

Empathy Differences in Autistic Children and Children with Callous-Unemotional Traits: Recommendations for Clinicians and Research

Cassia McIntyre

SIMON FRASER UNIVERSITY

It is common for autistic individuals and individuals with callous-unemotional (CU) traits to exhibit differences in how they express empathy compared to the general population. These differences can make it difficult to understand social situations which can negatively impact affected individuals' social and emotional development. The similarities related to these difficulties have led researchers to question whether CU traits may co-occur with Autism Spectrum Disorder (ASD); however, evidence suggests that the underlying etiological origins of the empathy differences in ASD and CU traits are not one in the same. Empathy imbalance theory can explain these differing etiological origins. According to this theory, there must be a distinction made between cognitive empathy, which is the ability to perspective-take and recognize others' emotions, and affective empathy, which is the ability to empathize with, understand, and feel others' emotions. Autistic individuals' expressions of affective empathy do not seem to differ from the general population, but they tend to display differences in how they express cognitive empathy. On the other hand, cognitive empathy appears relatively intact in individuals with CU traits, yet these individuals tend to exhibit low levels of affective empathy. This paper provides a brief overview of the literature on the distinct etiological origins of these empathy differences in ASD and CU traits, considers the negative repercussions of conflating them, and concludes with recommendations for clinicians and directions for future research.

Keywords: affective empathy, Autism Spectrum Disorder, callous-unemotional traits, cognitive empathy

Empathy plays a key role in social interactions and contributes to the development of close social bonds and engagement in altruistic behaviour (Davis, 2018; Harmsen, 2019), and can be defined as the “ability to feel or understand the actual or expected emotional state of others” (Georgiou et al., 2019a, p. 1863). How empathy is expressed varies across individuals, with some individuals demonstrating challenges with empathizing with or understanding the emotions of others. Autistic individuals and individuals with callous-unemotional (CU) traits tend to exhibit such differences in empathy expression. These differences can make understanding social situations or knowing how to act appropriately given a particular situation difficult (Mazza et al., 2014). Thus, understanding the potential similarities and differences between these empathy differences in ASD and CU traits is critical to supporting these individuals. While these empathy differences can affect individuals of all ages, identifying these challenges in childhood has important implications for our ability to support these individuals and their development across the lifespan. As such, the primary population of focus for this paper will be children.

Autism Spectrum Disorder (ASD) is a neurodevelopmental condition characterized by differences in social communication and social interaction, and restricted, repetitive patterns of behaviours, interests, or activities (American Psychiatric Association, 2013). Research has shown that autistic children exhibit greater difficulty understanding social situations and the emotions of others compared to non-autistic children. In a study examining social competence, Travis et al. (2001) demonstrated that autistic children displayed less empathy and had greater difficulty with social interactions compared to children with developmental delay. Similarly, Schwenck et al. (2012) found that autistic children had greater difficulty taking the perspective of another person in an emotional perspective-taking task compared to non-autistic children. It is important to note that “difficulty” with empathy may simply reflect differences in autistic children’s expressions of empathy compared to

non-autistic children, and it is not to say that the way autistic children express empathy is wrong or pathological, or reflects a deficit. Because these empathy expressions deviate from an arbitrary norm, however, these differences can have negative implications for autistic children’s social and emotional development. Understanding social situations is associated with social success (Carter et al., 2014) and positive mental health outcomes (Rispoli et al., 2013). Thus, autistic children who express empathy differently and/or have difficulty understanding social situations may be at risk for poorer social and psychological outcomes, highlighting the importance of understanding the spectrum of empathy expression to properly support autistic children.

CU traits map on to the affective dimension of psychopathy and can be defined as “lack of empathy and guilt, failure to put forth the effort on important tasks, and shallow and deficient emotions” (Frick et al., 2014, p. 3). CU traits are associated with specific cognitive and emotional factors. For example, children with CU traits tend to have difficulty recognizing fear and sadness in others and demonstrate a lack of empathy (Frick et al., 2014). A lack of empathy, especially in childhood, is of significant concern as children with CU traits are more likely to be aggressive and engage in antisocial and criminal behaviours in adulthood (Frick et al., 2014). It follows then that CU traits pose a significant threat to children’s healthy development, and early identification and intervention is important to mitigate this trajectory.

At first glance, there appear to be some parallel characteristics in autistic children’s and children with CU traits’ empathy expressions. Because of this similarity, research has questioned the prevalence of CU traits among autistic children and whether these children have a higher likelihood of developing CU traits. As mentioned, empathy differences can negatively impact the development of autistic children and children with CU traits; therefore, evaluating the etiological origins of these differences, the implications of conflating them, and the measurement tools and strategies used by

researchers and clinicians to support these children is critical.

Etiological Origins

Empathy imbalance theory (Smith, 2006) states that empathy can be differentiated into two distinct types: 1) cognitive empathy and 2) affective empathy. Cognitive empathy is the ability to perspective-take and recognize the emotions of others, whereas affective empathy is the ability to empathize with, understand, and feel the emotions of others (Georgiou et al., 2019b; Schwenck et al., 2012). Differences in cognitive empathy are commonly associated with Theory of Mind (ToM; Premack & Woodruff, 1978) in autistic children (Schwenck et al., 2012). ToM is a developmental milestone defined as “the ability of individuals to evaluate the behaviour of others on the basis of their own mental states, such as goals, feelings and beliefs, and enables the identification of others’ intentions, emotions, as well as self-awareness” (Andreou & Skrimpa, 2020, p. 1). Non-autistic children usually reach ToM around age four and exhibit few challenges recognizing the emotions of others once this milestone is achieved (Allen & Jones, 2018). For autistic children, however, there may be differences in their ToM ability, possibly due to a variety of social or biological factors that may inhibit ToM development (Andreou & Skrimpa, 2020).

In contrast, research suggests that children with CU traits have challenges with affective empathy but have little difficulty with cognitive empathy or recognizing others’ emotions (Allen & Jones, 2018). Jones et al. (2010) demonstrated that boys with psychopathic tendencies exhibited less fear and empathy compared to boys without these tendencies; however, there were no significant differences for cognitive empathy (Jones et al., 2010). Another study found that children with CU traits displayed greater difficulty with affective empathy compared to autistic children who had greater difficulty with ToM tasks (Schwenck et al., 2012). Likewise, a study by Pijper et al. (2016) showed that autistic traits were related to lower cognitive empathy,

whereas greater CU traits were related to lower empathic sadness or affective empathy in boys with conduct problems. Further, Georgiou et al. (2019a) found that autistic traits were negatively associated with cognitive empathy, while CU traits were negatively associated with affective empathy. Interestingly, although CU traits were associated with both cognitive and affective empathy, the association between CU traits and cognitive empathy significantly decreased after controlling for autistic traits (Georgiou et al., 2019a). These findings are in line with empathy imbalance theory and suggest that autistic children and children with CU traits do not experience the same challenges with empathy expression.

Taken together, the aforementioned findings suggest that autistic individuals may experience empathy difficulties due to differences in their expressions of cognitive empathy, while their expressions of affective empathy do not significantly deviate from those of non-autistic individuals. On the other hand, individuals with CU traits tend to lack affective empathy but exhibit typical levels of cognitive empathy, demonstrating empathy difficulties opposite that of autistic children. Thus, the empathy differences in ASD and CU traits have distinct etiological origins and are not one in the same. Because of these differing underlying origins, there can be negative implications for children and their families if the distinction is not made between these empathy difficulties by clinicians or researchers.

Implications of Conflating Cognitive and Affective Empathy

Stigmatization

As mentioned, research has questioned whether autistic individuals possess co-occurring CU traits. Some studies have found high levels of CU traits among autistic individuals, representing a “double hit” in which the presence of both CU and autistic traits heighten differences in how empathy is expressed (Leno et al., 2019; Pasalich et al., 2014; Rogers et al., 2006). Despite this,

misidentifying CU traits in autistic children carries the detrimental effects of labelling and can be highly stigmatizing. It has been demonstrated that others' expectations about another person can affect how they are treated. In Rosenthal and Jacobson's (1996) classic study, students showed greater academic achievement throughout the school year when their teachers believed that they had greater academic potential. Clinicians may interact with autistic children differently if they believe they possess CU traits. Labels such as "psychopath" and "antisocial" are highly stigmatizing diagnostic labels that have been shown to influence clinicians' expectations and behaviours towards children with CU traits (Rockett et al., 2007). For instance, Rockett et al. (2007) found that clinicians relied more on a youth's diagnostic label of psychopath to guide their decision-making regarding future risk for violence, particularly when the youth had a minimal antisocial/criminal history. Additionally, clinicians were more likely to judge a greater likelihood of future violence for youth labelled as psychopaths compared to youth with a diagnosis of conduct disorder. If clinicians rely primarily on diagnostic labels, this can influence their decision-making and the strategies they use to support their clients.

Clinicians may also be pessimistic about working with children with CU traits if they associate these traits with the challenges they face when working with adults with psychopathy (Rockett et al., 2007). Frick et al. (2014) state that there is a falsely held belief that children with CU traits respond poorly and are less likely to voluntarily participate in treatment. Therefore, misidentifying CU traits in autistic children can subject them to stigmatization in clinical settings due to the negative connotations associated with traits that they may not have. This could lead to a strained clinician-client relationship if clinicians view their clients in a negative light.

Moreover, labelling can have negative impacts on the development of a child's self-concept; if a child is labelled, their self-concept may develop based on that particular label (Al-

Talib & Griffin, 1994). Research has shown that adolescents who were labelled as "delinquents" reported lower self-concept compared to adolescents without that label (Al-Talib & Griffin, 1994). There is reason to believe then that autistic children who believe they have co-occurring CU traits are likely to form a negative self-concept stemming from their CU traits label. Further, if children are treated negatively due to others' expectations of them, their overall wellbeing and feelings of adequacy as an individual can deteriorate (Erikson, 1956). Given evidence that there are low levels of personal wellbeing among some autistic adolescents, which may be partly due to differences in their expression of cognitive empathy and the difficulties that follow (Bos & Stokes, 2019), it is imperative that any further blows to their wellbeing are avoided. This can be done by avoiding the use of labels, particularly ones that hold strong negative connotations, such as "callous-unemotional" or "psychopath". Ultimately, accuracy in distinguishing empathy differences in ASD from those in CU traits can reduce the likelihood that autistic children will receive those labels.

While prior research has generally agreed that autistic children and children with CU traits exhibit distinct empathy differences due to separate etiological processes, some suggest that these differences are actually no different from one another. Fitzgerald (2019) proposes that the majority of autistic individuals exhibit aggression and other behaviours that overlap with psychopathy. Fitzgerald discusses how Hans Asperger had observed autistic children with aggressive tendencies and suggests that Asperger's accounts point towards "a sadistic pleasure characteristic of both psychopathy and autism...again, showing the overlap" (para. 10). Taking Asperger's observations as evidence of an overlap in ASD and psychopathy, Fitzgerald argues that the term *criminal autistic psychopathy* should be used to "diagnose" autistic individuals who appear to display CU or psychopathic traits.

The use of the term criminal autistic psychopathy fails to consider the consensus that differences in empathy expression in ASD and CU traits have distinct etiological origins, despite

appearing similar on a superficial level. Fitzgerald (2019) describes the empathy levels of autistic individuals as “dangerously low” (para. 10); however, the danger is not within autistic individuals who *appear* to have co-occurring CU traits. The real danger is in labelling them as criminal autistic psychopaths as such a highly stigmatizing label can have significant negative implications for individuals and how they are perceived by others (Al-Talib & Griffin, 2004; Boccaccini et al., 2008; Edens et al., 2003; Murrie et al., 2007; Rockett et al., 2007).

Asperger (1991, 1946) himself acknowledges that the antisocial behaviour he observed in some autistic individuals may have been due to their lack of social understanding. This would align with what is currently known about autistic individuals’ differences in cognitive, but not affective, empathy expression. Nevertheless, Fitzgerald (2019) interprets Asperger’s ideas as strong evidence for psychopathy in autistic individuals without taking into account the underlying differences in how they express empathy compared to individuals with CU traits. Using this term could create additional difficulties for autistic children who may already experience adversity associated with their ASD diagnosis, demonstrating further support for avoiding the use of a highly problematic and stigmatizing label.

Financial Impact

Families of autistic children can face financial challenges due to significant expenses associated with their child’s diagnosis. For example, the medical costs for families of autistic children are 3 to 10 times greater compared to those of families of non-autistic children (Parish et al., 2015). Previous research has also found that families of autistic children report greater financial problems associated with the services and supports for their child (Parish et al., 2015) and greater out-of-pocket expenses that are not reimbursed (Sharpe & Baker, 2007). These financial costs can lead to increased stress for families of autistic children (Rogge & Janssen, 2019). Implementing strategies and participating

in services that target the wrong empathy difficulty can unnecessarily add to the costs that families of autistic children are already impacted by. Thus, there is an essential need for accuracy in identifying how empathy is expressed differently in autistic children compared to children with CU traits to ensure that these children and their families are receiving services that will be beneficial to them.

Broadly, financial impacts also exist for society if children with CU traits do not receive adequate supports due to a lack of understanding of the particular empathy difficulty they have, or due to unavailability of these services (see Clinical Implications). As mentioned earlier, children with CU traits are more likely to engage in antisocial and criminal behaviour in adulthood (Frick et al., 2014), so the costs associated with failing to provide adequate support to these children can be detrimental. It is estimated that it costs society \$2.6 to \$5.3 million to prevent just one high-risk youth from being involved in the criminal justice system (Cohen & Piquero, 2009). These costs can be mitigated if clinicians are accurate in their identification and can distinguish empathy differences among autistic children from those among children with CU traits. Not only would this prevent the incorrect identification of CU traits in autistic children, or vice versa, but could also prevent the negative outcomes that follow.

Clinical Implications

The therapeutic alliance between a clinician and their client has been shown to be a significant predictor of client outcomes, irrespective of the treatment modality used (Norcross & Lambert, 2018). If clinicians are not accurate in their identification of empathy differences among autistic children and children with CU traits, this holds negative clinical implications for both populations. If CU traits are misidentified in autistic children who then participate in interventions designed to target the mechanisms underlying affective empathy difficulties, this could negatively impact children with CU traits. The time and resources that could

be put into supporting children with CU traits may be unnecessarily spent on autistic children who typically do not require support for differences in affective empathy expression. Further, if children with CU traits do not receive support because it is unavailable and inaccessible to them, there may be fewer opportunities for them to learn and development their empathic skills. Again, this could create greater challenges at the individual and societal level as antisocial and criminal behaviours can increase and persist if left unaddressed (Frick et al., 2014). This is certainly not to say that autistic children would not benefit at all from services aimed at enhancing their affective empathy abilities; however, it is important that children with CU traits have the appropriate supports available to them as well.

Recommendations for Best Practice

Research Recommendations

Using high-quality tools to measure psychological constructs allows researchers to conduct more accurate assessments. Well-validated empathy measures that distinguish between cognitive and affective empathy (e.g., Empathy Questionnaire for Children and Adolescents (EmQue-CA; Overgaauw et al., 2017), should be used to assess empathy in autistic children and children with CU traits to understand where exactly, if at all, these children are experiencing empathy-related challenges. To the best of the author's knowledge, no studies have validated the EmQue-CA with autistic children or children with CU traits. Future research should aim to validate the EmQue-CA, or a similar questionnaire, with these children to establish its psychometric properties in both populations. The development of a scale that measures both cognitive and affective empathy in autistic children specifically may be an alternate option. The Empathy Quotient (EQ; Baron-Cohen & Wheelwright, 2004) is a widely used empathy measure for autistic individuals. That said, the EQ does not differentiate between cognitive and affective empathy (Bos & Stokes, 2019). Additionally, the Questionnaire of Cognitive and Affective Empathy (QCAE; Reniers et al., 2011)

has recently been used to measure both empathy domains in autistic individuals (Mul et al., 2018), but this study did not include children. Empathy is not simply a unidimensional construct, and distinguishing between cognitive and affective empathy is critical (Blair, 2008; Georgiou et al., 2019a; Jones et al., 2010; Schwenck et al., 2012). As such, it would be best practice to utilize measures of cognitive and affective empathy when measuring empathy in autistic children, children with CU traits, or any child that may exhibit differences in empathy expression.

The majority of research has shown that children with CU traits express cognitive empathy no different from the general population. Yet some studies have found that these children do in fact exhibit difficulty with cognitive empathy, in addition to affective empathy (Dadds et al., 2009; Pasalich et al., 2014). Inconsistent definitions of cognitive empathy in past studies may explain why findings are mixed (Lui et al., 2016). Utilizing an agreed upon definition would improve research methodologies by increasing the validity of the measurement of cognitive empathy in children with CU traits. As with autistic children, well-validated scales that assess cognitive and affective empathy should also be used with children with CU traits. One study (Murphy, 2019) found that the Griffith Empathy Measure (GEM; Dadds et al., 2008) demonstrated poor construct validity, bringing into question previous research that has used the GEM to examine empathy in children with CU traits. There are several well-validated measures designed to evaluate CU traits in children, which also tap into differences in empathy expression (e.g., Inventory of Callous-Unemotional Traits (ICU; Frick et al., 2004); Psychopathy Checklist Revised - Youth Version (PCL:YV; Forth et al., 2003). While some research has demonstrated good psychometric properties for the ICU in multicultural, diverse populations, the normative sample for the PCL:YV is comprised of a predominantly male and white sample (Kimonis & Goulter, 2017), limiting the ability to generalize to more diverse populations. More research evaluating empathy scales and their use with children with CU traits is needed.

Clinical Recommendations

While autistic children do not typically demonstrate differences in their expressions of affective empathy, some research has shown that autistic children do in fact exhibit differences in affective empathy compared to non-autistic children (Bos & Stokes, 2019). ASD is a highly heterogeneous condition and expressions of empathy may fall along a spectrum; thus, generalizations cannot be made regarding empathy differences for all autistic individuals. Clinicians should assess cognitive and affective empathy in autistic children as objectively as possible, without assuming that there will be more or less difficulty for the child in either domain. Further, clinicians should tailor their approach to the child's specific needs and aim to enhance their strengths in addition to supporting them in the areas they may experience difficulty. Research suggests that it can be beneficial for autistic children's social skill development when educators and families work together to ensure that children are practicing these skills in both educational and home/familial contexts (Carter et al., 2014). Clinicians should emphasize the importance of practicing empathy outside of the therapeutic context by encouraging children to practice empathy at school with teachers and peers as well as at home with family.

Importantly, educational programs that promote inclusivity by teaching children about their autistic peers and their differences can be a valuable tool for supporting autistic children's social and emotional development. The 'double empathy problem' (Milton, 2012) emphasizes that autistic individuals' ways of communicating are considered atypical to non-autistic individuals; yet non-autistic individuals' ways of communicating are likewise misunderstood and unusual to autistic individuals. In this sense, "empathy is a two-way street" (Milton, 2012, p. 885) in which both autistic and non-autistic individuals experience a disconnect in their social interactions with one another. However, this lack of social reciprocity is typically attributed to the autistic individual and believed to be due to intrinsic factors the lie within the autistic person

(Milton, 2012). Viewing the social difficulties that some autistic individuals face as internal to the person can be pathologizing and can pressure autistic individuals to conform to social norms that are typical of the general population. In contrast to the medical model of disability which views disability as an individual problem, the social model of disability moves away from individual blame, and instead attributes disability to social barriers beyond one's control that make the world an inaccessible place (Disability Rights Commission, 2003). From a social model perspective, autistic individuals' different ways of expressing empathy simply reflect variation in empathy expression, and it is society's lack of understanding of these differences that creates the social and emotional difficulties that some autistic individuals' experience. Thus, while social and emotional supports can be beneficial for autistic children, these children should not have to conform to a neurotypical standard of empathy expression. An alternative could be educating their peers, teachers, and clinicians about these differences, rather than trying to "fix" autistic children and their behaviours as they need not be fixed.

Interventions and supports for children with CU traits can be implemented earlier if clinicians focus more on empathy *development*, rather than solely on the empathy challenge itself (Frick & Kemp, 2021). Frick and Kemp (2021) state that recognizing the risk factors associated with the development of empathy difficulties can lead to earlier implementation of services and supports aimed at mitigating these risks. If these are to be implemented effectively, we must understand not only how empathy difficulties develop in children with CU traits, but also *which* dimensions of empathy these children may struggle with. Again, this emphasizes the importance of distinguishing between differences and/or difficulties in cognitive versus affective empathy, and enhancing our understanding of who is at risk.

Future Directions

There is growing research on the role that alexithymia may play in the social challenges observed in some autistic individuals. Alexithymia is a condition characterized by difficulty in recognizing, understanding, and distinguishing one's own emotions and the emotions of others (Costa et al., 2019), and approximately 50% of autistic individuals have co-occurring alexithymia (Kinnaird et al., 2019). The "alexithymia hypothesis" (Bird & Cook, 2013) proposes that the social difficulties observed in some autistic individuals, and the heterogeneity in the social phenotype of ASD, may be better explained by co-occurring alexithymia, rather than as a core feature of ASD (Poquérusse et al., 2018; Scheerer et al., 2021). Recent studies (Mul et al., 2018; Shah et al., 2019) have examined the role of alexithymia for autistic and non-autistic individuals' expressions of cognitive and affective empathy. Mul et al. (2018) found that alexithymia partially mediated the association between empathy differences and autistic traits, whereas Shah et al. (2019) found that autistic traits explained more variance in empathy differences than alexithymia. The latter finding counters research suggesting that alexithymia is a stronger predictor of social difficulties than ASD. However, Speyer et al. (2021) demonstrated that alexithymia was in fact a stronger predictor of empathy differences than autistic traits. These mixed findings indicate that more research examining alexithymia, autistic traits, and empathy differences is needed before stronger conclusions can be made.

Like empathy, research suggests that CU traits have their own distinct etiological origins. Often referred to as variants, these origins are based on Karpman's (1948, 1941) theory that there are two types of psychopathy which are distinguished by anxiety. *Primary* CU traits are believed to originate from emotional processing deficits with a biological basis, with affected individuals demonstrating typical levels of anxiety (Kahn et al., 2017). *Secondary* CU traits are believed to originate from negative environmental factors which lead individuals to act callously as a way to cope with these adverse environmental experiences, such as trauma or abuse (Craig et

al., 2021). Thus, individuals with the secondary variant exhibit higher levels of anxiety compared to those with the primary variant (Kahn et al., 2017).

One study found that individuals with CU traits demonstrated greater cognitive empathy when they also had low levels of anxiety, but their anxiety did not influence their affective empathy (Kahn et al., 2017). The researchers suggest that this may explain why previous research has consistently demonstrated a negative association between CU traits and affective empathy, but has inconsistently demonstrated the link between CU traits and cognitive empathy. It may be that individuals with both variants experience a lack of affective empathy given that lower levels of affective empathy are observed in individuals with varying levels of anxiety. However, individuals with the secondary variant may be more susceptible to a lack of cognitive empathy, perhaps due to higher anxiety. It is less clear how these variants play a role in children's empathy differences, and further research is needed to parse the potential moderating role of anxiety specifically in children with CU traits.

There is also room for future research to further our understanding of the prevalence of co-occurring CU traits in autistic individuals. One study demonstrated that, although the correlation between CU traits and ASD traits was low, approximately 35% of autistic youth scored highly on measures of CU traits (Rogers et al., 2006). Leno et al. (2015) also investigated the prevalence of CU traits in autistic adolescents and found that 51% of their sample scored above the cut-off for CU traits. These findings suggest that CU traits may indeed be higher in autistic individuals compared to the general population. Notably, Rogers et al. (2006) highlight that the high levels of CU traits found in some autistic individuals should not be mistaken as applicable to all autistic individuals, but rather as a subgroup of autistic individuals who may also score highly on CU traits. This means that a lack of empathy or disregard for others observed in some autistic individuals should not be considered to be a core feature of ASD, but should be assessed

separately, perhaps indicating co-occurring CU traits (Rogers et al., 2006). Replication is necessary to examine whether these findings hold true across more diverse samples, and it is clear that research would benefit from examining this overlap further.

Conclusion

Clinical practice that is informed by research is invaluable for the development and implementation of adequate services and supports. As differences in empathy expressions can negatively impact development, understanding the etiological origins of these differences, the implications of conflating them, and the measures and the strategies clinicians

can use to support affected children is critical. A greater understanding has the potential to mitigate the consequences that follow from misidentifying or conflating empathy differences in these populations. Particularly, stigmatization and negative financial impacts can be avoided, children and their families can receive adequate and appropriate supports, and the therapeutic alliance can be protected. Empathy differences, their potential associated difficulties, and their developmental pathways in autistic children and children with CU traits are complex. More research, particularly that takes a social model of disability approach, is needed to fully understand these differences and to aid researchers and clinicians in supporting these children's healthy development

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