A Comparative Study on the Psychological and Behavioral Characteristics of Idol Worship and Gaming Behaviors among High School Students

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Abstract. This study aims to compare the differences in personal traits, behavioral tendencies, activity experiences, and value perceptions between high school students who engage in idol worship and those who play games. High school student participants (n=39) were randomly recruited through an online questionnaire platform. Based on their self-reported activity preferences, they were divided into the idol worship group (n=15) and the gaming group (n=24). All participants completed a loneliness scale and filled out a targeted questionnaire (either an idol worship questionnaire or a gaming questionnaire). The study used a combination of quantitative and qualitative analysis methods to assess loneliness, motivation, behavioral impacts, time investment, and psychological experiences. Results showed no significant differences between the two groups in average loneliness scores or activity impact scores. However, a correlation analysis within each group found that loneliness was strongly positively correlated with engagement in idol worship among the idol worship group, while this correlation was weak among the gaming group. This study provides theoretical and practical references for understanding the psychological mechanisms behind adolescents' leisure activities and offers basic data for future studies with larger samples and longitudinal designs.

Keywords: Idol Worship Behavior, Gaming Behavior, Loneliness, High School Students

1. Introduction

In today's digitally connected society, adolescents' leisure activities have become increasingly diverse, with many centered around online platforms.. Among these, idol worship and gaming are two typical subcultural phenomena. Idol worship usually refers to an individual's emotional investment in and behavioral following of idols, including paying attention to idols' updates, joining fan groups, and purchasing related products. On the other hand, gaming behavior refers to entertainment, social, and challenging activities that adolescents participate in on virtual game platforms, including single-player games and online multiplayer games. These two types of behaviors not only enrich high school students' daily lives but also have a significant impact on their identity formation, social interaction, and psychological experiences.

Existing studies have shown that idol worship is closely related to emotional support, a sense of belonging, and parasocial interaction [1, 2]. Fans gain psychological support and social identity through interacting with idols and fellow fans. In comparison, gaming behavior is more associated with a sense of achievement, stress relief, and social interaction [3]. Players build self-identity and social connections by completing tasks, competing, and cooperating with others [4].

Although many existing studies have examined the psychological mechanisms of idol worship and gaming separately, few have directly compared the psychological traits, behavioral patterns, and social experiences of high school students engaged in these two activities, despite their prominence in adolescent life. Most current studies explore the motivation and psychological impacts of a single type of behavior independently. They lack a comparative perspective across different behaviors and rarely focus on the correlation mechanism between loneliness and activity engagement. This study aims to fill this gap. Through a questionnaire survey of high school students who engage in idol worship or gaming, this study compares the similarities and differences between the two groups in terms of identity formation, social functions, time investment, and psychological experiences. It further reveals the potential impacts of different leisure activities on adolescents' psychological and behavioral patterns.

Specifically, this study focuses on the following core research questions:

1. What are the differences in loneliness levels and activity impact scores between high school students who engage in idol worship and those who engage in gaming?

2. How do the two groups differ in terms of motivation, behavioral patterns, and time investment?

3. In what ways does activity engagement relate to loneliness, and what underlying psychological mechanisms might explain this relationship?

4. What potential psychological risks are associated with high levels of engagement in these activities, and what implications do these risks have for educational interventions?

By examining these research questions, this study aims to build a comparative framework for understanding the psychological and behavioral aspects of high school students' leisure activities. The findings aim to provide theoretical basis and practical references for the formulation of educational policies, mental health interventions, and guidance on adolescent behavior.

2. Literature review

This literature review centers on three key themes: (1) idol or celebrity worship and its underlying theories, (2) online and video gaming behavior, including research on its motivations and addiction, and (3) comparative analyses of how these two activities relate to psychological variables such as loneliness. Existing studies have built separate theoretical and measurement frameworks for each of the two activities. Yet, relatively few studies have directly compared the two, focusing specifically on high school students. This study aims to fill that gap.

2.1. Idol worship and its theoretical foundations

The theoretical starting point of idol worship can be traced back to the "parasocial relationship" theory. Horton and Wohl [1] pointed out that radio, film, and television media can create a one-way relationship that feels "face-to-face." This makes audiences develop emotional attachment and a sense of closeness to media figures, providing a basic model for understanding fans' emotional investment in and behavioral follow-up to idols [1].

Building on this, scholars like McCutcheon [5] systematized "celebrity worship." They proposed a continuum model ranging from "entertainment–social" to "intense–personal" and then to

"borderline–pathological." They also developed corresponding measurement tools (such as the Celebrity Attitude Scale / CAS) to distinguish between healthy interests and potentially problematic engagement [5].

Studies with a clinical focus have gone further to point out that extreme idol worship is often linked to fantasy tendencies, specific personality traits, and certain psychological struggles. This suggests that individuals with very high levels of idol engagement need more detailed psychological assessment and targeted intervention approaches [6].

2.2. Empirical findings on idol worship

In recent years, cross-sectional studies (which examine populations at a single point in time) and review studies on idol worship have identified several consistent patterns. Moderate fan behavior—such as casually following an idol or talking about them with friends—often provides emotional support, a sense of identity, and entertainment value. However, high-intensity or pathological idol worship is often linked to psychological troubles, including depression, low self-esteem, poor social skills, and loneliness [6,7].

At the same time, factors like gender, age, and how someone uses media can change this relationship. This means the connection between "idol worship and mental health" is not one-sided or the same for everyone [7,8]. For example, social media lets fans interact (or feel like they are interacting) with idols more often and in a way that feels "real" (called "social presence"). This can make fans feel more connected to a group, but it can also make the risks of emotional compensation and loneliness worse—especially for teenagers who lack enough social support in real life [6,8].

2.3. Research on video gaming behavior

Research on video gaming behavior follows a different logic. Yee's motivation research divided players' motivations into dimensions like achievement, social interaction, and immersion. It showed that videogames can meet the needs for achievement and social interaction through task completion, competition/cooperation, and plot immersion. In this way, games can relieve stress and help build a sense of self [3].

However, when gaming becomes compulsive, out of control, or causes obvious damage to daily life functions, researchers have developed multiple "gaming addiction" scales using diagnostic criteria similar to those for pathological gambling. For example, Lemmens et al. developed and verified the Game Addiction Scale for adolescents. These studies found that "gaming addiction" indicators are significantly correlated with loneliness, reduced life satisfaction, and decreased social skills [9,10].

Systematic reviews also note that online gaming addiction is shaped by three main factors together: individual vulnerabilities (like poor self-control or trouble regulating emotions), game design features (like instant rewards or built-in community systems), and socio-cultural background (like how gaming is viewed in a society). At the same time, different studies still disagree on where to draw the line between "addiction" and "high engagement" [9-11].

2.4. Comparison

Looking at above research—idol worship and gaming—both similar and different mechanisms are observed.

In terms of similarities: whether someone is into idol worship or gaming, those who engage heavily usually get something from the activity—like emotional comfort, a sense of who they are, or a feeling of belonging to a group. This improves their mood or eases stress in the short term. But if the activity becomes their main source of emotional support or social interaction—replacing real-life relationships and daily responsibilities—both idol worship and gaming can end up being linked to more loneliness or other psychological risks [12,13].

The differences, though, lie in the paths and interaction styles involved. Idol worship is mostly a one-way, emotion-focused parasocial relationship; it relies heavily on emotional compensation and a sense of "closeness" that's based on imagination rather than real interaction. Gaming, on the other hand, usually involves actual interaction with other players, feedback for achieving goals, and social cooperation—in other words, two-way, mutual benefits. Existing studies—including those on teenage samples—show that self-regulation plays a big role: it can either reduce or increase the gap between "healthy gaming" and "problematic gaming." This is especially important for understanding why these two behaviors have different links to loneliness among high school students [12,13].

2.5. Limitations

Current research in idol worship and videogaming behavior has several limitations. First, there are few direct comparisons between "idol worship" and "gaming," and even fewer studies that focus on high school students—a group going through a key developmental stage, where they're exploring their identity and their relationships with peers are changing a lot. Second, the scales used to measure these behaviors and the standards for defining "problematic" engagement often aren't consistent across different cultures or age groups; more diverse samples and long-term (longitudinal) studies are needed to fix this.

Building on this background, the present study contributes by taking a comparative approach. It simultaneously measures the impact of idol worship, gaming, and levels of loneliness, allowing for a more integrated analysis. This study not only checks if there are overall differences in how the two activities affect people but also looks at how the link between loneliness and engagement varies within each group. Findings from this paper can provide initial empirical evidence to help understand how different leisure cultures play unique roles in the psychological development of teenagers [7,10,11].

3. Methodology

The purpose of this study is to compare the similarities and differences between high school students engaging in idol worship and those playing games, focusing on their personal traits, behavioral tendencies, as well as the values, experiences, and feelings derived from idol worship or gaming activities. To achieve this goal, three questionnaires were designed and implemented: a loneliness scale (for all participants), a gaming questionnaire (for gamers), and an idol worship questionnaire (for idol worshippers). These questionnaires combine quantitative and qualitative questions to fully capture participants' subjective experiences and behavioral patterns. The following sections detail the study's methods, including information about participants, measurement tools, procedures, and data analysis.

3.1. Participants

High school student participants (aged 15–18) were randomly recruited via an online questionnaire platform. No restrictions were placed on their region or school to enhance sample diversity. Based on self-reported activity preferences, participants were divided into two groups: the gaming group and the idol worship group. Grouping was conducted to ensure no overlap, meaning each participant belonged to only one group.

3.2. Measurement tools

The measurement tools consist of three parts: a loneliness measure (for all participants), a gaming questionnaire (for the gaming group), and an idol worship questionnaire (for the idol worship group). Each questionnaire was designed with reference to relevant literature to ensure its reliability and validity. Quantitative and qualitative questions are integrated into the questionnaires to collect multi-dimensional information.

3.2.1. Loneliness measure

In psychological research, the UCLA Loneliness Scale (Version 3) is one of the most widely used instruments for assessing subjective feelings of social isolation and lack of connection. It has been applied across adolescent and adult populations, with extensive evidence supporting its reliability and validity [14]. To reduce participant burden in large-scale or non-clinical surveys, researchers have also developed shortened forms of the scale, such as the version by Hughes et al., which have demonstrated strong concurrent validity in population-based studies [15]. Selecting an appropriate and validated loneliness measure is essential when comparing leisure behaviors and psychological outcomes, as it ensures interpretability and comparability of results.

This study adopted a simplified 13-item version of the UCLA Loneliness Scale to assess loneliness [14]. This simplified scale is designed to measure subjective feelings of social isolation and connection in a concise manner. It is suitable for the study's participant group and reduces the response burden on respondents. The 13 items consist of 8 negatively worded items and 5 positively worded statements. Respondents were asked to rate the frequency of feelings described in each statement using a 4-point Likert scale (1 = Never, 2 = Rarely, 3 = Sometimes, 4 = Often). The specific items are shown in Figure 1.

1. I feel a lack of companionship.
2. I feel like I have no one to rely on.
3. I feel lonely.
4. I feel like I am part of a group. (Reverse-scored)
5. I feel like I have something in common with the people around me. (Reverse-scored)
6. I feel like no one really understands me.
7. I feel cut off from others.
8. I feel like the people around me are unrelated to me. (Note: This item was adjusted to emphasize the perceived sense of alienation.)
9. I feel outgoing and friendly. (Reverse-scored)
10. I feel close to others. (Reverse-scored)
11. I feel ignored.
12. I feel like my relationships with others are meaningless.
13. I feel like I have no one to talk to.
    (Note: Items marked "Reverse-scored" require score reversal during the scoring process.)

Figure 1. Loneliness questionnaire. simplified version of the UCLA loneliness scale

The scoring method is as follows: Scores of all 13 items are summed up, with scores of positively worded items (Items 4, 5, 9, 10) reversed first (i.e., 1 = 4, 2 = 3, 3 = 2, 4 = 1). The total score ranges from 13 (lowest loneliness) to 52 (highest loneliness), where a higher score indicates stronger feelings of loneliness.

To facilitate interpretation of results, the following classification thresholds were established. These thresholds are based on the threshold standards of simplified UCLA versions and adjusted according to the proportion of 13 items:

• Low loneliness: 13–26 (indicating rare feelings of isolation and a strong sense of social connection).

• Moderate loneliness: 27–39 (indicating occasional feelings of alienation, which may require attention or mild intervention).

• High loneliness: 40–52 (indicating frequent and intense feelings of loneliness, which may be associated with mental health risks such as depression or anxiety).

3.2.2. Gaming addiction measure

The gaming questionnaire is designed for the gaming group. It includes 10 sections with 19 questions, covering addiction tendency, motivation, behavioral impact, and other aspects. The questionnaire combines 18 quantitative questions and 1 qualitative question, with the total score of quantitative questions ranging from 15 to 83.

(a) This is the first part.   (b) This is the second part.

Figure 2. Gaming questionnaire

3.2.3. Idol worship obsession measure

The idol worship questionnaire is designed for the idol worship group. It includes 9 sections with 15 questions, including 1 qualitative question and 14 quantitative questions. The total score of quantitative questions ranges from 13 (minimum) to 68 (maximum).

(a) This is the first part. (b) This is the second part.

Figure 3. Idol worship questionnaire

3.2.4. Procedure

Questionnaires were distributed through the online survey platform Wenjuanxing. Participants filled out the corresponding questionnaire based on their activity preference (gaming or idol worship), and all participants completed the loneliness scale. The average completion time was approximately 10 minutes. Data collection took place in July 2025. As the survey only involved anonymous self-reports of everyday leisure activities and feelings, it did not involve any procedures that could cause harm or pose risk to participants. Participation was entirely voluntary.

3.2.5. Data analysis

A total of 39 valid questionnaires were collected, including 24 from the gaming group and 15 from the idol worship group. Data analysis was conducted using Excel, aiming to compare the similarities and differences in loneliness, motivation, and other behavioral tendencies between the two groups.

Quantitative data were described by calculating mean values and percentages. Differences between groups were evaluated with independent-samples t-tests, while correlation analysis was performed to examine the relationship between loneliness and time investment. Qualitative data were manually categorized to identify common themes.

Given the small sample size (N=39), the analysis mainly focused on descriptive statistics, and results were interpreted with caution.

4. Results

4.1. Descriptive statistics

In the idol worship group, the average score of idol worship impact was 40.2 (SD=14.11), and the average total loneliness score was 30.33 (SD=10.32). In the gaming group, the average score of gaming impact was 42.38 (SD=16.74), and the average total loneliness score was 31.42 (SD=6.15). Overall, the average levels of the two groups were close, and both fell into the moderate range.

Table 1. Descriptive statistics of main variables in each group

Group	Variable	Mean	Median	Standard Deviation (SD)	Range
Idol Worship Group (n=15)	Idol Worship Impact Score	40.2	41	14.11	16–64
	Loneliness (UCLA-13)	30.33	29	10.32	16–50
Gaming Group (n=24)	Gaming Impact Score	42.38	36	16.74	20–83
	Loneliness (UCLA-13)	31.42	33	6.15	17–41

4.2. Between-group comparisons

A Welch t-test was used to compare the mean differences between the two groups. The results showed that there was no significant difference in impact scores between the two groups (t ≈ −0.435, degrees of freedom ≈ 33.6, effect size Cohen's d ≈ −0.14, which is a small effect). There was also no significant difference in total loneliness scores between the two groups (t ≈ −0.368, degrees of freedom ≈ 20.3, Cohen's d ≈ −0.14). In general, the mean differences between the idol worship group and the gaming group were extremely small.

4.3. Within-group correlations

Further correlation analysis showed that in the idol worship group, the idol worship impact score had a strong positive correlation with loneliness. This means the more time and energy someone put into idol worship, the higher their loneliness level.
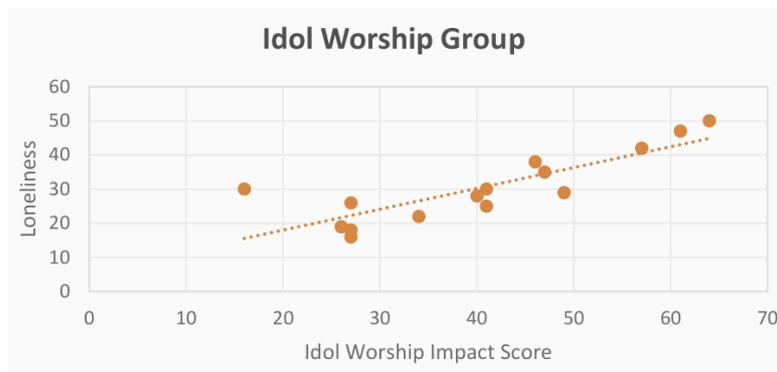

Figure 4. Idol worship group correlation

In contrast, the two variables in the gaming group had a moderate-to-weak correlation.
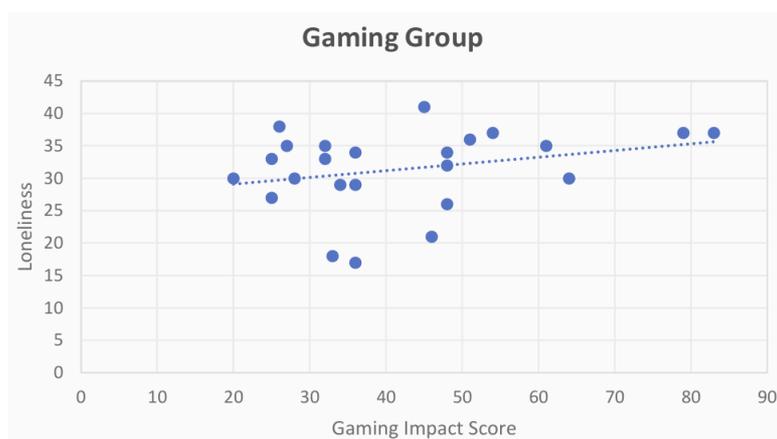
Figure 5. Gaming group correlation

4.4. Motivation distribution (qualitative statistics)

Simple frequency statistics on the multiple-choice motivation questions revealed the following:
    Motivation Frequencies for the Idol Worship Group (n=15)
    • Seeking emotional support: 6 times
    • Escaping real-life stress: 6 times
    • Admiring the idol's talent: 6 times
    • Gaining a sense of belonging: 6 times
    • Admiring the idol's appearance: 4 times
    • Others (learning from the idol, social needs, pure entertainment, etc.): 3 times
    Motivation Frequencies for the Gaming Group (n=24)
    • Relieving stress: 20 times (the most common)
    • Gaining a sense of achievement: 15 times
    • Social interaction (making friends or playing with friends): 15 times
    • Liking the plot, graphics, or gameplay: 12 times
    • Others: 3 times
    Overall, the motivations of idol worshippers were more focused on "emotional support, belonging, admiring idols, and escaping stress." For gamers, motivations were mainly "relieving stress, gaining achievement, and social interaction." This suggests that idol worship tends to meet emotional and belonging needs, while gaming emphasizes social and achievement-related motivations.

4.5. Cases and outliers

Some outliers were observed. In the gaming group, one participant had a gaming impact score as high as 83 (with a loneliness score of 37), which was significantly higher than other members of the same group. This shows that this participant had an extremely high level of gaming engagement and a strong self-perceived impact from gaming. In the idol worship group, one participant had a total loneliness score of 50 (along with an idol worship impact score of 64), which was much higher than the group average. This suggests that some highly engaged idol worshippers may rely on idols as an important source of emotional support.
    These outliers indicate that although the overall mean differences were small, individual differences in engagement levels and loneliness experiences were pronounced. These cases highlight

the need for future in-depth qualitative exploration.

5. Discussion

This study compared two groups of participants—idol worshippers and gamers—to explore the differences and similarities in the impact of leisure activities and loneliness among young people. Results showed no significant differences between the two groups in overall "impact scores" or "total loneliness scores"; the mean differences were extremely small, and the effect sizes were very low. This finding suggests that, on a general level, idol worship and gaming may bring similar levels of subjective burden or benefits to individuals. It is difficult to find obvious group differences with a small sample size.

This conclusion provides room for rethinking common stereotypes, such as "idol worship is more likely to cause loneliness" or "gaming is more likely to lead to addiction." It indicates that the form of leisure itself is not a decisive factor; what matters more is an individual's engagement pattern and psychological motivation during the activity.

Table 2. Differences in experience, value, and psychological mechanisms between idol worship and gaming

Dimension	Idol Worship	Gaming
Core Experience	Emotional support, identity recognition, admiration for idols	Stress relief, sense of achievement, entertaining interaction
Value Type	Relational value (emotional attachment, sense of belonging)	Functional value (relaxation, challenge, social interaction)
Psychological Mechanism	High engagement often coexists with high loneliness: Lonely people rely more on idol worship, and excessive idol worship may in turn increase loneliness	Weak correlation between engagement and loneliness: Gaming has limited impact on loneliness, and is more influenced by habits and situations
Distribution Feature	Impact scores are relatively concentrated; loneliness varies greatly (from very low to very high)	Impact scores fluctuate more (from low to extremely high engagement); loneliness is concentrated at a moderate level
Potential Risks	Individuals with high loneliness + high idol worship impact: Rely on idols to replace real-life relationships	Individuals with extremely high impact scores: Risk of addiction or overuse
Positive Functions	Provides emotional support and a sense of belonging	Provides opportunities for relaxation, achievement, and social interaction

At the same time, within-group correlation analysis revealed different psychological mechanisms. In the idol worship group, there was a strong positive correlation between loneliness and idol worship impact scores. This means that individuals who reported higher engagement in idol worship also tended to have stronger feelings of loneliness. This phenomenon may reflect two possible mechanisms:

1. Adolescents experiencing higher loneliness are more likely to rely on idol worship as a source of emotional support and a substitute for real-world social connections.

2. Excessive engagement in idol worship may limit the development of real-life social networks, which reinforces the feeling of loneliness.

In contrast, correlation in the gaming group were weaker. While gaming is somewhat related to loneliness, it is not as strongly tied to loneliness as idol worship. Instead, gaming engagement may

be more influenced by an individual's daily habits, social environment, and academic pressure.

Differences in qualitative motivations also support this explanation. Idol worshippers emphasized emotional support, a sense of belonging, and admiration for idols, while gamers focused mainly on stress relief, a sense of achievement, and social interaction. This shows that idol worship largely serves as an "emotional compensation," whereas gaming balances both emotional and social needs more evenly.

Case observations also back this up. In the idol worship group, there was an individual with extremely high loneliness and a very high idol worship impact score—this is likely a typical case of "using idol worship to cope with loneliness." In the gaming group, individuals with high impact scores suggested another type of risk: for certain people, gaming may become a channel for excessive engagement.

Finally, case analysis revealed the existence of extreme patterns. In the idol worship group, there was an individual with extremely high loneliness and a very high idol worship impact score, who may rely heavily on idols to maintain emotional stability. In the gaming group, individuals with extremely high impact scores indicated a risk of addiction. Although these extreme cases do not represent the overall trend, they provide important clues for mental health interventions: Education and psychological counseling should identify and pay attention to high-risk individuals to prevent them from falling into dependent or addictive patterns.

6. Conclusion

Overall, the main contribution of this study is to demonstrate that although idol worship and gaming have broadly similar impacts at the group level, the close connection between loneliness and engagement intensity is much stronger among idol worshippers, revealing distinct psychosocial risks. Future studies can further explore the emotional dependence mechanisms of idol worshippers through qualitative interviews and expand the sample size to test causal relationships.

At the same time, this study also highlights the importance of education and mental health support for young people: While encouraging healthy leisure activities, special attention should be paid to the engagement patterns of individuals with high loneliness in idol worship and gaming. This helps prevent them from falling into a vicious cycle that increases their sense of isolation.

Finally, several limitations should be acknowledged. This study had a small sample size (N=39) and used self-reported questionnaire data, which makes it difficult to rule out self-report bias. Although statistical tests showed no significant differences, the results still have exploratory value. Future studies need to expand the sample size, adopt longitudinal tracking or mixed methods, and further confirm the long-term impacts of idol worship and gaming on individuals' psychological states.

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