its development (Patrick, Fowles, & Krueger, 2009). Finally, the development of many of the key features of psychopathy, such as a lack of guilt and empathy (both affective and cognitive) have long been studied in children and this research on the neurocognitive and social factors that influence the development of these prosocial emotions could be critical for advancing causal theories of psychopathy (Dadds et al., 2009; Frick & Kemp, 2021; Pechorro, Jolliffe, & Nunes, 2021; Waller & Hyde, 2018).

Thus, there is considerable promise to extending the construct of psychopathy to research on the early development of antisocial behavior (i.e., behavior that violates the rights of others or major age appropriate norms), which in younger samples is often referred to as conduct problems or disruptive behaviors. Over the past three decades, a substantial amount of research has supported this promise in a number of important ways. That is, research on the emotional and interpersonal features associated with psychopathy and research on the early indicators of the developmental construct of conscience has shown that these features can be assessed reliably, even very early childhood (Frick & Ray, 2015). Concern about potential unreliability in the assessment of these personality traits is one primary reason that previous attempts to integrate them into diagnostic classification systems failed for both adults (Lilienfeld, 1994) and children (Lahey, Loeber, Quay, Frick, & Grimm, 1992). Further, these emotional and interpersonal features have proven to designate important subgroups within children and adolescents with conduct problems who a) show more severe, chronic, and aggressive behavior; b) respond differentially to many treatments; and c) show distinct emotional and cognitive correlates. These differences in correlates and characteristics have been integrated in causal theories that make specific predictions about different processes leading to the development of conduct problems in children with and without these features (see Blair, Leibenluft, & Pine, 2014; Frick et al., 2014a; Salekin, 2017; Viding & McCrory, 2018 for reviews of this research) and these different correlates have led to recommendations for different approaches to treatment for children with and without these features (see Hawes, Price, & Dadds, 2014; Wilkinson, Waller, & Viding, 2016 for reviews of this research). Based on this research, the DSM-5 (American Psychiatric Association, 2013) added a specifier to the diagnosis of Conduct Disorder called “with Limited Prosocial Emotions” consisting of four indicators that have been included in most definitions of psychopathy: a lack of remorse or guilt over misdeeds, a callous lack of empathy towards others, a failure to put forth effort in important activities, and restricted or superficial affect. A similarly named specifier was added to the ICD-11 (World Health Organization, 2019) for the diagnoses of Conduct-dissocial Disorder and Oppositional Defiant Disorder, with the one notable difference being that the ICD-11 specifier includes “a reduced sensitivity to punishment” as a fifth symptom.

While there have been a number of previous reviews and syntheses of this work evaluating the clinical and etiological validity of extending the construct of psychopathy to children and adolescents, there are a number of potential dangers and pitfalls with such an extension as well that have not been considered extensively in these past reviews of the research. Some of these problems are inevitable when attempting to integrate bodies of research that have been conducted largely independent of each other, as is the case with the study of psychopathic traits in adults, the study of conscience development in children, and the study of disruptive behavior disorders in children and adolescents. Some of these problems are also inevitable when attempting to translate research on causal processes into diagnostic classification systems that are used for a number of different purposes and which have established diagnostic categories into which a new construct needs to be integrated. However, some of these problems are specific to psychopathy and the state of existing theoretical models for which there a number of unresolved issues and for a construct that has some quite pejorative connotations, even more so than what is typically associated with mental health diagnoses. Thus, the purpose of this paper is to consider some key issues in extending the construct of psychopathy to children and

adolescents and their implications for future research and diagnostic classification for childhood conduct problems, so that this extension can achieve its substantial promise but avoid potential problems that could reduce or outweigh these advances.

1. Psychopathy as a multi-dimensional construct

One common source of concern in extending the construct of psychopathy to children and adolescent's is how to best capture the fact that most models of psychopathy in adults consider it to be defined by multiple dimensions (Salekin, 2017). These models often rely on various forms of factor analyses to show that items from various scales developed to assess psychopathy typically form separate factors that replicate well across samples (Hare & Neumann, 2008), including samples of children and adolescents (see Salekin, 2017 for a review). However, there are limitations with relying largely on patterns of covariation to define a construct. First, the dimensions that emerge largely depend on the items included in the factor analyses and there is no strong consensus as to what items are necessary and sufficient for defining psychopathy. For example, there is the widely studied model of psychopathy in adults that is based on factor analyses conducted in a very large number of samples worldwide using the Psychopathy Checklist-Revised (PCL-R; Hare, 2003), which finds that items from the scale form two broad factors: Interpersonal/Affective and Chronic Antisocial Lifestyle, which can be further divided into two facets each of a) grandiose and manipulation items (Interpersonal Facet) and callous-unemotional items (Affective Facet) and b) impulsivity and irresponsibility items (Lifestyle Facet) and items related to chronic antisocial behavior (Antisocial Facet), respectively (Hare & Neumann, 2008). However, some models of psychopathy do not consider antisocial behavior to be a defining feature of the construct but instead consider it to be one possible outcome of psychopathic traits (Skeem & Cooke, 2010). That is, in these definitions of psychopathy, antisocial behavior is not considered to be either necessary or sufficient for defining psychopathy. Also, other models of psychopathy include additional dimensions, such as the Triarchic Model of Psychopathy, which includes items related Boldness (e.g., social dominance, venturesomeness) as a key dimension to the construct (Patrick & Drislane, 2015), as well as Disinhibition (similar to the Lifestyle Facet) and Meanness (similar to the Interpersonal/Affective Factor). Finally, some models of psychopathy suggest that the construct should not be defined by indicators that are specific to psychopathy at all but, instead, should be defined by configurations of normal personality dimensions, such as low agreeableness and low conscientiousness (Miller & Lynam, 2014).

A critical evaluation of the research on each of these conceptualizations is beyond the scope of this paper (see Skeem, Polaschek, Patrick, & Lilienfeld, 2013 for a comprehensive discussion and comparison of these models) but the important point is that there is no single model of psychopathy that defines what are the necessary and sufficient conditions for defining the construct in adults. This state of the research means that evaluations of what dimensions should be included in a developmental extension of the construct to children and adolescent will be met with similar disagreement. However, for the use of the construct to be helpful to the classification of childhood conduct problems, and to meet the promise for advancing this research that is outlined above, it is not clear that having a conclusive definition of psychopathy is necessary. That is, the more important question is whether some or all of the dimensions of psychopathy (across the many competing models) aid in research and classification of childhood conduct problems, not whether the dimensions are sufficient or adequate for assessing the full construct of psychopathy.

2. Developmental progression of psychopathy dimensions

Some extensions of the construct of psychopathy to children and adolescents have attempted to integrate the dimensions that have been

used to define psychopathy with constructs that have been used in research to study children's development of prosocial emotions (Frick & Kemp, 2021; Waller & Hyde, 2018). Such an integration could be quite beneficial to not only advancing research on childhood psychopathology but potentially for guiding efforts to prevent the development of serious conduct problems by defining developmental processes that may lead to increased risk for problematic outcomes in children. It is important to note that such an integration could also guide the debate on how best to define psychopathy. That is, as noted previously, the debate over how to define psychopathy often focuses largely on patterns of behavioral covariation among indicators. However, there are many reasons for why indicators may co-vary. One possibility that has been considered in research on psychopathy is that dimensions may be related due to shared neurocognitive mechanisms (see De Brito et al., 2021 for a review). However, it is also possible that the covariation among personality traits is indicative of a developmental relationship between dimensions (e.g., one dimension preceding another and potential causing the other), a possibility that could have important implications for defining psychopathy, as well as for guiding theories of the development of conduct problems.

The issue of whether antisocial behavior should be considered an outcome of psychopathy or part of the construct itself is an example of this issue. One the one hand, factor analysis consistently show that antisocial behavior co-varies significantly with other indicators of psychopathy (Hare & Neumann, 2008). However, research also shows that most adults with antisocial behavior do not show elevated psychopathic traits (Ogloff, Campbell, & Shepherd, 2016; Poythress et al., 2010; Venables, Hall, & Patrick, 2014). Thus, there seems to be a number of different potential causes of antisocial behavior, some of which involve processes associated with psychopathic traits and some which do not (see Raine, 2018 for a review and critical discussion). While admittedly less clear from existing research, there are also some indications that psychopathic traits can be expressed in persons who don't show antisocial behavior, or at least who don't commit criminal behavior (see Lilienfeld, Watts, & Smith, 2015 for a review and critical discussion of this work on successful psychopathy). However, what is not clear from research in adults but can be tested with research on children and adolescents, is whether other traits associated with psychopathy typically precede the development of antisocial behavior.

In support of this possibility, there is an extensive body of research suggesting that problems of behavioral regulation, defined by problems of impulsivity and overactivity (similar to psychopathic dimensions of impulsivity-irresponsibility and disinhibition), typically precede and have long been considered an important risk factor for the development of conduct problems in early childhood (see Beauchaine, Hinshaw, & Pang, 2010 for a qualitative review and Waschbusch, 2002 for a meta-analysis). Further, empathy and guilt and other aspects of the affective components to conscience typically develop within the first 2 to 3 years of life and are often considered to be critical prosocial emotions that motivate the child to avoid hurting others (i.e., aggression) and to avoid acting in ways that may displease or evoke punishment from caretakers and other authority figures (i.e., break important rules; Kochanska, 1993, 1995; Jambon & Smetana, 2020). Thus, research and theory support the possibility that many of the key dimensions of psychopathy are developmental precursors to conduct problems in children and adolescents.

Another potentially important developmental progression among the indicators of psychopathy that could be critical for defining psychopathy involves the role of emotional reactivity and fear, which are included in many definitions of psychopathy (Lilienfeld et al., 2016). Developmental research has uncovered a number of individual differences in a child's emotional reactivity to both social and non-social stimuli, some which are present from birth or at least in the first few months of life (Dadds & Frick, 2019). Further, low levels of emotional reactivity, especially in the sympathetic arm of the autonomic nervous system, have long been linked to a temperament that has been variously labelled

as fearlessness (Rothbart, 1981) or behaviorally uninhibited (Kagan, Reznick, Snidman, Gibbons, & Johnson, 1988), which is defined behaviorally by a high level of approach to novel and potentially dangerous stimuli (e.g., unfamiliar sounds and persons; animal sounds) and cues to potential punishment. This temperament has also been shown to be present in first year of life (Kagan et al., 1988) and to predict lower levels of guilt and empathy later in development (Goffin, Boldt, Kim, & Kochanska, 2018; Waller, Wagner, Flom, Ganiban, & Saudino, 2021). This developmental progression has been explained by research showing that very young children, even before they are cognitively able to take the perspective of other persons, become emotionally aroused to signs of distress in others (e.g., to the sound of crying in another child; Geangu, Benga, Stahl, & Striano, 2010; Knafo, Zahn-Waxler, Van Hulle, Robinson, & Rhee, 2008). This emotional contagion is aversive to the child and can motivate the child to learn how to avoid behaviors that result in distress in others (Blair et al., 2014; Waller & Wagner, 2019). Thus, this emotional reactivity to others' distress promotes the development of perspective taking. Children with a temperament in which they do not respond as strongly to the distress in others will have more trouble with the development of this perspective taking skill (Nunner-Winkler, 2007). Further, these children may not respond as strongly to possible punishment and danger, which could reduce their feelings of guilt over misdeeds and reduce their feelings of fear in situations that could result in them being hurt (Colasante, Jambon, Gao, & Malti, 2021; Kochanska, 1993, 1995). In short, in this developmental model, the characteristics of low fearful inhibitions and emotional reactivity are part of a temperamental precursor to the callous and unemotional (i.e. affective) dimension of psychopathy.

Thus, research on normal development and childhood psychopathology support a developmental model of psychopathy, in which a) at least parts of some dimensions of psychopathy (e.g., fearless dominance and boldness) are specified as a developmental precursor to conscience development and b) problems in conscience development are proposed as leading to serious conduct problems in some children (see Frick & Kemp, 2021 for a more extended discussion of this theory). In this theoretical model of psychopathy, the key developmental construct is problems in the development of conscience, with low emotional reactivity and fearlessness being a temperamental precursor to this construct and antisocial behavior being one possible outcome to it. It is important to consider that future longitudinal tests in samples at various stages of development may uncover other linkages within the dimensions that have been used to define psychopathy in adults and such findings could advance models of psychopathy in other important ways. However, the theoretical model outlined above illustrates how developmental extensions to psychopathy can advance conceptualizations of psychopathy that go beyond simply documenting patterns of behavioral covariation or shared risk factors and allow for tests of theoretically important hypotheses for how the dimensions may develop over time both individually and in relation to each other. However, to test potential developmental linkages among dimensions of psychopathy, it is necessary that methods for assessing psychopathy in children and adolescents use measures that allow for the separation of dimensions, so that they can be used in research individually. One could not test a model of whether antisocial behavior is an outcome of psychopathy, if psychopathy is defined in part by antisocial behavior. One could not test a model of boldness or fearless dominance as a precursor to psychopathy, if the psychopathy outcome measure includes items assessing boldness and fearless dominance.

3. Psychopathy as a specifier or risk factor for conduct problems

There have been a number of both qualitative (Frick, Ray, Thornton, & Kahn, 2014b; Kotler & McMahon, 2005; Lynam & Gudonis, 2005; Ribeiro da Silva, Rijo, & Salekin, 2020; Salekin, 2017) and quantitative (Geerlings, Asscher, Stams, & Assink, 2020; van Geel, Toprak, Goemans, Zwaaswijk, & Vedder, 2017) reviews of research extending the construct

of psychopathy to children and adolescents showing that most of the dimensions of psychopathy, or scales that combine all dimensions into one broad construct, are correlated with conduct problems, even in children as young as age 3 (Kimonis et al., 2006). It is important to note that much of this research did not separate the dimensions of psychopathy but used scores that combine across the dimensions (Frick et al., 2014b; Salekin, 2017). However, the smaller body of research that has separated dimensions of psychopathy in studying their association with conduct problems has consistently shown that the various dimensions show key differences in their associations with conduct problems and with some important risk factors to conduct problems in children and adolescents. The two dimensions that have been the focus of most of this research are the impulsivity/irresponsibility (i.e., Lifestyle Facet or Disinhibition) and the callous-unemotional (i.e., Affective Facet or Meanness) dimensions, which will be labelled as I—I and CU going forward.

To summarize this research, with the exception of the Antisocial Facet that is largely defined by conduct problems, measures of I—I tend to show the strongest correlation with and the strongest prediction of future conduct problems across many different samples of children and adolescents and with I—I measured in a number of different ways (see Salekin, 2017 for a qualitative review of these findings and Geerlings et al., 2020 for a meta-analysis). This finding is consistent with a wealth of research in adults, showing that one of the best predictors of antisocial behavior among the dimensions of psychopathy (again with the exception of the Antisocial Facet, which is defined by antisocial behavior) is the I—I dimension (see Blais et al., 2014; Kennealy, Skeem, Walters, & Camp, 2010 for two meta-analyses of this research). However, research in child and adolescent samples has not consistently shown that the I—I dimension predicts important outcomes, after controlling for the severity of conduct problems, nor has it shown that the presence of I—I changes the association of conduct problems with theoretically important risk factors.

In contrast, research suggests that CU traits have a more modest association with general measures of conduct problems (see Geerlings et al., 2020 for a meta-analysis), sometimes not predicting general antisocial outcomes when controlling for I—I (see Salekin, 2017 for a qualitative review). However, research has shown that CU traits predict some specific antisocial outcomes, such as severe and premeditated violence (Lawing, Frick, & Cruise, 2010), bullying (Thornton, Frick, Crapanzano, & Terranova, 2013), and antisocial personality disorder (McMahon et al., 2010), even when controlling for indicators of conduct problem severity and I—I.

In addition to predicting outcomes independent of conduct problems severity, CU traits have proven to change the association between conduct problems and several important risk factors. The first and best supported example of CU traits as a moderator to correlates of conduct problems is research showing that children with conduct problems with and without elevated CU traits show different patterns of emotional reactivity to various emotional stimuli, such as facial depictions of distress, with those low on CU traits showing heightened emotional reactivity and those high on CU traits showing reduced emotional reactivity. These differences in emotional responding have been found across a wide range of measures. Specifically, children with elevated CU traits show less amygdala activation to fearful facial expressions (Viding et al., 2012) and when asked to judge the acceptability of statements that might cause fear in others (e.g., “You better watch your back; Cardinale et al., 2018). Compared to children and adolescents with conduct problems and normative levels of CU traits, youth with elevated CU traits also self-report less fearful inhibitions (Fanti, Panayiotou, Lazarou, Michael, & Georgiou, 2015), show reduced attentional orienting to pictures depicting distress (Kimonis, Frick, Fazekas, & Loney, 2006), show reduced startle potentiation when presented with aversive stimuli or imagining a fearful event (Fanti et al., 2015; Kimonis, Fanti, Goulter, & Hall, 2017), show reduced attentional capture (i.e., distraction) to emotional faces (Hodsoll, Lavie, & Viding, 2014), show lower

resting respiratory sinus arrhythmia (Wagner et al., 2017), show reduced EEG response to fearful vocal stimuli (Hoyniak et al., 2018), and show reduced attentional engagement to images of people in distress (Kimonis et al., 2017). These findings have not only been consistent across studies using many different methods for measuring emotional reactivity but they have also been consistent across a wide age range of children and adolescents, with samples ranging from a mean age of 36 months (Wagner et al., 2017) to mean ages of 11.21 (Fanti et al., 2015) and 16.80 years (Kimonis et al., 2017).

Again, it is important to note that these studies not only show that the reduced emotional reactivity is related to conduct problems only at high levels of CU traits but they also consistently show that conduct problems in the absence of CU traits are often associated with heightened levels of emotional responding (Fanti et al., 2015; Kimonis, Frick, Boris, et al., 2006; Viding et al., 2012). That is, the subgroups of children with conduct problems defined by different levels of CU traits often show opposing patterns of emotional reactivity. This finding provides strong support for CU traits as a specifier in research, given that if CU traits are ignored as a specifier for subgroups of children with conduct problems or as a moderator of the association between emotional reactivity and conduct problems, one would conclude that emotional reactivity has very little association with conduct problems, given that the high levels of reactivity in those low on CU traits and the reduced emotional reactivity in those high on CU traits would obscure any overall association. It is possible that the failure to find consistent molecular genetic and other biological risk factors for serious conduct problems, many of which may underlie the differences in emotional reactivity, is due to the failure of most of the research in these areas to consider CU traits as a moderator or specifier (Fairchild et al., 2019). While this possibility requires further research, it is consistent with findings suggesting that CU traits moderates the degree of genetic influence on conduct problems in young children (Viding, Jones, Frick, Moffitt, & Plomin, 2008).

Further, children with conduct problems and CU traits show abnormal responses to punishment cues, again with the findings replicating across various methods and age groups. Children with conduct problems and elevated CU traits show abnormalities in how they process punishment cues, such as self-reporting a reduced sensitivity punishment (Allen, Morris, & Chhoa, 2016; Fanti et al., 2015) and showing a reduced sensitivity to punishment on a behavioral task in which a reward dominant response set is primed (Barry et al., 2000). This reduced punishment sensitivity is especially evident when peers are present (Centifanti & Modecki, 2013). Children with elevated CU traits also show reduced differential reward-punishment responsiveness within several brain regions (Zhang et al., 2021). Adolescents with elevated CU traits are more likely to view aggression as an acceptable method to use for instrumental gain or dominance, and they are more likely than other youth with conduct problems to focus on the positive outcomes of their antisocial behavior rather than on potential punishment, victim suffering, or feelings of remorse (Pardini & Byrd, 2012). These findings related to differences in punishment sensitivity between children and adolescents with and without elevated CU traits have not only been critical for advancing causal theory suggesting different developmental processes leading to conduct problems in those elevated and not elevated on CU traits (Viding & McCrory, 2018; Waller & Wagner, 2019), it has also been highly influential in guiding enhancements to treatment for children with conduct problems and elevated CU traits that emphasize reward strategies to reduce behavior problems rather than punishment (Kimonis et al., 2019).

Another finding is that the CU dimension of psychopathy, but not the other dimensions, moderates the association between certain parenting variables and childhood conduct problems (Edens, Skopp, & Cahill, 2008; Wootton, Frick, Shelton, & Silverthorn, 1997). Specifically, harsh and inconsistent parenting seems to be more highly associated with conduct problems in children and adolescents lower on CU traits but is less strongly associated with conduct problems in those high on CU traits

(Crum, Waschbusch, Bagner, & Coxe, 2015; Oxford, Cavell, & Hughes, 2003; Pasalich, Dadds, Hawes, & Brennan, 2011; Wootton et al., 1997), whereas parental warmth seems to be more highly associated with conduct problems for children who are high on CU traits (Pasalich et al., 2011; Waller et al., 2015). It is important to note that these findings do not suggest that parental harshness is uncorrelated with CU traits themselves, since this has been shown to be the case using genetically informed study designs (Trentacosta et al., 2019; Waller, Hyde, Klump, & Burt, 2018). However, the moderating effect of CU traits has led to theories for how parenting may influence the development of conduct problems differently for children with elevated and non-elevated levels of CU traits (Vaughan et al., 2021; Waller, Gardner, & Hyde, 2013), as well as for recommendations for how to enhance treatment effectiveness by relying more parental warmth in the treatment of children with conduct problems and elevated CU traits (Kimonis et al., 2019).

One final way that CU traits have proven important for understanding the correlates to conduct problems is in the associations among CU traits, anxiety and conduct problems. That is, conduct problems have consistently been related to conduct problems in various samples of children and adolescents (see Cunningham & Ollendick, 2010 for a qualitative review). However, CU traits are often either uncorrelated or positively correlated with anxiety until the child's level of conduct problems is controlled for, at which point the correlation often becomes negative (Frick, Lilienfeld, Ellis, Loney and Silverthorn, 1999; Frick et al., 2003; Loney, Frick, Clements, Ellis, & Kerlin, 2003; Pardini, Lochman, & Powell, 2007). Further, in these same studies, while the association between anxiety and conduct problems is consistently positive, this association becomes stronger when controlling for CU traits. Thus, there appears to be cooperative suppressor effects involving CU traits that is important for understanding how conduct problems may be related to anxiety. That is, longitudinal research suggests that children with conduct problems experience more anxiety, possibly due to the social consequences of their antisocial behavior (e.g., disciplinary confrontations at home or school; social rejection; Frick, Lilienfeld, Ellis, Loney and Silverthorn, 1999; Fanti et al., 2019). Given that the majority of children with elevated CU traits show significant conduct problems, CU traits can be positively associated with anxiety due to the consequences of their conduct problems. As a result, some children with elevated CU traits may show high levels of anxiety and, as would be expected from the link between anxiety and the social consequences of problem behavior, they also tend to show higher levels of conduct problems than those with CU traits without high levels of anxiety (see Craig, Goulter, & Moretti, 2021 for a review). However, the suppressor effect suggest that *given the same level of conduct problems*, those higher on CU traits tend to be less distressed or anxious compared to those lower on CU traits, which leads to CU traits being negatively associated with anxiety when conduct problem severity is controlled. Further, these effects also mean that the association between conduct problems and anxiety is "suppressed" when not controlling for CU traits.

In short, this research clearly supports that both I—I and CU traits have important implications for advancing research, classification, and treatment of children and adolescents with conduct problems. However, it also clearly indicates that these dimensions have different associations with conduct problems and with important correlates to conduct problems. Both of these conclusions have important implications for using the dimensions of psychopathy in research on and classification of childhood disruptive behavior disorders. Specifically, these findings further support the conclusion that measures used in research with children should not use scores that sum across these dimensions. Such global scores would reduce the ability of the I—I dimension to predict conduct problems by including a dimension (i.e., CU traits) that is less predictive of this outcome. Further, it would reduce the ability of CU traits to predict outcomes independent of conduct problem severity or to designate subgroups of youths with conduct problems that differ on important risk factors by including a dimension that has not proven as useful for this purpose (i.e., I—I). This issue has important implications

for interpreting a significant amount of the research attempting to extend the construct of psychopathy to children and adolescents that has often used scores that sum across different dimensions and, as a result, likely hid important differences in their associations with conduct problems. Further, these findings have important implications for measure development. That is, many measures of psychopathy have included subscales to assess the different dimensions but which have only a limited number of items measuring each dimension of psychopathy (e.g., Andershed et al., 2007; Frick & Hare, 2001; Lopez-Romero et al., 2019; Lynam, 1997). As result, the items assessing the individual dimensions are often limited and, as a result, show problematic psychometric properties in many samples (Poythress, Dembo, Wareham, & Greenbaum, 2006). Instead, scales must have sufficient items to assess these dimensions individually in a way that is reliable and can lead to valid inferences on their differential correlates.

Finally, these different associations with conduct problems have important implications for diagnostic criteria. That is, CU traits appears to be a good specifier for the classification of conduct problems by being only modestly associated with the main criteria (i.e., conduct problems), which means that a substantial number of persons with the diagnoses will NOT show these traits. This type of relationship is important for forming subtypes because one wants to differentiate among persons with the disorder, not identify characteristic that are relatively common across all those with the disorder. Further, as noted previously, there is evidence that the subtypes of children with conduct problems that are formed using CU traits have substantial clinical (e.g., relate to severity, outcome, and treatment response) and etiological (e.g., show different associations with important variables that could implicate unique causal processes) validity. This research is what led CU traits to be included as a specifier in the DSM-5 and ICD-11 for conduct problem diagnoses.

In contrast, the I—I dimension is highly associated with conduct problems. Such a high correlation is likely why there is limited evidence that this dimension of psychopathy predicts outcomes independent of conduct problem severity or that it changes the association of conduct problems with etiologically important processes. That is, the high correlation means that it is likely that most persons with serious conduct problems would also be high (or at least higher than those without conduct problems) on this dimension. All of this research supports the I—I dimension as being quite important in risk prediction for later conduct problems but not as useful for designating important subgroups children and adolescent with conduct problems. These findings in child and adolescent samples is consistent with research on adults and relates to one of the difficulties in finding support for a single definition of psychopathy. That is, different dimensions are most useful if the primary goal for psychopathy is to have a strong predictor of risk for antisocial behavior versus if the primary goal is to designate a clinical and etiologically important subtype of persons who show serious antisocial behavior (see Skeem et al., 2013 for a discussion of this issue). For advancing research and classification of childhood disruptive behavior disorders, this research means that the I—I dimension should not be included in diagnostic criteria as a specifier but should be considered as a risk factor for development of disruptive behavior disorders. In contrast, CU traits may offer some predictive utility in predicting certain types of conduct problems that may be uniquely associated with them (e.g., proactive aggression) or in predicting more severe and chronic conduct problems *within* those who show serious conduct problems but offer only modest prediction as a risk factor for general conduct problems in community samples, especially after controlling for other dimensions of psychopathy (Salekin, 2017).

4. Integrating psychopathy dimensions with existing diagnostic criteria

Another concern that has long been expressed with using psychopathic traits in the classification of childhood psychopathology is how to handle the overlap in indicators of psychopathy with symptoms of

existing disorders that have been extensively studied in children and adolescents (Burns, 2000). One area of particular concern is the I—I dimension, which includes a number of indicators of poor impulse control that overlap substantially with the criteria for Attention-deficit/Hyperactivity Disorder (ADHD; Frick, 2021). In fact, measures of I—I that have been used in samples of children and adolescents often include items that directly correspond with symptoms of ADHD (often has difficulty awaiting his/her turn; often does things without thinking ahead) and, as would be expected, have been highly correlated (e.g., $r = 0.80$) with symptoms of ADHD (Colins, Fanti, & Andershed, 2021). As noted previously, the findings that this dimension of psychopathy is highly predictive of conduct problems and conduct problem severity is consistent with a very substantial amount of past research showing that ADHD is a critical risk factor in the early development of conduct problems (Moffitt, 2018), although it is important to note that a large number of children with ADHD do not show elevated conduct problems (Waschbusch, 2002).

As result, there is strong evidence to support keeping the I—I dimension separate from conduct problems when classifying childhood disruptive behavior disorders and, based on existing research, it is not clear what adding the I—I dimension of psychopathy to diagnostic classification of childhood disruptive behaviors would add to the existing practice of designating youth with a co-morbid diagnosis of ADHD and a conduct problem diagnosis. It is possible that future research may show that there are some critical aspects of the I—I (or disinhibition) dimension of psychopathy that are not captured well by the current ADHD symptoms and could potentially be added to the existing criteria, but this has not been the focus of research to date. Until such research is conducted, it is not clear how adding the I—I dimension to existing diagnostic classification would be helpful and, in fact, as noted in the next section, there is potential for harm in labelling such a non-specific indicator (i.e., a large number of persons who show these features do not show other indicators of psychopathy) as being a dimension of psychopathy.

Another dimension of many conceptualizations of psychopathy, the interpersonal facet, is more difficult to evaluate for its usefulness to defining childhood disruptive behaviors. The reasons for this difficulty are two-fold. First, much of the earlier research extending the construct of psychopathy to children and adolescents often did not separate this dimension from most other dimensions of psychopathy. Even in the case where separate dimensions of psychopathy were studied, the interpersonal and affective facets (only the latter of which are considered CU traits) were often combined into a single “interpersonal and affective factor” (Frick et al., 2014b; Salekin, 2017). As a result, it is difficult to determine which facet may have accounted for the results in much of this early research. Second, as research did begin to separate these dimensions in children and adolescents, the primary features of the interpersonal facet have not been consistently defined. Specifically, some methods of assessment used in child and adolescent samples focus on narcissism (e.g., a fragile and inflated sense of self-importance) as being the key defining feature (Frick, Bodin, & Barry, 2000), whereas other methods have focused on deceitfulness (Colins, Fanti, Larsson, & Andershed, 2017). To illustrate this, one common method for assessing the interpersonal dimension of psychopathy has 4 of 7 items assessing narcissism: “Seems to think that he/she is better or more important than other people”; “Braggs excessively about his/her abilities accomplishments, or possessions”; “Teases or makes fun of other people”; and “Becomes angered when corrected or punished” but only one item assessing “using and conning others” (Frick et al., 2000). In contrast, another method of assessing psychopathic features in children and adolescent that is commonly used in research has over half (5 of the 9 items) of its items related to lying and conning others: “Lies often to avoid problems”, “Seems to lie more than other children in the same age”, “Often lies to get what he/she wants”, “To frequently lie seems to be completely normal for him/her”, and “To get people to do what he/she wants, he/she often finds it efficient to con them” (Colins et al.,

2017). Thus, it is clear that this dimension of psychopathy is defined quite differently across methods and there is currently little research directly comparing the different methods. Further, the inclusion of items assessing deceitfulness as either the primary defining feature (Colins et al., 2017) or as at least part of the definition of the interpersonal facet (Frick et al., 2000; Lopez-Romero et al., 2019) is highly relevant for classifying serious conduct problems because the diagnostic criteria for Conduct Disorder includes deceitfulness and theft as a defining cluster of symptoms (American Psychiatric Association, 2013).

Thus, more research is needed on this dimension of psychopathy and its defining features before it can be useful for guiding research and classification of childhood conduct problems. It is possible that its key feature (i.e., deceitfulness) is sufficiently captured in the diagnostic criteria for Conduct Disorder. Such a possibility would be consistent with a long history of research indicating that lying and conning is an important indicator of serious conduct problems in children and adolescents, forming part of a covert dimension of conduct problems with other non-aggressive items, such as stealing and rule breaking (see Frick et al., 1993 for an early meta-analysis). However, it is also possible that other interpersonal features of psychopathy may be most critical for defining this dimension (e.g., narcissism, manipulateness; Frick et al., 2000; Lopez-Romero et al., 2019). Then, research would need to consider if and how it should be integrated into the classification of disruptive behavior disorders in children and adolescents. Specifically, research must determine if this dimension is better considered as a) a risk factor for conduct problems, like the I—I dimension; b) a specifier for subgroups of children with serious conduct problems, like the CU dimension; or c) integrated with the other covert symptoms of Conduct Disorder in the main criteria for the disorder.

5. Do no harm

As mentioned previously, most of these theoretical and empirical issues related to extending the construct of psychopathy to children and adolescents are not unexpected when attempting to integrate disparate lines of research that have largely been conducted independent of each other by different researchers. However, they take on added importance for a construct like psychopathy that has the potential for dangerous labelling effects. Unfortunately, there is evidence that receiving any mental health diagnosis can be stigmatizing in Western societies and, as a result, the benefit of labelling (e.g., documenting the need for treatment; preventing future distress and impairment) must be weighed against the potential harm of labelling a person with a “disorder” (Corrigan, 2018; Hinshaw & Stier, 2008). Such concerns are magnified with terms like “psychopathy” that have widespread usage in the lay public, with quite negative connotations.

Specifically, research has suggested that using the term “psychopathy” can lead to increased perceptions of dangerousness and poorer treatment amenability for both adult (Berryessa & Wohlstetter, 2019) and adolescent defendants in criminal proceedings (Chauhan, Reppucci, & Burnette, 2007; Jones & Cauffman, 2010; Murrie, Boccaccini, McCoy, & Cornell, 2007; Murrie, Cornell, & McCoy, 2005; Rockett, Murrie, & Boccaccini, 2007; Vidal & Skeem, 2007). There is evidence to suggest that this is largely due the descriptions of symptoms related to psychopathy, rather than to use of the term “psychopathy” itself (Murrie et al., 2007; Vidal & Skeem, 2007). Further, similar negative effects seem to be associated with use of the term Conduct Disorder (Boccaccini, Murrie, Clark, & Cornell, 2008) or Limited Prosocial Emotions specifier (Edens, Mowle, Clark, & Magyar, 2017), although this again appears to be largely due to the effects of describing the symptoms of Conduct Disorder (Murrie et al., 2007) or describing the CU traits that are used to define the specifier, rather than use of the label itself (Prasad & Kimonis, 2018).

Based on this research, it is important to consider the potential danger and stigma associated with it, when considering how to apply a diagnostic label for a construct defined by antisocial tendencies. It is

important to note that there is also cause for concern in using terms that minimize the severity of the construct by making it sound more normative. For example, some have advocated for the use of the term “callous-unemotional behaviors” when applied to very young children, rather than “callous-unemotional traits”, given that these indicators tend to be less stable in young children (Waller & Hyde, 2017). However, this practice could also run the risk of some children who show normative behaviors that are only present in some situations and relationships as being considered as having a severe and problematic pattern of behavior. Taken together, these considerations led the DSM-5 to choose the term “with Limited Prosocial Emotions” to describe the specifier for Conduct Disorder, rather than using the term “psychopathic” or “callous-unemotional traits”. This choice was made in an attempt to accurately describe the key features of the construct in a way that minimizes the potential harmful effects and that is not so pejorative that it prevents mental health professionals from using it to get treatment for children and adolescents with an impairing pattern of behavior.

Due to the potential effects of the label “psychopathy”, serious consideration needs to be given as to if, when, how a dimension is considered to be indicative of psychopathy. For example, based on the findings reviewed previously, a number of dimensions that have been included in many definitions of psychopathy in adults are not specific to this construct. One example is “boldness”, which may not even be associated with impairment and problematic outcomes unless it is also associated with other dimensions of psychopathy (Laurinavičius et al., 2020; Pechorro, Quintas, DeLisi, & Gonçalves, 2021) and may even be related to signs of healthy and adaptive adjustment in isolation of other indicators of psychopathy (Miller & Lynam, 2012). Cogent arguments have been made that the dimension of boldness may still be important for theoretical models of psychopathic personality that do not assume that it is always related to pathological outcomes (Lilienfeld et al., 2016; Patrick & Drislane, 2015). In addition, a model for the development of psychopathy was proposed earlier that considers fearlessness (one part of broader construct of boldness) as a key temperamental precursor to other dimensions of psychopathy (e.g., CU traits). Thus, while boldness may have utility in theoretical models for the construct of psychopathy, either as a defining feature or precursor, it is not clear how it should be integrated into diagnostic classification of children with disruptive disorders, which assumes problems in development.

Similar concerns can be raised about the I—I dimension of psychopathy. As noted previously, many, and in fact most, children and adolescents who show these behaviors do not show serious conduct problems. Further, even if they show conduct problems they typically do not show other dimensions of psychopathy (Frick et al., 2000). If they do not show dimensions more specific to psychopathy, such as CU traits, they also do not show many of the emotional and cognitive characteristics often associated with psychopathy, such as reduced reactivity to emotional stimuli (Kimonis, Frick, Boris, et al., 2006; Musser, Galloway-Long, Frick, & Nigg, 2013) or abnormal responses to punishment (Barry et al., 2000). However, unlike boldness, there is clear evidence that children and adolescents who show elevated levels of I—I do experience impairments in their social and academic adjustment, even if they don't show conduct problems or other indicators of psychopathy (Frick & Nigg, 2012). Thus, the diagnosis of ADHD, which includes many of the indicators of I—I, is already considered in diagnosing childhood disruptive behavior disorders. Taken together with the potential stigma of the label psychopathy, this research suggests that in defining childhood disruptive behavior disorders, the I—I should continue to be considered as indicators of a separate disorder (i.e., ADHD) that can at times co-occur with more specific indicators of psychopathy, but themselves are not considered “psychopathic traits”.

6. Conclusions and implications

In conclusion, this review highlights several important issues for integrating research from several different areas of psychology, which

have very important implications for extending the construct of psychopathy to research and diagnostic classification on childhood disruptive behavior disorders. To summarize, given that there is no single accepted theoretical framework specifying what are the necessary and specific conditions for defining psychopathy, using this criterion to evaluate extensions of the construct to children and adolescents has limited utility. This conclusion is not to say that multiple dimensions that have been included in many definitions of psychopathy do not have important implications for guiding research on and diagnostic classification of childhood disruptive behavior disorders. Also, theoretical models that specify and guide longitudinal research on potential developmental relationships among dimensions of psychopathic traits could potentially inform the debate on how best to define psychopathy. However, at present, simply evaluating certain uses of psychopathic traits to study or classify childhood disruptive behavior disorders as being inadequate for fully capturing the construct of psychopathy cannot be justified by the existing state of research.

Second, measures to assess dimensions of psychopathic traits in children and adolescents should typically not rely on scores that sum across dimensions. Further, measures for the individual dimensions need to be comprehensive enough to have adequate psychometric properties to be used in isolation of other dimensions, whether they are included with other dimensions on single scale or as a scale assessing only the one dimension. These conclusions are based on the need for the dimensions of psychopathy to be studied separately from each other in order to test potential developmental relationships among them (e.g., could one dimension be a risk factor for another). Also, it is based on the fact that the dimensions often have different associations with childhood conduct problems, some that may be non-specific risk factors (e.g., impulsive-irresponsibility and disinhibition), some that may be precursors (e.g., boldness) to other dimensions of psychopathy, and some that may be good for specifying unique subgroups within children and adolescent with conduct problems (e.g., CU traits).

Third, these different associations with conduct problems all suggest that the dimensions of psychopathy should be used separately and for different purposes in both research on and clinical classification of conduct problems in children and adolescents. For example, past research showing the high correlation between the I—I dimension and conduct problems has been interpreted as suggesting that it should be included as a specifier in diagnostic criteria for conduct problems (Andershed et al., 2018; López-Romero, Fanti, Salekin, Romero, & Andershed, 2020; Salekin, 2017). However, this research actually supports I—I as a risk factor for conduct problems, one that may already be captured by the criteria for ADHD, and not necessarily as a specifier. In contrast, current research suggests that the CU dimension is not as good of an indicator for general risk for conduct problems as the I—I dimension. This may seem like a surprising conclusion, given the previously reviewed research indicating that CU traits are associated with a particularly severe, aggressive, and stable pattern conduct problems. In terms of risk assessment, the fact that most children with conduct problems will not show elevated CU traits (Kahn, Frick, Youngstrom, Findling, & Youngstrom, 2012) indicates that measures of CU traits will give a high rate of “false negatives” as a risk indicator of later conduct problems, with a large number of children who eventually end up showing conduct problems not scoring high on the measure of CU traits. However, this does not negate CU traits potential utility as a severity indicator *within* individuals with serious conduct problems. In terms of diagnostic classification, this is the difference between a risk factor and severity specifier.

Fourth, recommendations for integrating dimensions of psychopathy into diagnostic classification systems for childhood disruptive behavior disorders need to consider their overlap with existing criteria for disorders that have had a long history of research. It is not currently clear if or how the I—I (and related disinhibition) dimension of psychopathy is theoretically distinct from the impulsivity-hyperactivity symptoms of ADHD, whether existing measures of I—I capture such a distinction, and

whether these differences have important implications for research and clinical practice for children with disruptive behavior disorders. Similarly, it is not clear if the interpersonal facet of psychopathy is theoretically distinct from the deceitfulness-theft symptoms of Conduct Disorder, whether measures of this facet capture such a distinction, and whether these differences have important implications for research and clinical practice for children with disruptive behavior disorders. Such research would require a clear specification and testing of how the dimensions of psychopathy may or may not overlap with existing psychopathological constructs and whether any differences with existing constructs add to the classification of children with disruptive behavior disorders. Until such research is done, the available evidence does not support clear changes in the current diagnostic classification for disruptive behavior disorders, in which a) the I—I dimension is included in the criteria for ADHD, as a separate risk factor for conduct problems that is also impairing even when not associated with conduct problems, and b) the interpersonal facet is included with the deceitful-theft symptoms of Conduct Disorder, as part of the covert, rule-breaking, and non-aggressive symptoms of this disorder.

Fifth, determinations of when something is a dimension of psychopathy need to consider the potential for harmful effects of this label. This danger is more of a concern for clinical classification than research and the term “psychopathy” or even “psychopathic traits” should never be applied for clinical purposes with children and adolescents, given the potential harmful effects of such a label. Research should directly test what other terms might accurately convey the important implications of this construct, especially in the need for treatment, while minimizing the potential pejorative connotations. Even in research, however, care should be taken to be clear on what indicators may be specific to this construct and differentiated from those indicators that may only be associated with impairment when present with other dimensions of psychopathy or may be a general risk indicator for conduct problems and only associated with causal processes and outcomes indicative of psychopathy when they are present with other more specific indicators.

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Contributors

I, Paul J. Frick, am the sole author of this paper and am solely responsible for its content.

Declaration of Competing Interest

There are no actual or potential conflict interests to report.

Data availability

No data was used for the research described in the article.

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