ENCYCLOPEDIA on Early Childhood Development

Empathy, Prosocial Behaviour and Adjustment: Clinical Aspects of Surfeits and Deficits in Concern for Others

Carolyn Zahn-Waxler, PhD, Andrew Schoen, BS

University of Wisconsin, USA

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Introduction

Prosocial behaviours provide benefit to others. They include sharing, help, comfort, protection and defense of others, and related traits of kindness and generosity. These adaptive behaviours reflect social-emotional competence. Prosocial actions evoked by others' distress are often motivated by feelings of empathy/sympathy and a desire to alleviate their suffering.[1] Under some circumstances these feelings and actions can be maladaptive.[2] Some psychiatric disorders and psychological problems are characterized, in part, by extremes of empathy, both surfeits and deficits that undermine the capacity to care for others in a healthy manner.[3,4,2] The study of extremes can provide insights into processes associated with different forms of psychopathology.[3,4,5,2]

Subject

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Expressions of concern for others begin during the first and second year of life.[6,7] They are manifest in facial and vocal expressions of empathy/sympathy, the forms of prosocial actions noted above, and cognitive awareness of the other's experience. From early on, however, three types of extremes are present[8,9,10] that may be precursors of later psychological and psychiatric problems.

1. Surfeits

High levels of empathy and prosocial behaviours are sometimes associated with anxiety and depression.[11,2] From early on in development extreme concern may be a sign of these internalizing problems. Extreme concern can also be seen in a genetic disorder, William's Disease; it includes mild to moderate mental disability and high sociability, where extreme prosociality can create danger.[12]

2. Deficits

   a. Callousness and hostility. This appears in the second and third years of life, af-ter concern for others emerges and is expressed toward both adults and peers.[13,7] It is seen in laughter as children enjoy the person's distress, anger/aggression, and blaming the victim. It is relatively rare and may signal later conduct problems and psychopathic traits.

   b. Lack of response. This can be seen in children on the autism spectrum.[3] It is also seen in children high in inhibition,[14] which predicts later anxiety and depression in adolescence, especially in girls.[15]

The two types of empathy deficits are referred to as active versus passive deficits, respectively.[16] DSM-V psychiatric nomenclature describes disorders defined, to a significant degree, by these deficits.

Problem

Surfeits and deficits in caring emotions and behaviours in children and adolescents can undermine quality of social relationships and long-term adjustment.

Others' lives also are affected (e.g., parents, siblings, peers). Research on surfeits of concern for others has been hampered by reluctance to pathologize behaviours that seem so mature and considerate. This began to change with the advent of a developmental psychopathology approach and assessment of risk factors implicating high levels of concern for others in anxiety and

depression.[2] There is still, however, more research on active and passive deficits in concern for others.

Research Context

Because others' distress may be infrequent and unpredictable, naturalistic observations are difficult to obtain. Reports from children, adolescents, parents, teachers, and clinicians are used to assess both concern for others[17,18,19] and lack of regard for others.[20,21] Prosocial and antisocial themes also are evoked in symbolic play.[22,9] In early naturalistic studies[23] we trained mothers to make detailed, reliable, observations of children's responses to others' distress.

Structured probes (e.g., when an examiner or parent simulates pain or sorrow) are used extensively in both laboratory and home contexts. These probes first were used in studies of early normative development of concern for others[24,7] and then under conditions likely to evoke extreme concern, e.g. having a depressed parent.[8] Distress simulations also are used to study concern in older children and youth as well as those likely to have deficits, i.e. antisocial patterns and conduct problems[25,26] or autism spectrum children.[27,3] Longitudinal designs can assess whether early extremes predict later problems.[25]

Key Research Questions

1. What environmental conditions elicit (a) surfeits of concern for others, (b) active deficits, and (c) passive deficits?
2. What biological/hormonal/genetic conditions elicit (a) surfeits of concern for others, (b) active deficits, and (c) passive deficits?
3. How do biological/gene and environmental processes interact to produce extremes? Research provides some starting points.[28,29,30]
4. How are surfeits and deficit in concern for others implicated in different psychological and psychiatric problems?
5. How do gender differences in extremes inform us about etiology of different forms of psychopathology?

Recent Research Results

Surfeits of concern for others

High-risk environments, e.g. exposure to parental depression and marital conflict[31,8,9,10] can evoke higher than normative levels of concern and prosocial behaviour toward parents. Between 2 and 4 years of age, some children attempt to comfort parents in distress and mediate their conflicts. This may indicate parentification/role reversal and dissolution of boundaries, as parents' needs supersede those of their children. Children's initial empathy-based concern can fuse with anxiety and pathological guilt as children feel responsible, i.e. a cause of parental distress. Global attributions of being blameworthy or at fault are central to attributional theories of how depression develops. This may be exacerbated by depressed parent's use of guilt-induction[32] and other negative practices.[33] Subclinical and clinical anxiety and depression are present by 3 years, [34,35] hence early extreme concern may signal developing internalizing problems, diminished self-development, and problems with peers.[36,37]

More recent research confirms these findings and extends them to other popula-tions, e.g. other forms of parental psychopathology and personality problems, alcoholism/substance abuse, early parenthood, poverty. A common theme across many studies[2] is that girls more often than boys are likely to show extreme concern. Other recent studies explore the multi-faceted nature of high concern in adolescents identifying (a) both costs and benefits in their friendships, peer relationships and involvement in parental conflict[38,39,40] and (b) high caring as a "risky strength."[41] Here too, girls are more affected. Possible brain and behavioural sex differences in empathy can help to explain females' susceptibilities and strengths in this domain.[42] Hormonal differences may be at play, as lower fetal testosterone has been linked to higher levels of empathy (though not always extremes) both in boys and girls.[43] In general, there has been little research on biological processes associated with surfeits of concern for others, because most researchers in these areas are unaware of potential adverse consequences.

Active deficits in concern for others

The high risk family environments identified above for surfeits in concern for others are also sometimes associated with deficits, both active and passive,[44] so work is needed to identify child characteristics that differentiate these three groups. Research on young children's high observed active disregard and low empathy and prosociality[45,46,20] predicts antisocial behaviour and psychopathic/callous-unemotional traits. Callous-unemotional traits predict severity and stability of conduct problems and delinquency.[21]

There is ample research on physiological correlates of active deficits and antisocial behaviour.[47] Measures of physiological underarousal are often associated with callous/psychopathic traits and antisocial behaviour, though this is not invariable. Aggressive/disruptive toddlers show heightened rather than diminished physiological reactivity and they do not show lower concern for others.[48] Negative relations between concern for others and aggressive behaviour may develop over time, suggesting the value of early interventions since concern is still preserved in some young aggressive children.[46]

The salience of early development is highlighted in two recent studies of observed active disregard for others in the second and third years of life.[49,25] Early active disregard predicted antisocial behaviour in childhood and adolescence based on mother, teacher and child reports. Early language predicted less disregard and greater concern, suggesting the possible protective role and the importance of encouraging language from the first years of life. There is also substantial research on environmental contributions, including child-rearing and discipline practices, to active disregard and antisocial behaviour.[50,51,46]

Atypical empathy is present at the neural level in adolescents with conduct disorder and psychopathic traits.[16] Youths appeared to show no neural response deficits in pain-experiencing regions when viewing others in distress. However, those with conduct disorder showed less coupling compared to controls between the amygdala, a key region in emotion processing, and the ventromedial prefrontal cortex, a region thought to be involved in behavioural responses. This relative deficit in functional connectivity between these regions has been found for individuals with callous-disregard as well.[52] Another study with adolescents with conduct disorder also found structural neural deficits associated with lack of empathy.[53]

Passive deficits in concern for others

Laboratory research using structured distress probes documents deficits in empathy and prosocial behaviour in children on the autism spectrum[54,55] consistent with parent reports. It is not clear why these differences occur and whether they always reflect core deficits; greater emotional reactivity and sensitivity to environmental stressors as indexed by high levels of cortisol,[56] and lack of communicative skills associated with neurological deficits may blunt empathy in some children. Since language plays a role in empathy even in the first years of life, [54,49] the study of variations in language in autistic children may help to explain why empathy is relatively preserved in some of these children.[27] When autism was first identified as a disorder,

cold, distant mothering, (a.k.a. ‘refrigerator mothers’) was claimed to create autism, including empathy deficits. These views were discredited, as the primacy of biological/genetic underpinnings became known.

In humans, exposure to high levels of prenatal androgens may result in masculine behaviours and abilities. Simon Baron-Cohen has proposed an extreme male brain of autism whereby fetal testosterone, more common in males than females, creates a hyper-masculinized brain, associated with autism/Asperger’s, difficulty in social relationships, and restricted interests.[57] This may also be true at a subsyndromal level. In typically developing 4 year-olds, fetal testosterone predicted problems in empathy, social relations and restricted interests, for both sexes.[58] Similar patterns were observed in other research, with fetal testosterone, showing an inverse relationship with empathy.[59,43] More male-typical behaviours and fewer female-typical behaviours, including empathy[60] are seen in females exposed to high prenatal testosterone due to a genetic disorder congenital adrenal hyperplasia (CAH) or because mothers were prescribed hormones during pregnancy.

Passive deficits occur on a continuum; low concern does not necessarily reflect psychopathology but can still create interpersonal problems. Physiological and gene re-lated effects have been identified. Low empathy in preschool children of depressed mothers is associated with right frontal EEG asymmetry.[61] The AVPR1A gene variant is associated with preschooler’s lower altruistic behaviour.[62]

Research Gaps

There are no well-established standardized tests or norms for identifying surfeits and deficits in concern for others. Mostly, extremes are inferred based on how they relate to or predict other measures that reflect risk and/or psychopathology. Often, extremes result from a combination of genetic and environmental factors, yet little is known about specific processes that interact to produce different developmental outcomes. Only some children show surfeits or deficits even in high-risk environments and some children show surfeits or deficits in apparently low-risk environments. Future research is needed to ad-dress these complexities. Also, rather than just dichotomizing children as extreme or not, it is important to study individual differences within categories of surfeits and deficits.

Little is known about intentions and motives that underlie surfeits and deficits in concern for others. Initial empathy-based acts of caring toward distressed caregivers may be taken over by anxiety, guilt and shame. Greater knowledge of children's emotions is needed. Some children, who appear to be inexpressive, may in fact experience concern that we do not yet know how to tap. Some show multiple emotions associated with both concern and active disregard in the same context. What sets these children apart?

Conclusions

Three extremes of empathy and prosociality, i.e. surfeits, active deficits, and pas-sive deficits emerge in the first years of life. These extremes have been associated with different psychological and psychiatric problems later in development. Surfeits are more commonly associated with internalizing problems and deficits with externalizing problems and autism spectrum disorders. Comorbidity is also possible and requires further attention. Surfeits and deficits in empathy and prosociality are not invariably prodromal signs of later problems; hence it will be important to determine why only some young children go on to experience serious difficulties.

Knowledge about surfeits and deficits of concern for others has come mainly from three largely separate research domains. Conceptual and empirical work would benefit from studies that explore relations among them, e.g. recent work comparing multiple features of empathy in two different populations (autism spectrum and conduct disorders) who both show deficits[63] or examining concern and active disregard in the same populations.[46]

Both normatively[64] and at the extremes, girls show higher empathy and prosocial behaviour than boys and boys show more active and passive disregard than girls. This parallels sex differences in forms of psychopathology from childhood and adolescence through adulthood. Conduct problems and autism-spectrum problems show a marked male preponderance, while anxiety and depression show a marked female preponderance.[65] Empathy deficits in fact are symptoms that help to define male-preponderant problems and surfeits are correlates (possibly symptoms or causes) of female preponderant problems. Gender differences in concern and disregard, in conjunction with other known gender differences in child temperament,[66] may provide a better window into our understanding of etiologies of the different psychological and psychiatric problems considered here.[67]

Implications for Parents, Services, and Policy

It is valuable for parents, teachers, and other caregivers to encourage children's social competence, including expressions of concern for others, and to begin early in life. Several programs are available,[68-73] more often for older children than younger children, and there is considerable research to guide additional program development.[74-79,32] More work has been done with community samples than with troubled children. The extent to which intervention paradigms and findings from community samples will generalize to extremes in concern and lack of regard for others is not yet clear.

For children with surfeits of concern for others, interventions exist to improve social functioning by reducing children's sense of responsibility and empathic over-involvement for the problems of their parents.[80,81] Because parental distress is also associated with other extremes of aggression and avoidance,[44] i.e. deficits in concern for others, further interventions should be tailored to these child characteristics.

Recent classroom interventions with preschoolers and older children have focused on mindfulness and loving-kindness practices to increase attentional focus and self-regulation, heighten empathy, and reduce bullying and other forms of aggression.[82,83] Practices to increase mindfulness are now used with parents,[84] but not yet with children at the extremes. Such practices might help reduce both overly high and low concern for others, since one goal is to subdue overwhelming and stormy feelings, as well as create calm and caring for the self. While we've emphasized the need for environmental interventions, recent work on biological interventions, is also relevant to empathy.[85,75,28] Oxytocin, for example, plays a role in mediating low parental mood and child empathy.

Some extremes in concern and disregard for others and associated internalizing and externalizing problems are unlikely to be amenable to interventions, because they occur within the broader context of societal problems such as poverty and parental problems such as child maltreatment. Interventions directed solely toward the child may be of little consequence until the larger issues are addressed.

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