

# Moral Reasoning and Moral Judgement in People with Autism Spectrum Disorder and Attention Deficit/Hyperactivity Disorder

Chuxin Xing

Beijing 101 Middle School, Beijing, 100000, China

25lois.xing@beijing101id.com

**Abstract.** The moral distinction between those with mental disorders and normal persons are important to be understood in terms of investigating causes and treatments, yet earlier studies produced inconsistent findings. The aim of this study is to provide a thorough knowledge by evaluating the methodologies and findings of previous research about moral reasoning in ADHD and ASD individuals. Analysis reveals that the inconsistent results are partly caused by the various testing strategies used in each research; the outcome can be influenced by other factors, including age and family income. Besides, although certain techniques—like Sociomoral Reflection Measure: Short Form (SRM-SF)—are legitimate and dependable, others—like the Moral Judgment Interview—are questionable. This suggests that selecting accurate and reliable testing procedures and removing confounding factors should be carefully considered in future study. It would also be possible to carry out longitudinal research to learn more about how mentally disordered individuals develop their moral reasoning in comparison to those with regular development.

**Keywords:** ADHD, ASD, moral reasoning, moral judgement, SMR-SF.

## 1. Introduction

Morality, as explained using the evolutionary approach, is a collection of adaptations that permit interpersonal collaboration [1]. Important measurements of morality include moral reasoning (or sociomoral reasoning) and moral judgment. Moral reasoning is an inner process, while moral judgment is the outcome and outer representation of it. The former one can be analyzed through latter one; in fact, moral reasoning development is initially analyzed through moral judgment by Kohlberg, who asked participants to judge the rightness or wrongness of a person's decision in the face of moral dilemmas [2]. Morality can often be achieved through several emotions, including empathy, disgust anger etc., and there are also some researches demonstrating the importance of empathy in moral development [3]. Therefore, when measuring morality, it is also important to take empathy, which is related to perspective-taking.

Autism spectrum disorder (ASD), classified as a neurodevelopmental illness, is typified by repeating and stereotyped behaviors, along with difficulties with socialization and communication [4]. As for attention deficit/hyperactivity disorder (ADHD), its hallmarks are impulsivity, hyperactivity, and inattention [5]. It is important to understand the moral difference between mentally disordered people and normal people, whereas previous studies yielded inconsistent results. Therefore, this review aims at comparing past studies, analyzing approaches and results, and therefore giving suggestions to future studies.

## 2. Morality in People with Autism Spectrum Disorder

### 2.1. Analysis of Empirical Evidences

There are some studies concluding that moral reasoning, as examined through moral judgement, in people with ASD is similar to that of typical developing people. One study conducted by Li et al. examines the performance of children between 4-7 year-old with ASD in the face of third-party moral transgressions [6]. Specifically, the researchers gave participants some pictures depicting intentional or unintentional harms to person or damage to objects, and evaluated children's response using explicit (verbal questions about moral judgement of that behavior and perpetrator, as well as

participants' own empathetic responses) and implicit (eye fixation) approaches [6]. They found that, like the typical developing (TD) group, children with ASD was capable to judge perpetrator's actions based on their intention, suggesting a relatively intact moral reasoning; however, they judged damage to objects to be more serious than harm to people and had a more negative emotional response [6]. Their abnormal responses to object might be explained through their specific interest towards objects in young ages, which preoccupies their attention [7]. Another study conducted by Shulman et al., presenting moral and social transgressions to participants, used similar method of explicit verbal questions and asked for their justifications to examine moral reasoning in adolescent with ASD aged 8-17 [8]. They found that while there was no difference for ASD group and TD group in judging moral transgression, adolescents with ASD viewed social norms as more inflexible and provided nonspecific rationales, whereas TD adolescents could come up with abstract rules as criticisms [8]. This may suggest an impaired cognitive ability in adolescents with ASD.

However, some studies yielded inconsistent results, suggesting an inferior stage of moral reasoning in ASD people compared with normal people. For instance, two research that examined moral thinking in individuals aged 12–18 and 18–27, respectively, used the Interpersonal Reactivity Index (IRI) and Sociomoral Reflection Measure: Short Form (SRM-SF) methods [9, 10]. They both found that ASD group has a lower moral reasoning, which is stage 2 according to SRM-SF, compared to the TD group, which has a moral reasoning at stage 3 according to SRM-SF [9, 10].

## 2.2. Discussions

The inconsistency of results might firstly be considered as an influence of age variation. In fact, analysis made by Senland & Higgins-D'Alessandro in 2016 showed that though there was a gap in moral reasoning, the rate of moral development in ASD and TD adolescent seemed to be similar [9], [10]. This suggest that despite comparing typical development group and ASD group at the same age only once, future researches can also focus on longitudinal studies designed to investigate moral development in people with ASD compared to normal people in a more dynamic perspective.

Another cause of discrepancies of results might be the difference in testing method. The former 2 studies used simple questions to test moral judgement, yet the latter 2 studies used SRM-SF to evaluate sociomoral reasoning. In SRM-SF, participants are asked 11 questions related to important sociomoral values in imaginary scenes, and then judge and justify their rating of importance (very important, important, or not important) [11]. Participants' responses are analyzed and divided into 4 stages of moral development. In the study of Senland & Higgins-D'Alessandro, the stage 2 moral development of ASD adolescents is characterized as focusing on using reciprocity and practical social deals to achieve social goals; the stage 3 moral development of TD adolescents is defined as upholding connections and fulfilling expectations of others [12]. However, the specificity of stages described in Kohlberg's theory is absent in the simple analysis of participants' answers to general questions. This might be account for the difference of results. The inconsistency of conclusions yielded by different testing method suggests that future studies must may attention to choosing a valid and reliable approach for examination.

## 3. Morality in People with Attention Deficit/Hyperactivity Disorder

### 3.1. Analysis of Empirical Evidences

In comparing moral development between typical development people and ADHD people, most studies have found no significant differences. A study conducted by Thomason et al. examined the relationship between sociomoral reasoning, antisocial personality traits, and intelligence in adults aged 18 - 65 years old, with their IQ score above 70 [13]. As most testers, they used SRM-SF to evaluate moral reasoning stages [13]. They also used Socialisation Scale (GSS) to assess antisocial traits and National Adult Reading Test to assess FSIQ. They found that the ADHD group and typical development group's respective sociomoral reasoning levels were the same, despite a higher level of antisocial traits in ADHD group [13]. Also, they found that sociomoral reasoning level was highly

correlated with intelligence [13]. In a different study, Chung et al. evaluated the morality, humor, and organizational abilities of undergraduate ADHD students [14]. They classified people's identities according to their moral reasoning using The Ethics Position Question (EPQ), a tool for self-report that uses idealism and relativism scores [14]. They discovered no appreciable variations in moral reasoning between the two groups. [14]. The study of Rose used SRM-SF to examine moral reasoning in ADHD adolescents aged 10-18 [15]. Initially, there were significant differences in moral reasoning between group, but these discrepancies were eliminated when considered income as a covariate [15]. Also, the results revealed that age was a significant contributor to moral reasoning level [15].

However, there are studies concluding that ADHD can influence moral reasoning level. A study conducted by Verhaagen used Moral Judgment Interview, which is originally designed by Kohlberg, as a methodology to assess moral reasoning in children aged 10 or 14 [16]. Despite the age differences, with 14-year-old children scoring higher than 10-year-old children, there were significant discrepancies in moral reasoning between children with ADHD and those without in both age groups, as discovered by him [16].

### 3.2. Discussions

Despite age influences, which may not possibly be account for the above difference in results, the difference in methodology should also be considered and analyzed carefully. The approach used by Verhaagen, who generated distinct result from the other three researches, was the Moral Judgment Interview, which consisted a semi-structured interview about three moral dilemmas in each form [16]. However, this study was argued by many psychologists, as the semi-structured interviews rely heavily on interviewer's personal interpretations [17]. Besides, according to a study done by university students in Spain, these moral dilemmas have become less likely to lead to significant cognitive conflict over time [18]. For instance, over 90% of those questioned in the Heinz dilemma "Enrique y la medicina" felt that he should steal the medication to rescue his wife [18]. Therefore, the results generated by the Moral Judgment Interview may not be precise. Another method of examining moral reasoning, the SRM-SF, was highly reliable in test-retests and internal consistency [18]. Furthermore, these two methods have different theoretical basis. Kohlberg's moral development theory was the foundation of the Moral Judgment Interview, where as the SRM-SF utilized prosocial moral reasoning models [18]. This difference should be noticed, and further researches can focus on the impact of different testing method to moral reasoning levels.

## 4. Conclusion

In conclusion, there has been considerable studies discussing the moral difference between mentally disordered people (i.e. ADHD, ASD) and normal people. Since clarifying such differences is crucial for understanding symptoms, investigating causes, and developing treatments for these disorders, this review aims at analyzing the approaches and results of past studies to form a comprehensive understanding. Results reveal inconsistency, which is partially due to different testing approaches of each study; there are also some confounding variables that may potentially influence the result (i.e. age, family income). Through analysis, it has been found that some methods are valid and reliable (i.e. SRM-SF), whereas some approaches are debatable (i.e. the Moral Judgment Interview). This suggest that further researches should be careful on choosing valid and reliable testing methods and eliminating confounding variables. Longitudinal studies could also be conducted to further investigate the developmental process of moral reasoning of mentally disordered people compared to typical development people.

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