EMPATHY AND ITS IMPLICATIONS IN HIGH-FUNCTIONING INDIVIDUALS WITH AUTISM SPECTRUM DISORDER (ASD)

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ABSTRACT

Individuals with Autism Spectrum Disorder (ASD) are characterized, among other criteria, by their impairment in the ability to empathize with others. This may serve as a major underlying cause behind other deficiencies in greater areas of social cognition such as casual social interaction and relationship-building skills. This review will examine exactly where initial empathetic impairment lies—in particular, it separates empathy into its affective and cognitive components and tests for each area independently. It will first introduce empirical studies supporting the view that although individuals with ASD are lacking in cognitive empathy, there is no significant difference in affective empathy between individuals with ASD and typically developing controls. Furthermore, this review will examine the implications of ASD individuals’ deficiency in cognitive empathy for their larger-scale social functioning capacities. Empirical research, as well as firsthand, anecdotal accounts from ASD research participants, sheds light on the challenging nature of the social interactions experienced by those with ASD. Taken as a whole, this body of research will ultimately be seen to show (a) that a curvilinear relationship exists between empathic skills and social anxiety; and (b) that a lack of empathic skills may result in a resounding sense of social exclusion and psychological isolation.

The phenomenon of empathy can be described as the ability to mentally align oneself to the cognitive and emotional perspective of another, or in more colloquial terms, “put oneself in another’s shoes.” It allows one to tune into how someone else is feeling or what he or she might be thinking, enabling sophisticated and meaningful interaction between humans. Social psychologists have long argued that empathy can facilitate understanding and act as a glue for social relationships; thus, it follows that impairments in this capability will produce negative consequences in social interactive ability.

According to Davis’ original taxonomy (1983), empathy consists of two components: the affective and the cognitive. Affective empathy occurs when an observer experiences an appropriate emotional response to the affective or emotional state of another individual—for example, feeling fright upon seeing a frightened person, or feeling pity at the sadness of another. It should be noted that the elicited emotion does not need to match the observed emotion. For example, one may feel relief at the death of a friend due to the fact that their friend’s suffering has ended—this is also affective empathy, as it is an appropriate emotional response to an observed affective state. Cognitive empathy, on the other hand, is described as using a ‘theory of mind’ to essentially read the minds of others. It involves setting aside one’s own current perspective, attributing a mental state or attitude to another person, and subsequently inferring the likely content of that mental state. For example, a student can infer through cognitive empathy that his or her classmate will not know about an upcoming midterm because the classmate was absent on the day it was announced in class (Davis, 1983). Furthermore, the distinction between empathy and the related notion of sympathy should be clarified. Sympathy, as defined by Bennett (1998), occurs when the observer references only how he or she would feel in similar circumstances as the individual in question. Consider a scenario in
which an observer encounters a homeless person: the observer might sympathize by imagining how he himself would feel if he were homeless. To empathize with the homeless person, in its most accurate form, requires acknowledging the true thoughts and feelings of the homeless individual—thoughts and feelings that may not coincide with the observer’s own (Bennett, 1998).

A core deficit in individuals with Autism Spectrum Disorder (ASD) lies in their deficiency in empathetic ability (Baren-Cohen & Wheelwright, 2004). For reliability purposes, this review will focus specifically on individuals with high-functioning autism (HFA) and Asperger Syndrome (AS), as it may be more difficult for lower-functioning autistic individuals to participate correctly in elaborate experiments or report evidence in a coherent manner. Furthermore, it should be acknowledged that AS is differentiated from HFA by the absence of any significant delay in language or cognitive development. HFA is defined as autism in the presence of normal intelligence, as measured by IQ (American Psychiatric Association [DSM-IV-TR], 2000).

Regarding the aforementioned deficit in empathy, impairment in HFA and AS patients appears to lie particularly in the domain of cognitive empathy, leaving affective empathy rather unaffected. This theory has been gleaned by a number of studies demonstrating that, compared with typically developing controls, those with HFA and AS tend to score substantially lower on cognitive empathy-related measures of assessment but reveal no significant differences in measures of affective empathy. Rogers et al. (2007) studied the dual-dimensional nature of empathy in AS through the use of multiple questionnaires that targeted each aspect of empathy distinctly. These questionnaires included the Interpersonal Reactivity Index (IRI), tailored to measure affective and cognitive empathy as separate entities, and a modified version of the Strange Stories task (Happé, 1994), designed to measure theory of mind. To date, the IRI is the only published measure that tests for empathy on a multi-dimensional level. It is comprised of two cognitive scales—perspective-taking (PT) and fantasy (F)—and two affective scales—empathic concern (EC) and personal distress (PD). Regarding the cognitive aspect, the PT scale assesses the tendency to spontaneously adopt the psychological viewpoint of others, while the F scale measures the participant’s tendency to identify with fictional characters such as those from books, movies and plays. As for the affective aspect, the EC scale taps the participant’s feelings of warmth, compassion and concern for others while the PD scale assesses self-oriented feelings of anxiety and discomfort resulting from tense interpersonal settings. For the modified Strange Stories test, participants read short stories and subsequently answer questions about the text that require them to infer a character’s thoughts, feelings, or intentions.

After statistical analysis and comparison, it was found that AS groups scored significantly lower than controls on the cognitive scales of the IRI (PT and F). This indicates a very obvious deficit in the capacity of AS patients for cognitive empathy—that is, AS patients seem to have trouble taking the perspective of and identifying with other people, both real and fictional. However, results were quite different for the affective scales. There was no significant difference between the AS group and control group on the EC scale; in addition, the AS group actually scored higher than controls on the PD scale. These findings confirm the dissociation between cognitive and affective empathy, as well as suggest that socially directed emotional capacity remains preserved in AS individuals. In other words, people with AS are able to elicit just as much care, concern and compassion for others as typically developing individuals do. They also seem to experience a higher sense of socially induced anxiety and discomfort; however, it should be kept in mind that this may simply reflect a generally increased baseline level of stress and anxiety in AS individuals. On the Strange Stories test, the AS group again scored significantly lower than their typically developing counterparts, as expected. These scores correlate with their lower performance on cognitive measures, as the ‘theory of mind’ tested by the Strange Stories task is closely reminiscent of cognitive empathic ability.

It follows logically that deficits in areas of social cognition (such as cognitive empathy) will manifest themselves through internal and external struggles in one’s social realm. A study by Bellini (2004) addressed the relationship between empathic skills and various social anxiety
measures in AS and HFA adolescents. This relationship was examined by administering the Social Skills Rating System (SSRS), the Multidimensional Anxiety Scale for Children (MASC), and the Social Anxiety Skills for Adolescents (SAS-A) to a group of AS or HFA adolescents, and the SSRS and Behavioral Assessment System for Children (BASC) to the parents of the adolescents. The SSRS is a questionnaire designed to gather information on the social behavior of children 3-18 years old, measuring whether the child uses various social skills during social interactions. The MASC consists of four basic anxiety scales that assess the major dimensions of anxiety—physical symptoms, social anxiety, harm avoidance, and separation/panic. The SAS-A is a self-report measure of social anxiety on three factors: (1) fear of negative evaluation, (2) social avoidance and distress in new situations, and (3) social avoidance and distress in general. The BASC, administered to parents, measures the multidimensional nature of children’s behavior through items assessing anxiety, social skill problems, and other behaviors.

Results found that adolescents with ASD reported levels of anxiety that were significantly higher than the mean of the normative sample, as determined by the MASC. On the parent version of the BASC, significant differences were found in the subscales of anxiety and internalizing problems. On the SAS-A, 49% of participants scored at a level indicating high social anxiety while 12% scored for low social anxiety. After correlational analysis, a curvilinear (inverted U-shaped) relationship was found between the SSRS empathy subscale and all of the SAS-A scales as well as between the SSRS empathy subscale and the MASC subscales of social anxiety and performance fears. These data suggest that low empathy scores correlate with low social anxiety, and as empathy scores increase, so does social anxiety. However, when empathy scores rise further—usually just past the mean—social anxiety scores begin to drop. This is perhaps because adolescents with low empathy may be unaware of or unconcerned with what people think of them socially, and as a result exhibit little social anxiety. As empathic skills increase, so does the awareness that other people may perceive their behavior as odd or deviant, thus increasing social anxiety. Lastly, better empathic skills are most likely associated with more adept social functioning and more effective emotional coping skills, again resulting in lower social anxiety. Although it was not specified which component of empathy was tested for, these findings define an initial relationship between general empathy and social cognitive aspects, namely social anxiety.

A related study by Williams (2006) examined ten autobiographical accounts, written for empirical purposes, of adults diagnosed with either HFA or AS in search of common challenges they experienced in day-to-day living—namely regarding the gap they felt between themselves and their society and the strong sense of alienation it created. Through careful analysis of these autobiographical accounts, Williams was able to identify four common themes concerned specifically with the writers’ difficulties in trying to relate to other people and the coping strategies they devised to try to address these difficulties.

The first of these themes addressed the psychological distance they experienced between themselves and other people. Some participants described themselves as detached scientists, recording observational data. One participant writes, “When other students swooned over the Beatles, I called this an ISP—an interesting social phenomenon. I was a scientist trying to figure out the ways of the natives. I wanted to participate, but I didn’t know how” (Williams, 2006, pg. 709). Others described themselves as aliens from outer space, in an effort to fully capture the extent of the gulf they felt between themselves and others. However, not all of these accounts were written negatively—interestingly, some accounts conveyed a sense of fascination rather than discomfort, illustrating that the writers did not necessarily regard their condition in the same light as the general population would assume.

The second theme was that social and emotional cues were ‘hidden’ or inaccessible to these participants. Most accounts revealed difficulties in picking up both verbal and nonverbal social and affective information such as particular gestures, physical changes, facial expressions and tone of voice. Most participants discussed one of the following: the enigmatic nature of social interaction, difficulty in picking up ‘hidden’ social and emotional cues, difficulty picking up social and emotional cues due to
sensory problems, and development of the ability to “read” emotional cues.

The third theme regarded coping strategies. Most writers stated that they had to consciously form explicit strategies to help facilitate their social interactions in the absence of the social intuition that most people are endowed with. These strategies included studying other people’s behavior, imposing a system of rules to help them manage social situations, and using a ‘visual library’—a record of past social situations that they could access at a later date to search for solutions to new situations.

The last theme, unfortunately, was the limited success of their coping strategies. Writers commonly wrote about the inadequacy of their devised cognitive strategies in helping them deal successfully with the variety of complex social situations they encountered every day. One account questioned:

Do I really have to talk on the phone to anyone if I think the conversation is boring or a waste of my time? If there is a lapse in the conversation, am I supposed to hang up or tell a joke or just sit there? What if I like the person well enough, but I decide I can’t stand one of their behaviors or habits?...The questions are endless, and the concerns mountain high. This is why human relationships usually take me beyond my limits (Williams, 2006, pg. 716).

These insightful accounts paint a clear picture of the tremendous amount of energy that individuals with AS or HFA must expend in order just to navigate the same social situations that come as secondhand nature for the typically developing population. According to Baron-Cohen (2000), the capacity to reflect on the content of one’s own and others’ minds enables him to interact successfully with those around him. Therefore, it can be safely presumed that what causes, or at least contributes to, the social struggles encountered by people with AS or HFA is their deficiency in cognitive empathy. Because they are not as proficient in being able to take the perspective of another, their social interactions subsequently suffer, as portrayed by the accounts discussed above. Gallup Jr. (2002) makes the empirically founded claim for cognitive empathy as a byproduct of self-awareness; Asendorpf and Baudonnière (1993) also propose the theory that self- and other-awareness are closely linked. Logically speaking, the dual equipping of an awareness of both oneself and others should manifest in relative social competence or at least facilitate the learning of normative social conduct, reinforcing a correlational and suggesting a causal relationship.

This review integrates two tendencies associated with ASD—impairments in empathy and impairments in social functioning—and attempts to establish a relationship between them. When discussing empathy, one should be careful to separate the distinct elements of cognitive versus affective empathy. These two components refer to the ability to take the perspective of another and the capacity to respond emotionally towards another person’s affective state, respectively. Studies have indicated that in individuals with AS and HFA, only the cognitive aspect of empathy suffers damage while the affective realm is preserved.

Previous investigation conducted on typically developing children confirms the existence of a positive relationship between theory of mind and social interaction skills (Watson et al., 1999; Astington & Jenkins, 1995), particularly through correlational analyses of performance on false-belief tasks and naturalistic observations of behavior. Reports on the social manifestations specifically of affective empathy are scarcer, but there has been evidence suggesting an inverse correlation between measures of affective empathy and levels of aggression, independent of cognitive empathic measures (Shechtman, 2003; Lovett & Sheffield, 2007). Under these premises, the pattern of results summarized above should reflect no significant deviations in aggression for HFA and AS populations, but this is an assumption that must be formally tested.

Through an analysis of relevant literature, it can be proposed that a deficit in the distinct area of cognitive empathy not only correlates with but also holds responsibility, at least in part, for the significant detriments in aspects of social functioning seen in those who suffer from ASD, as suggested by both empirical research and firsthand anecdotes from AS and HFA participants themselves.
REFERENCES


