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CAI, Yewei

Graduate School of Human-environment Studies, Kyushu University

SUGIYAMA, Yoshio

Faculty of Human-environment Studies, Kyushu University

<https://doi.org/10.15017/7343052>

出版情報：健康科学. 47, pp.1-9, 2025-03-20. 九州大学健康科学編集委員会
バージョン：
権利関係：



—Review—

The potential for integrating identity theory into research on gaming disorder (GD) among esports players

Yewei CAI¹⁾ and Yoshio SUGIYAMA^{2)*}

Abstract

The rise of digital entertainment, particularly video gaming, has brought both economic benefits and challenges, one of which is gaming disorder (GD), a growing concern. Recognized by the World Health Organization in ICD-11, GD is defined by persistent, compulsive gaming that disrupts personal, social, and occupational functioning. This study explores the application of Identity Theory—a framework rooted in symbolic interactionism—in understanding GD, with a focus on its relevance to esports players. Identity theory highlights the alignment between self-meaning and behaviors, offering insights into how discrepancies between in-game and real-world identities may contribute to excessive gaming. By examining individual, gaming-related, and environmental factors, the study underscores the distinctive role of esports in shaping player identities and the associated risks. This theoretical approach shifts the focus from game genres to identity processes, providing a comprehensive framework for understanding and addressing GD. The findings aim to inform both theoretical development and practical interventions for GD, particularly within the rapidly evolving esports landscape.

Key Words: gaming disorder, esports, identity theory

(Journal of Health Science, Kyushu University, 47: 1-9, 2025)

Introduction

Digital entertainment, particularly video gaming, has transformed the leisure activities of millions worldwide. While gaming offers numerous benefits such as fostering social connections and enhancing cognitive skills, excessive engagement in gaming has led to concerns about its potential negative impact on mental health. gaming disorder (GD), recognized by the World Health Organization (WHO) as a behavioral

addiction in the International Classification of Diseases (ICD-11), refers to a pattern of persistent and compulsive gaming behavior that results in significant impairment in personal, social, and occupational functioning. Despite substantial research on the psychological, behavioral, and social factors underlying GD, there remains a need for theoretical frameworks that holistically explain its development and maintenance.

1) Graduate School of Human-environment Studies, Kyushu University, Fukuoka, Japan

2) Faculty of Human-environment Studies, Kyushu University, Fukuoka, Japan

*Correspondence to: Faculty of Human-environment Studies, Kyushu University 744 Motoooka, Nishi-ku, Fukuoka 819-0395, Japan
Tel&Fax: +81-92-802-5162 E-mail: sugiyama@ihs.kyushu-u.ac.jp

Identity theory, which originated from symbolic interactionism, offers a promising lens through which GD can be understood. Identity, as defined in the identity theory, comprises the self-meanings and roles that individuals adopt to define their identity. These self-meanings influence behavior by aligning actions with identity standards, creating consistency between one's perception of self and social roles. Given that video games provide a virtual environment for players to adopt diverse roles, such as heroes, warriors, or community leaders, gaming is not merely an activity, but a medium for identity exploration and affirmation. The immersive nature of gaming allows players to construct and reinforce identities that fulfill their psychological needs, such as competence, relatedness, and autonomy.

However, when discrepancies arise between one's in-game and real-life identities, individuals may resort to excessive gaming to reduce this incongruence. For example, someone struggling with a lack of social connections in the physical world may seek validation through in-game achievements or community affiliations, reinforcing their gaming behavior to maintain their identity as successful and connected individuals in the virtual space. This aligns with the perceptual control system described in the identity theory, in which individuals minimize mismatches between their identity standards and situational inputs.

By exploring the application of identity theory to GD, this study investigates the potential use of identity processes to understand and address problematic gaming behaviors. This approach evaluates whether the theoretical framework of identity theory can effectively explain the development and maintenance of GD, while also providing a foundation for future research and practical interventions targeting identity-related factors in gaming addiction.

Identity theory

The identity theory originated from Mead's symbolic interactionism. Later, researchers further developed Mead's symbolic interactionism and proposed the identity theory. Mead's symbolic interactionism theory divides human social

communication behavior into two stages: the first stage involves communication through gestures without meaning, and the second stage involves communication through gestures with meanings (i.e., symbols or language). The former is a prerequisite of the latter. Mead overcame the shortcomings of traditional behaviorism that ignored the human self-consciousness dimension. He demonstrated that humans can internalize generalized others through language or significant gestures, thereby developing self-consciousness. Symbolic interactionism does not conflict with the stimulus-response principle of behaviorism but is also compatible with the dimension of self-consciousness. Mead opined that an individual's self is composed of the "I" and the "me." The "me" reflects an individual's cognitions of their social roles, such as "I am a student" or "I am a kind person." "I" represent unpredictable reactions of the self to these social roles. For example, "although I am a student in a social role, my behavior may not conform to the standards of a student, or I can choose to be a good student." The "I" is the unpredictable part of the self. The structure of Mead's self resembles looking into a mirror. The "me" is the reflection of ourselves in the mirror called "social," while the "I" is the part of self that we cannot directly observe but indeed exists within myself. Mead's theory provides the perspective of simultaneously addressing both the subjective and objective dimensions of human behavior. Building on this foundation, researchers further developed Mead's concept of the "me" into the term "identity." Identity is defined as a self-schema or a series of meanings by which individuals identify themselves. The meaning of an individual's identity influences how a person interprets a situation and subsequently affects their behavior (McCall & Simmons, 1978; Stryker & Serpe, 1994). Compared to the general concept of Mead's "me," identity theory further elaborates on the hierarchical structure of the "me" as identity standards, making this concept measurable and suitable for forward empirical research. Overall, identity theory has three emphases from different perspectives: structural emphasis, which addresses the social structure that influences an

individual's identity formation and behavior later (Stryker, 1980), interactional emphasis, which highlights the interactional process between individuals and others to maintain one's identity (McCall & Simmons, 1978), and perceptual control system emphasis, which describes how individuals maintain identities through perceptual systems (Burke & Stets, 2009). An individual's identity comprises a set of meanings for himself or herself, which helps individuals define their identity. Individuals may identify themselves by the roles they play in society, such as being an athlete and a student at the same time. Individuals' self-meanings that attend to their identity as athletes, such as being passionate or hard working, are specific to themselves. Previous research divided identity into three major categories: personal, role, and group. Personal identity describes distinct aspects of a unique individual. Role identity relates to social roles and occupations about oneself. Group identity refers to the meaning of oneself as a member of a larger social category, such as gender identity or nationality (Burke & Stet, 2022). Individuals have multiple identities because they participate in various organizations and play different roles. When individuals enter specific situations, the corresponding control systems for their identity meanings are activated. According to the identity theory, when individuals enter situations, they begin to compare the meanings in the situation with their identity standard meanings. After comparison, they try to take action to eliminate any discrepancies between the two and maintain consistency between their identity standards and the perception of meaning from the situations. These processes are called perceptual control systems. The perceptual control system consists of four parts: (1) identity meaning standards; (2) input of self-perceptions in a situation; (3) process of comparison and evaluation; and (4) output, including responses to emotions and adjusting behavior. Identity meaning standards represent a series of self-meanings for individuals to identify themselves. The perceptual control system operates sub-consciously using these perceptions as input and assesses whether the perceived meanings in a situation align with identity

meaning standards. Individuals' self is verified when the input matches the standard and, as a result, individuals' self-meanings are reinforced. However, if a mismatch exists between situational meanings and identity standards, a discrepancy arises, leading to emotional responses (Burke, 1991).

Risk factors for developing GD

Previous empirical studies indicate that three factors may contribute to the development of GD: gaming-related, individual, and environmental factors (Psych et al., 2013). The interactions among these three elements can potentially lead to gaming addiction. For instance, research suggests that individuals with low self-esteem are more inclined to engage in gaming, which may result in internet addiction (Cudo et al., 2019). Meanwhile, players with impulse control issues are more likely to become addicted to online games with gambling features (Spicer et al., 2022).

Recently, Király et al. (2023) summarized empirical studies examining the impact of the aforementioned three factors on GD. Building on Király's work, this study focuses on outlining the currently identified risk factors associated with GD, particularly individual factors, and proposes ideas on how identity theory can be applied to the study of GD among esports players.

Gaming-Related Factors

As video games are profit-oriented, longer playtimes and higher in-game spending signify greater success for game developers. Consequently, game design often incorporates psychological mechanisms to maximize player engagement, making players more susceptible to addiction (King et al., 2010; Király et al., 2018).

Studies have consistently shown that GD is more prevalent among online game players than among offline players (Smyth, 2007; Lemmens & Hendriks, 2016; Mößle & Rehbein, 2013; Montag & Pontes, 2021). A plausible explanation is that online multiplayer games satisfy players' social needs better through virtual interaction, whereas the anonymity and invisibility of online environments reduce the social

anxiety associated with face-to-face communication (Lee & Leeson, 2015; Heng et al., 2021; Bodi & Pennequin, 2021).

Video games can be classified into various genres, such as role-playing games (RPGs), first-person shooters, multiplayer online battle arena (MOBA) games, and strategy games. While there is considerable overlap between genres, specific structural characteristics such as competitive mechanics, immersive narratives, and reward systems are often associated with increased player engagement and a higher risk of GD. For instance, features such as achievement systems and progression mechanics can create a cycle of reinforcement that encourages compulsive gameplay (King et al., 2019).

Modern video games frequently employ monetization strategies such as microtransactions and loot boxes to generate revenue. These techniques often exploit psychological mechanisms such as variable reward schedules and loss aversion, which can lead to prolonged play and excessive spending, particularly in games with gambling-like elements (Spicer et al., 2022).

Individual Factors

In addition to gaming-related and environmental factors, individual characteristics play a central role in the development of GD. These factors include demographic variables (e.g., age and gender), personality traits (e.g., impulsivity and neuroticism), motivational drivers (e.g., escapism and achievement), and comorbid psychopathologies (e.g., depression and ADHD). Additionally, genetic predispositions and neurobiological processes may contribute to individual vulnerabilities. Research indicates that GD is not solely determined by the duration of gameplay but is significantly influenced by how individuals interact with the gaming environment (Király et al., 2017).

Demographic Factors

Meta-analyses and global surveys have consistently shown that males are more prone to GD symptoms (Su et al., 2020; Markey & Ferguson, 2017; Pontes et al., 2022). One explanation is that video game content

often emphasizes competition and aligns more closely with traditionally masculine traits (Király et al., 2023). Younger individuals also exhibit stronger gaming motivations and are more susceptible to GD (Entertainment Software Association, 2021; Király et al., 2022; Stevens et al., 2021).

The role of ethnicity in GD remains underexplored, with existing findings being often contradictory (Király et al., 2023). Additionally, studies show no consistent relationships between education level, employment status, marital status, income, and GD symptoms. Conversely, some studies indicate that better-educated, employed, and married individuals are less likely to develop GD (Elliott et al., 2012; Tullett-Prado et al., 2021); whereas, some studies have found no significant associations (Wittek et al., 2016; Rho et al., 2018; Kim et al., 2008).

Personality Traits

Two meta-analyses explored the relationship between the Big Five personality traits and GD, revealing that GD is negatively associated with extraversion, conscientiousness, and agreeableness, and positively associated with neuroticism (Akbari et al., 2021; Chew et al., 2022). Neurotic individuals are more prone to anxiety and depression, often turning to video games as a coping mechanism, which can lead to problematic gaming behaviors (Király et al., 2023; Wittek, 2016).

In addition to the Big Five traits, impulsivity is strongly linked to GD and other addictive behaviors (Lee, Hoppenbrouwers, & Franken, 2019). Large-scale surveys and experimental studies have consistently reported a significant association between impulsivity and GD symptoms (Gentile et al., 2011; Choi et al., 2014; Su et al., 2019; Metcalf & Pammer, 2022). Longitudinal research suggests that impulsivity may not directly cause GD, but that GD may exacerbate impulsivity and impair decision-making abilities (Kräplin et al., 2021). Impulsivity is also a key shared mechanism between GD and attention-deficit hyperactivity disorder (ADHD), which is frequently comorbid with GD (Andreassen et al., 2016; Lee et al., 2017; Yen et al., 2017).

Symptoms of Psychopathology

Psychopathological symptoms, such as depression and anxiety exhibit weak to moderate correlations with GD (Ostinelli et al., 2021; Ji et al., 2022; Wang et al., 2017). Low self-esteem and poor social skills are significant risk factors for GD. Individuals with low self-esteem or social competence may turn to gaming as a form of psychological compensation (Van Rooij et al., 2014; Pápay et al., 2013; Wichstrøm et al., 2019; Kardefelt-Winther, 2013).

Motivational Factors

Recent meta-analyses have synthesized findings on the relationship between motivational factors and GD (Bäcklund et al., 2022; Wang & Cheng, 2022). Studies often rely on two primary tools to assess gaming motivation: the Motives for Online Gaming Questionnaire (MOGQ; Demetrovics et al., 2011) and the Motivations for Play in Online Games Questionnaire (MPOGO; Yee, 2006).

Using the MPOGO, escapism emerged as the strongest motive associated with GD, followed by achievement, both of which exhibited moderate associations. Social motives, including socialization, relationship building, and teamwork, showed weak associations with overall GD.

Similarly, studies using the MOGQ found escapism to be the strongest predictor of GD, followed by fantasy and coping motives. Conversely, recreational motives had the weakest association with GD, suggesting that gaming purely for entertainment is unlikely to lead to addiction.

GD among Esports Players

Esports, a short form of “electronic sports,” refers to professional competitive video gaming, where individuals or teams compete in organized matches (Bányai et al., 2020). China has the largest population of esports players and viewers, and the enthusiasm surrounding esports is unmatched in this region (Newzoo, 2022).

While there is extensive research on GD, studies exploring the impact of esports on GD remain limited. This gap may be related to the rapid evolution of

esports, which makes it challenging for researchers to keep pace with their development. Moreover, despite the professionalization emphasized in the definition of esports, distinguishing between casual and professional players remains challenging. For example, it remains unclear whether individuals working in the game-streaming industry qualify as professionals.

Additionally, the blurred boundaries between game genres further complicate this research. Modern esports games often incorporate single-player modes within the games themselves, and in-game purchase systems for rare items frequently resemble gambling mechanics (Spicer et al., 2022). Furthermore, esports games often include player communities or guilds, making them partially comparable to social games. Collectively, these factors contribute to the challenges in studying the impact of esports on GD.

In conclusion, further research is essential to better understand the cultural dimensions of esports and their potential effects on GD.

Advantages of Applying Identity Theory to GD Research

The rapid development of esports, coupled with the challenges of objectively categorizing game genres makes it difficult to study GD solely from the perspective of game type. The boundaries between different types of games are increasingly blurring, as modern games often integrate elements from multiple genres and offer features such as single-player modes or gambling-like microtransactions. These complexities hinder a straightforward classification of games and their potential impact on GD. However, the identity theory provides a promising alternative framework for understanding player behavior and motivations.

From the perspective of identity theory, players engage in specific games not only for fixed reasons but also to control their identities by playing games. For example, even among players of the same game, the identities they seek to confirm can vary significantly. Some players may be driven by the desire to reinforce their esports identity, aspiring to win in competitive gaming and be recognized within

the esports community. Others may focus on affirming their social identity by forming connections and gaining approval within gaming groups. Some players lack a stable gaming-related identity and use games as a tool to support other identities, such as escaping the stress and expectations of daily life or fulfilling the need for personal achievement.

This perspective shifts the focus of research from what types of gamers engage with to why they engage in those games and what identities they aim to control or maintain. This shift allows researchers to go beyond traditional categorizations based on game genres and delve into the underlying psychological and social mechanisms that drive gaming behavior. This approach can reveal how identity-related discrepancies or conflicts contribute to problematic gaming and offer insights into the root causes of GD. Moreover, applying the identity theory to GD research enables a deeper exploration of the dynamic interactions between players' internal motivations and external environments. By examining how players' self-meanings align with their gaming experiences, researchers can uncover patterns of behavior linked to both healthy and problematic gaming. This understanding can be particularly valuable for identifying at-risk individuals and designing interventions that address not only surface-level behaviors, but also the identity-related factors that drive those behaviors.

In summary, identity theory provides a robust framework for advancing GD research by reframing the focus from game types to the identities that players seek to affirm. This perspective not only enriches the theoretical understanding of gaming behaviors, but also offers practical implications for developing more targeted and effective strategies to address GD in the context of esports and beyond.

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