

Effects of Online Games Violence Degree on Moral Sensitivity among Middle School Students: The Moderating Effect of Interpersonal Communication Ability

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Abstract: Middle school is an important stage for the cultivation of moral character. Scholars at home and abroad have done more and more research on morality at this stage, hoping to find specific measures to promote the moral development of middle school students and cultivate their good moral character. In recent years, moral vicious events caused by online games among middle school students occur frequently. At present, some studies have found that online games have an impact on the moral development of middle school students, but there are few studies on the role of interpersonal communication ability between them. Under this background, this study mainly investigates the current situation of middle school students' online game use, interpersonal communication ability and moral sensitivity, and analyzes the relationship between middle school students' exposure to online game violence and moral sensitivity. And to explore whether interpersonal communication ability can play a moderating role between them.

1. Problem Presentation

Moral sensitivity involves an individual's reflection when faced with moral situations, and it is influenced by demographic variables. In Zheng Xinjun's research on moral sensitivity, gender differences were observed ^[1]. Individual characteristics, including variations in personality, also impact the level of moral sensitivity ^[2].

Research has found that role involvement can affect moral sensitivity, with higher levels of role involvement often found in online games. Carnagey defines online games as competitive, manipulative, and rule-based training conducted over the internet ^[3]. Online games can be categorized differently based on various classification methods. According to the Entertainment Software Rating Board (ESRB), online games most encountered by middle school students are classified according to violence levels: zero violence, mild violence, violence, and very violent. This study will further explore the impact of the degree of violence in online games on moral sensitivity.

Studies indicate a certain relationship between interpersonal communication skills and moral sensitivity. Scholars in China suggest that the improvement of middle school students' moral

sensitivity can be approached from five aspects, including enhancing interpersonal cognitive abilities, cultivating empathy, encouraging emotional expression, developing reasoning abilities, and engaging in practical helping behaviors ^[4]. They also believe that interpersonal relationships can have a certain impact on individual moral decision-making. Scholars like Liu Cuilan and others, in their exploration of strategies for cultivating moral sensitivity, propose that the establishment of good interpersonal relationships is one of the strategies for nurturing individual moral sensitivity ^[5].

Exploring this direction can enrich theories related to moral sensitivity. It holds significant importance for the cultivation and development of individual moral education, providing novel research perspectives and theoretical foundations for various fields, including educational psychology and developmental psychology.

2. Research Design

2.1 Research Subjects

This study selected students from the first and second grades of regular junior high schools and the first and second grades of regular senior high schools in Hubei Province as the survey subjects. A total of 529 sets of data were collected, with 53 invalid sets excluded, resulting in 476 valid sets of data. Among them, there were 111 students from the first grade, 131 students from the second grade, 120 students from the first year of high school, and 114 students from the second year of high school.

2.2 Research Tools

2.2.1 Interpersonal Relationship Comprehensive Diagnostic Scale

This study utilized the "Interpersonal Relationship Comprehensive Diagnostic Scale" developed by Zheng Richang to measure interpersonal relationship situations. The scale consists of four dimensions with 28 items in total. Each item has only two possible answers: "Yes" (scored as 1 point) and "No" (scored as 0 points). A higher total score indicates that an individual is facing more challenges in interpersonal aspects, while a lower score suggests better adeptness in handling interpersonal relationships. If the total score falls between 15 and 28, it indicates a relatively severe level of interpersonal relationship challenges. A total score between 9 and 14 suggests a mild level of challenges, and a score below 8 indicates minimal or no interference from interpersonal relationship challenges. The scale has demonstrated good reliability and validity, with an internal consistency coefficient of 0.798. In this study, the reliability coefficient of the scale is 0.867, indicating good reliability.

2.2.2 High School Student Online Gaming Usage Survey

To gain insight into the specific perceptions of participants regarding the level of violence in online games, a survey on the usage patterns of online games among high school students was conducted. This survey aimed to explore students' involvement, attitudes, and awareness regarding online gaming. The questions include:

- (1) Have you played online games in the past year?
- (2) Among the online games you played in the past year, which one did you encounter the most?
- (3) Do you feel an "addictive" urge towards online games?
- (4) Do you believe that there are behaviors in online games that violate ethical standards?
- (5) Is your daily behavior influenced by online games?

2.2.3 Moral Sensitivity Scenario Test

The Moral Sensitivity Scenario Test used in this study was adapted by Zheng Xinjun in 2008 from the story "Campaign Manager" in the book "Ethics in Decision Making" written by Greene. The original story "Campaign Manager" comprises 430 words and revolves around a company manager who, during a campaign for the position of vice president, unintentionally discovers private information about their opponent's history of psychological illness. This situation prompts a decision on whether to exploit this private information for personal gain. The story involves multiple ethical issues such as spreading someone's privacy, harming the individuals involved, and compromising the trust of the source. The thematic considerations in the scenario encompass aspects like conscience, interpersonal relationships, and other relevant factors across nine dimensions.

Considering that the primary audience for this study is high school students, and recognizing the differences in social experiences and cognitive levels compared to adults, the test adapts the theme to be more relatable to high school students' experiences. The revised scenario now centers around a "Student Council President Election," aligning more closely with the experiences and realities of high school students. The test requires students to carefully read the scenario and list five main questions they believe the protagonist should consider before making a decision. Students are then instructed to rank these questions based on their perceived importance. Following the scoring rules similar to Zheng Xinjun's Moral Sensitivity Scenario Test, the researcher will encode the questions listed by the participants. Questions falling under the moral theme will be coded as 1, earning 1 point, while those not related to the moral theme will be coded as 0, earning 0 points. Additionally, based on the importance ranking given by the participants for the five questions, if a question related to the moral theme is ranked first, it receives a score of 5 ($5*1$). Conversely, if a question not related to the moral theme is ranked first, it is assigned a score of 0 ($5*0$). The total score is determined by multiplying the assigned score by the importance ranking for each question, with an ideal total score of 15 ($5*1 + 4*1 + 3*1 + 2*1 + 1*1$).

3. Data Management and Analysis

Data will be encoded and analyzed using SPSS 25.0, employing methods such as descriptive statistical analysis, correlation analysis, and analysis of variance (ANOVA) for processing and analysis.

4. Research Results and Analysis

4.1 Statistical Analysis of the Level of Violence in Online Games

Based on the survey results, it was found that 476 participants (93.3%) indicated playing online games in the past year. Among them, 284 were male, and 192 were female. The remaining 34 participants (6.7%) reported no engagement with online games in the past year. Therefore, the data analysis and research focus on the group of high school students who played online games in the past year.

Among these 476 students, more than 80% had been exposed to online games with varying degrees of violence. Specifically, 56.4% of male students and 19.1% of students encountered online games with no violence. When categorized by grade, the difference in the presence of violence in the most-played online games between junior high school students and high school students was not significant.

About 40.0% of students played online games with mild violence, nearly 30.0% encountered

games with violence, and only 12.0% played games with a high level of violence. Additionally, non-only children had a higher exposure to violence in the most-played online games compared to only children.

4.2 Descriptive Statistics and Correlation Analysis among Variables

Based on the data analysis results, when examining gender differences, the average scores for interpersonal relationship distress and moral sensitivity were higher for males than females. Regarding grade levels, in terms of moral sensitivity scores, the highest average was observed in the first year, followed by the second year, with the lowest average in the second year. For interpersonal relationship distress scores, the second year had the highest average, while the first year had the lowest.

The overall average score for interpersonal relationship distress was 8.69, indicating that high school students experience interpersonal relationship distress at a moderately lower level. This suggests that high school students generally have interpersonal communication skills at a moderately upper level.

Correlation analysis was conducted among demographic variables (gender, grade, only child status), the level of violence in online games, interpersonal relationship distress, and moral sensitivity. Two-by-two correlations were examined among the level of violence in online games, interpersonal relationship distress, and moral sensitivity. Notably, the level of violence in online games showed a significant positive correlation with interpersonal relationship distress and a significant negative correlation with moral sensitivity ($\beta=0.186$, $p<0.001$; $\beta=-0.555$, $p<0.001$). Interpersonal relationship distress exhibited a significant negative correlation with moral sensitivity ($\beta=-0.588$, $p<0.001$). Among demographic variables, only gender showed significant correlations with the level of violence in online games ($\beta=0.167$, $p<0.001$) and moral sensitivity ($\beta=-0.138$, $p<0.001$).

4.3 Analysis of the Moderating Role of Interpersonal Communication Ability

Given the significant correlations between the level of violence in online games, interpersonal relationship distress, and moral sensitivity among high school students, a further statistical analysis was conducted to examine the moderating effect. The SPSS plugin Process macro 3.0 was employed for this analysis. Controlling for demographic variables such as gender and grade, the specific role of interpersonal communication ability in moderating the relationship between the level of violence in online games and moral sensitivity was analyzed.

4.3.1 Regression Analysis of the Impact of the Level of Violence in Online Games on Moral Sensitivity

As per the previous correlation analysis, the level of violence in online games and moral sensitivity showed a significant negative correlation ($r=-0.555$, $p<0.001$). In a subsequent linear regression analysis, controlling for factors like gender and grade, it was found that the level of violence in online games significantly negatively predicted moral sensitivity among high school students. This implies that as the level of violence in online games increases, the moral sensitivity of high school students tends to decrease.

4.3.2 Testing the Moderating Effect of interpersonal communication ability

Through the correlation analysis of the three variables—level of violence in online games, interpersonal relationship distress, and moral sensitivity—it was established that there were significant relationships among these variables. In the above regression equation, the level of violence in online games had a significant negative predictive effect on moral sensitivity. Using the

SPSS plugin Process macro 3.0 (Model 1) developed by Hayes (2018), controlling for gender and grade, 5000 bootstrap samples were extracted to estimate the 95% confidence interval for the mediation effect. The interaction effect of the product term between the level of violence in online games and interpersonal communication ability on the prediction of moral sensitivity was significant ($t=2.79$, $p<0.01$). This suggests that interpersonal communication ability play a moderating role in the prediction of moral sensitivity by the level of violence in online games. Further analyses were conducted based on individuals with interpersonal communication ability higher or lower than the mean by one standard deviation. The results indicated that, for individuals with lower interpersonal communication ability (M-1SD), the impact of the level of violence in online games on moral sensitivity was more pronounced when interpersonal relationship distress was higher. Conversely, for individuals with higher interpersonal communication ability (M+1SD), the impact was less pronounced. In other words, interpersonal communication ability enhanced the moderating effect of the level of violence in online games on moral sensitivity.

5. Discussion

5.1 Correlational Analysis among Variables

The results of this study demonstrate significant correlations among the variables of online game violence, interpersonal competence, and moral sensitivity. Notably, there is a significant negative correlation between online game violence and both interpersonal competence and moral sensitivity. Conversely, there is a significant positive correlation between interpersonal competence and moral sensitivity. In other words, as the level of exposure to online game violence increases, individuals exhibit lower levels of interpersonal competence and moral sensitivity. Conversely, higher interpersonal competence is associated with elevated levels of moral sensitivity.

This study also revealed a correlation between online game violence and interpersonal competence, suggesting that increased exposure to online game violence is linked to decreased interpersonal competence. This finding aligns with previous research indicating that individuals engaged in violent online games may prefer online interactions over real-life interpersonal engagements, potentially leading to a lack of practice and skills in face-to-face interactions^[6].

Similarly, the study found a correlation between online game violence and moral sensitivity, indicating that heightened exposure to online game violence is associated with lower levels of moral sensitivity. External researchers, such as Hagihghi et al, have observed that individuals immersed in game roles simulate various behaviors, both moral and immoral^[7]. Considering that adolescents are at a crucial stage of moral development, engaging in violent online games may lead to observational learning of unethical behaviors, subsequently influencing their moral character. These findings collectively support the notion that there is a significant correlation between online game violence and moral sensitivity.

In summary, the study outcomes underscore the intricate relationships among online game violence, interpersonal competence, and moral sensitivity. The negative impact of online game violence on interpersonal competence and moral sensitivity highlights the importance of understanding and guiding adolescents' online gaming behaviors, offering valuable insights for moral education initiatives.

5.2 Analysis of the Moderating Role of Interpersonal Competence

Ali et al discovered that individuals can be influenced by violent content in online games, leading to a reduction in empathy^[8]. Empathy, in turn, is a crucial factor influencing moral development^[9]. Individuals exposed to violent online games tend to exhibit more aggressive behavior in daily life^[10]. Aggressive behavior, in turn, can impact an individual's interpersonal interactions in their daily lives. These findings align closely with the results of the current study,

indicating that the higher the exposure to online game violence, the greater the negative impact on both interpersonal competence and moral sensitivity.

The results of this study suggest that interpersonal competence plays a moderating role in the influence of online game violence on moral sensitivity. The moderation analysis reveals that, in comparison to individuals with lower interpersonal competence, those with higher interpersonal competence exhibit a more pronounced decline in moral sensitivity with increased levels of online game violence. In other words, interpersonal competence enhances the impact of online game violence on moral sensitivity. Even if high school students have strong interpersonal competence, exposure to online games with high violence levels can still negatively affect their moral sensitivity. This insight provides valuable implications for future research, suggesting that interventions targeting interpersonal competence in high school students could elevate their moral sensitivity and contribute to the cultivation of better moral character.

6. Research Implications

The findings of the study reveal a significant negative correlation between the level of violence in online games and moral sensitivity, with a noteworthy moderating effect of interpersonal communication ability. The degree of violence in online games demonstrates a significant direct impact on moral sensitivity, predicting a decrease in moral sensitivity. Interpersonal communication ability play a crucial moderating role in this relationship. Compared to participants with lower interpersonal communication ability, those with higher interpersonal communication ability exhibit a more pronounced decline in moral sensitivity as the violence in online games intensifies.

Hence, to enhance the moral sensitivity and cultivate ethical qualities among high school students, interventions can be implemented by elevating their interpersonal communication ability and encouraging the selection of online games with lower levels of violence. These insights provide valuable guidance for developing educational strategies and psychological interventions aimed at fostering a healthier and more positive environment for the moral development of high school students.

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