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Defining Tilt in Esports: A Review

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Highlights:

- Tilt is a growing area of research interest in the esports landscape.
- Definitions for tilt are better contextualized to esports than before.
- The impact of team dynamics, in-game influences, and external stressors on tilt should be investigated more thoroughly.
- Psychophysiological research strategies would deepen our understanding of the tilt phenomenon.
- Keywords: tilt₁, esports₂, emotional regulation₃, video games₄, stress₅.

Abstract

The purpose of this review is to examine and interpret the current literature on the phenomenon known as “tilt” in esports. The term tilt originates from the game of pinball but has been used to describe poker players and more recently been adopted by esports athletes. Tilt in esports is described as becoming frustrated and making poor gameplay decisions based on perceived injustices and has been a topic of interest within the esports community for some time. While the current literature offers common definitions for tilt in esports, the authors of this review recommend further exploration of the relationships between various psychological variables, physiological variables, and tilt to inform and improve interventions for players.

Introduction

Esports, defined as organized competitive video gaming with systematized rules (Nothelfer et al., 2024), is a rapidly growing industry, with an estimated 82,442 registered competitive players (Esports Charts, 2025) and 3.4 billion casual gamers worldwide (Newzoo, 2024). The commercialization of esports and global recognition as a part of organized sports competitions has caused an influx of new research articles related to esports and competitive video gaming. Player psychology and emotional regulation are among the burgeoning topics in the esports literature, but much of the focus has been on the impact video games have on player emotional stress outside of competition (Leis & Lautenbach, 2020; Porter & Goolkasian, 2019; Sharma et al., 2022) and the relationship between internet gaming disorder and emotional regulation (Sharma et al. 2021). While these are relevant areas of interest, they emphasize the impact of games on the player and not the player’s impact on the game.

The transition from researching video game play to esports involves shifting to a new paradigm. Pedraza-Ramirez et al. (2020) have called for esports to be investigated through a sports psychology lens. They

emphasize recognizing how cognitive factors affect esports athletes and the role emotions can play. Poulos et al. (2022) provides an example of these recommendations in their longitudinal study examining both stressors and coping mechanisms in six high-level League of Legends players. The esports athletes in the study shared many commonalities with traditional sport athletes in the stressors they experience and coping strategies they employ (Poulos et al., 2020), showing the need to better understand esports player psychology. Players often have difficulty regulating their emotions (i.e., frustration, anger, guilt) in the heat of competition and lack effective coping mechanisms (Beres et al., 2023). One phenomenon that impacts esports athletes and casual gamers is “tilt”, a term that originated colloquially from people playing pinball, when frustrated players would hit the side of the machine, it would flash “tilt” and the game would end. The term was later adopted by poker communities to describe frustrated players who would begin to make poor decisions with their gameplay (Browne, 1989; Moreau et al., 2020; Palomäki, 2013; Palomäki et al., 2014).

There is a dearth of research investigating cultural or gender differences in tilt responses or triggers, two important areas for future investigation due to the variance in tilt triggers players can experience. Gaming has been known to bring about toxic behavior, a related concept to tilting, that is often associated with negative online interactions like cyberbullying (Kordyaka et al., 2022). Age and education both have been suggested to have an impact on players’ toxic behavior (Kordyaka et al., 2022), showing the importance of psychosocial development and the adoption of social norms. The attribution of education to toxic behavior could not be substantiated, though. Similarly, there is little research on the association between tilting and gender. Cregan et al. (2024) employed survey methodologies to compare how players performed in pressurized situations, specifically investigating how tilt experiences vary by gender, but found no significant differences between the two populations. This contradicts Witkowski’s (2018) findings from qualitative interviews about the challenges female gamers face in the male-dominated esports industry, where “girl gamers” femininity is often manipulated and targeted in high-performance settings. This highlights the role different methodologies (quantitative vs. qualitative) may play in examining gender differences in tilt, with interviews allowing for greater depth in participant responses, providing context that may be missed in a survey. Furthermore, the authors of this review agree with Cregan et al. (2024), who called for incorporating psychophysiological measures in tilt studies, which may enhance our understanding of sex-based differences in tilt responses. The lack of empirical research in this area makes investigating gender differences in tilt responses and triggers an important gap for researchers to fill

Tilt’s popularity in esports research is growing rapidly and demands attention in the academic community. The purpose of this review is to summarize and interpret the current literature on tilt, help define the phenomenon in the esports and video gaming context, and provide recommendations for future research related to tilt.

Origins of Tilt

Original work on tilt focused on poker players and their ability to maintain their composure when gambling (Browne, 1989). Many poker players susceptible to tilt, sometimes identified as “problem gamblers” with addictive tendencies, didn’t use the term according to Browne (1989), showing how players perceived the negative connotation associated with it. Other authors of seminal works characterize tilt in gambling as a player trying to rapidly recoup their losses, demonstrating a lack of control and poor decision-making (Lesieur & Custer, 1984; Toneatto, 1999; Toneatto, 2002).

Authors like Palomaki (2013) have utilized a phenomenological approach to deepen our understanding of the psychology of tilting and have found that most poker players who tilt feel provoked by a sense of injustice against the player. Participants noted how the sense of injustice against the player often creates a feeling of dissociation, which leads to poor decision-making (Palomaki, 2013). Palomaki suggested that experience can be a mediating factor, but any player can tilt depending on the circumstances. In a separate study, Palomaki

et al. (2014) found that players with more experience perceived their tilting experience as less extreme than other players when in fact greater experience was correlated to stronger tilting. They also found that players with greater emotional responses to losing had stronger tilt experiences (Palomaki et al., 2014). These findings indicate the importance of emotional regulation and self-awareness to the player's experience with tilt. They also demonstrate the limited information we can derive from the player's perspective alone, as their perception doesn't often meet the reality of their actions.

Modern works have found connections between tilt episode frequency and excessive gambling (Moreau, 2020), a finding that closely mirrors tilting in esports and video game addiction (Sharma et al., 2022). The sense of injustice associated with the onset of a tilt episode is also shared between poker (Palomäki et al., 2020) and esports (McClinton & Pascale, 2024). The source of that sense of injustice isn't always the same in each context, though. Poker players often attribute luck and a lack of opponent skill to their failures and tend to avoid taking responsibility for their losses (Brochu et al., 2022). Poker, being a game of chance, can impact a player's feelings of control over the outcome of a hand and contribute to a belief that they'll eventually win again (Brochu et al., 2022). Mathieu and Varescon (2023) reported similar findings after interviewing 12 routine gamblers, with players noting how they felt out of control and continued to chase a winning hand despite potential consequences. The perceived sense of injustice poker players feel when tilted is similar to that of esports players, but the source of that injustice differs due to the much different characteristics of each activity. Esports, often being a team activity driven by player skill and collaboration, creates different conditions and triggers for tilt in gamers than poker players. The tilt phenomenon in the esports context will be explored in the next section of this review.

Tilt in Esports

The literature on tilt in esports began shortly after the rapid globalization and commercialization of the esports industry in the early 2010s (Hiltscher, 2015). The combination of live streaming, exposure, and improved organizational efficiency led to an increase in major tournaments from roughly 10 in 2000 to 696 in 2012 (Hiltscher, 2015). The globalization and commercial success of esports is intertwined with the emergence and amplification of tilt. The rapid rise in popularity of esports fueled the growth in online tournaments (Newzoo, 2024), now larger in both scale and intensity, with players often competing in front of millions of online viewers and live audiences who provide in-game criticism. Under these high-pressure conditions, players report heightened anxiety, increased threat appraisals, and poorer performance compared to low-pressure conditions (Sharp et al., 2024). This illustrates how the tournament atmosphere and intense competition inherent to the evolving esports landscape make players more susceptible to tilt. Additionally, the global expansion of esports compounds cultural and language differences among international teammates, negatively impacting team dynamics and contributing to miscommunication, mistakes, and blame (Tang, 2018) which can trigger tilt.

Increased popularity in esports among the general public has also led to a greater academic interest in the esports community. Wei et al. (2016) were among the first researchers to acknowledge tilt as a common experience in other competitive contexts outside of poker, specifically video games. While their study wasn't specifically focused on esports athletes, recognizing that the experience also applies to esports athletes was a new contribution to the literature.

One of the earliest attempts at researching tilt in esports came from Wu et al. (2021). Their definition of tilt was similar to those provided in poker contexts, where players display poor decision-making or gameplay behaviors after being set off by a person or event that causes frustration or anger (Wu et al., 2021). They attempted to deepen their understanding and build off this definition by conducting a mixed-methods study surveying 95 high school esports athletes and interviewing 8 esports coaches/staff (Wu et al., 2021). They asked participants how they would describe tilt, what triggers them, how players typically respond when it

occurs, and if players can change how they respond to tilt. Both players and coaches from the sample agreed tilt was associated with feelings of anger, frustration, and toxicity. Players reported that they were triggered most often by teammates' mishaps, followed by personal mistakes, and finally by losing. Based on the responses of the players, Wu et al.'s (2021) initial description of tilt triggers aligns with their findings.

There were several strategies outlined by players in Wu et al.'s (2021) study for responding to tilt. A third of players (32%) in the study responded to tilt by taking breaks from the game, typically after the match or session was completed. Positive coping strategies like "trying to smile" and "calming myself down" were the second most popular responses to tilt according to a quarter of their sample (25%). Roughly the same percentage (22%) of players reported negative coping mechanisms like lashing out, yelling, or getting angry. The negative coping mechanisms outlined by these players demonstrate the need for further research into tilt. Despite the negative coping mechanisms, two-thirds of the participants (67%) believed that tilt responses could be improved (Wu et al., 2021). While a larger percentage of players may experience negative reactions to tilt than this study reported due to it being self-reported, players believing tilt is a manageable experience provides promise for intervention-based studies.

While there is definitive value in Wu et al.'s (2021) findings, some limitations should be acknowledged. Most notably, 90.7% of their sample was male, so it's only representative of a section of the esports population. As of 2024, approximately 48% of video gamers in the United States identify as female and 52% as male (Clement, 2024). Additionally, the player's feelings and perceptions were recorded using a one-time survey. Surveys allow for greater volume in data collection, but their reliance on self-reporting makes the validity of the findings less strong. Only a fifth of the participants reported performing maladaptive tilt behaviors, while their coaches reported more frequently that athletes displayed negative tilt behaviors (Wu et al., 2021). This demonstrates that players might have performed negative tilt behaviors more frequently than reported. Tilt research, due to its negative connotation, should be investigated from both a player's perspective and an outsider's given the possibility of players not responding truthfully.

Sharma et al. (2022) used a similar approach for their thematic study on tilt in casual online video gamers. Participants reported similar emotions to previous studies associated with tilt such as anger, anxiety, and lower self-efficacy. The researcher also found a link between participants who tilted and poor prosocial behaviors and gaming addiction suggesting a lack of emotional regulation while gaming has potential consequences outside of weakened performance alone. While Sharma et al. (2022) acknowledge the need for improved coping skills and support for gamers, they argue the root cause of tilting and its potential detrimental effects stems from too much gaming. Much early video gaming research adopted this framework, focusing on the potential harm caused by gaming instead of seeking to understand the gaming population and their experience. Sharma et al. (2022) continued to build on previous research related to tilt by investigating the emotions associated with tilt and its relationship to psychosocial variables, but their focus on casual gamers makes it challenging to generalize their findings to the esports population.

The first study to define tilt specifically in esports came from McClinton & Pascale (2024) who interviewed six esports professionals. They used a thematic analysis of the participant's interview responses and generated the following definition:

"Tilt in esports is an emotional state of indignation and frustration resulting in inhibited decision-making. It may be triggered by situations like losing when a win was highly probable, poor personal performance, or adverse behavior from teammates and opponents. However, tilt can be mitigated by good emotion regulation, extensive in-game experience, and a strong will to perform at one's optimal level (p. 4)."

One key difference between McClinton & Pascale's definitions and those provided in poker contexts is the role teammates and opponents play in causing tilt. Unlike other activities associated with tilt (e.g., pinball and

poker), many video games involve cooperative play which can impact the outcome. Their definition is also in contrast with authors who focused on excessive playing time associated with tilt (Sharma et al., 2022) or a player-centered feeling of moral indignation context (McClinton & Pascale, 2024). We feel the former definition is more in line with our experience with esports athletes, who display the desire and work ethic to improve their response to tilt but don't have the resources or support yet.

Interestingly, players who engage in more competitive gaming are more likely to tilt than those playing less competitive games (Cregan et al., 2024). Cregan et al.'s (2024) online study of over a thousand gamers who took part in their survey found that similar feelings of frustration and anger, as well as longer playing duration, were both associated with a higher risk of tilt. Interestingly, more years of experience were associated with a decreased risk of tilt (Cregan et al., 2024), which contradicts prior research on poker players (Palomaki et al., 2014).

Bonilla et al. (2024) offer the most recent and robust attempt at defining tilt by interviewing 27 players and coaches of various experience and skill levels within the esports community. They provided a similar definition to that of McClinton & Pascale (2024) and described tilt as players experiencing frustration and anger after not meeting their expected standards during gameplay, which can result in toxic behaviors. Bonilla et al. (2024) continued to build on previous work by recognizing that tilt isn't simply irrational behavior with no trigger but rather has clear causes and signs that players and coaches can be proactive about recognizing and addressing. They also add that many players who experience tilt are driven to keep playing despite the negative emotions they feel when tilted. Many tilt triggers come from gameplay mistakes or losses, and players often believe that success will help them overcome their tilt (Bonilla et al., 2024). This suggests that without effective interventions, players will continue to display negative coping mechanisms when tilted.

While tilt has been primarily identified and researched as a psychological construct, there are physiological factors that should be explored due to tilt's relationship with the body's stress response. Physiological research on esports athletes and stress isn't novel, but investigating tilt through this lens is still in its infancy. Researchers have used a variety of biomarkers like heart rate variability (HRV) (Andre et al., 2020; Bennett et al., 2022; Hong et al., 2018; Lee, 2021; Long et al., 2023; Machado et al., 2022; Porter & Goolkasian, 2019), and blood pressure (Porter & Goolkasian, 2019) to better understand the physiological responses of esports athletes and casual gamers during gameplay, but few are directly investigating tilt using this data (Lee, 2021; Ortmann et al., 2024). HRV is one of the most common metrics used to quantify psychophysiological stress in video gaming research. It uses the time between heart beats to estimate the parasympathetic nervous system response to stress, with higher HRV values indicating better recovery from a stressful event and lower HRV values indicating poor recovery from stressful events (Shaffer & Ginsberg, 2017). Its measurement isn't invasive or restrictive during gameplay, making it a convenient measure for esports research. Andre et al. (2020) measured HRV before, during, and after gameplay in participants (N=14) competing in an organized tournament but found no significant differences in HRV indicating no differences in physiological stress response under the three conditions. Although the study involved a competitive environment, making it applicable to esports players, their use of seven different game genres made their findings difficult to interpret. Similarly, Machado et al. (2022) measured HRV in competitive participants and found the response varied greatly between players who won and those who lost their Counter-Strike: Global Offensive (CS:GO) match. Winning players experienced a significant increase in HRV while losing players experienced a significant decrease in HRV, suggesting that winning leads to a more positive stress response.

It's been more common to see HRV metrics used to evaluate stress responses in non-competitive gamers than in esports. Hong et al. (2018) used HRV as a means for exploring the differences in how gamers with or without internet gaming disorder (IGD) experience stress during League of Legends, with no significant differences between groups found in HRV response. Players with IGD showed lower HRV during periods of high attention

compared to their baseline HRV. A similar result was found where casual gamers identified as higher risk for IGD according to the Chen Internet Addiction Scale demonstrated lower HRV during League of Legends play (Long et al., 2023). The utility of HRV in gaming research has potential clinical value as a tool for better understanding IGD, but this doesn't improve our understanding of tilt in esports.

Some researchers have broadened their investigations of biometric indices in gaming to metrics like blood pressure (Porter & Goolkasian, 2019) in addition to HRV to deepen their understanding of how video games can influence cardiovascular stress responses. Porter & Goolkasian (2019) measured HRV and blood pressure in casual gamers who either played Mortal Kombat or Tetris Ultimate. Mortal Kombat players experienced significantly lower HRV when compared to Tetris players during the last 5 minutes of play, indicating that fighting games are potentially more stressful than puzzle games. Porter & Goolkasian (2019) also found a significant increase in blood pressure for Mortal Kombat players immediately after the game ended, but not for Tetris players, further supporting the notion that fighting games produce a more pronounced stress response than puzzling games. A major limitation of how biomarkers have been used in esports and gaming research is that many studies often only investigate the data over the course of a full game, and not individual events or key moments of play. Players will have different in-game experiences based on their roles, play style, or other contextual factors that could lead to varying stress responses or changes in HRV (Bennet et al., 2022). Lee (2021) is one of the few authors to address this gap.

Lee (2021) attempted one of the more ambitious investigations of the physiological aspects of tilt. They used heart rate and HRV to measure the stress response in a large sample ($N=119$) of League of Legends players with varied skill levels before, during, and after key stress events in the game. Heart rate increased more during stress events in those who won the match, but only by a marginal amount of 0.8%. Interestingly, stress events that involved the opposition or the players themselves increased heart rate 2.8% more than those involving the team or interactions with teammates (Lee, 2021), contradicting Wu's findings, where players self-reported that teammate mistakes led to tilt more frequently (2021). Differences in stress response based on skill level were also examined, with higher-skilled players demonstrating smaller HRV changes from their baseline during stress events compared to lower-skilled players. This could indicate physiological resilience in higher-skilled players and aligns with McClinton and Pascale's (2024) assertion that greater experience can help players manage tilt and the stress that accompanies it. Lee's (2021) results demonstrate the importance of bridging the gap between psychological and physiological stress in players and the potential for more complex psychophysiological study designs in esports and tilt.

One of the most innovative approaches to researching tilt using biomarkers to date came from Ortmann et al. (2024), who developed a computer system that uses a combination of facial recognition, voice input, and heart rate data to quantify a player's tilt level. The system also utilizes in-game events to help its algorithm, as many tilt triggers stem from gameplay situations like a player's in-game death, kill, or other important scenarios. While the system has yet to be validated and has only been introduced, it provides a promising roadmap for how other researchers can begin investigating tilt using a psychophysiological lens. Future research should continue to explore the relationship between psychological variables, physiological variables, and tilt in esports.

Applications and Interventions for Tilt

Cho et al. (2024) provide one of the only intervention-based studies on tilt. The multi-stage study developed a tabletop card game called "TILTED" that aims to build teamwork, communication, and both collaborative and individual mitigating strategies for tilt during esports. The study required 21 co-design sessions with 15 youth players, seven college esports coaches, three esports program directors, two librarians, and five researchers, demonstrating a rigorous process involving key constituents within the gaming community. The tabletop game included scenario-based cards that illustrate a player tilting, and then the players would play

support cards that provide strategies to address the situation. Players collaboratively discuss which support card provides the best intervention for the scenario played.

After the development of the tabletop game, they tested its effectiveness on current competitive players. 17 male college-age esports players of varying skill levels participated in the game and evaluated its impact on their team cohesion and ability to help with tilt (Cho et al., 2024). Participants shared how strategies like “resetting” (Cho et al., 2024, p. 16) are useful for alleviating tilt. This can look different based on individual needs, such as taking a breath or even physically stepping away from the game, mirroring several of the strategies outlined by Wu et al. (2021). The other important finding was the importance of empathy from teammates when experiencing tilt. Participants noted how the tabletop game pushed players to consider how they can intervene and help their teammates, noting how communicating about their preferred coping strategies would be beneficial (Cho et al., 2024).

Cho et al. (2024) provide an innovative example of how to address tilt by emphasizing the role team dynamics play in the experience. Teammates are one common source of tilt that’s been highlighted in its early literature (McClinton & Pascale, 2024; Wu et al., 2021), but the intervention only helps to build the camaraderie of players who consistently compete together (Cho et al., 2024). The TILTED tabletop game is likely better suited for competitive teams than the individual gamer who is triggered by other factors or doesn’t have the ability to communicate openly with teammates randomly assigned. The authors also didn’t evaluate the effectiveness of TILTED in mitigating tilt during competition after playing the tabletop game (Cho et al., 2024), so there isn’t clear evidence that TILTED has an impact on behaviors in esports performance. Researchers should continue to design innovative tools like Cho et al. (2024) and evaluate their impact on tilt during competition and casual performance.

Tilt and poker players share several similarities in their experiences with tilt, and the impact it has on player performance necessitates a larger academic interest in future research. Table 1 in the supplementary documents summarizes the studies in this review that directly investigate tilt.

Future Directions

Tilt in esports has rapidly grown into a burgeoning area of inquiry. A handful of researchers have contributed to defining and deepening our understanding of the phenomenology and etiology of tilt in esports (Bonilla et al., 2024; McClinton & Pascale, 2024; Sharma et al., 2022; Wu et al., 2021). One way to build on this phenomenology would be to adopt a theoretical framework when investigating tilt. While tilt has been referenced loosely in esports psychology, there is limited research to date investigating tilt as a distinct concept from related experiences such as stress or anxiety. To differentiate the three terms, we could apply Lazarus’ cognitive-motivational-relational theory to the tilt phenomenon, which highlights how our cognitive appraisals help us evaluate stressors and formulate responses (2000). According to the theory, when esports athletes and gamers experience in-game stressors and triggers, they develop a primary appraisal of the stress based on their beliefs and personal expectations related to the game and their performance. They then generate secondary appraisals evaluating their ability to handle the stressor and the degree of control. If the demands of the trigger exceed their perceived capacity, negative coping mechanisms are more likely to be exhibited, and tilt could ensue.

Tilt has been described as a reactionary force driven by stress that causes negative behavior due to a perceived sense of injustice, often involving anger (McClinton & Pascale, 2024). Anxiety is also a result of perceived stress, causing a sense of worry over future events (American Psychological Association, n.d.), which is a distinct experience from tilt. Lazarus (2000) distinguishes anger and anxiety in the cognitive-motivational-relational theory by noting how there is no specific entity to attribute blame, causing feelings of worry and avoidance behaviors. Alternatively, anger is experienced when someone is wronged, and a person can attribute blame to

a clear source (Lazarus, 2000). Tilt shares several commonalities with how anger, the result of perceived stress, is described in Lazarus' theory. However, the tilt phenomenon is distinct in that it compels the individual to keep playing, often leading to behavior that negatively impacts the player and potentially others as well (Bonilla et al., 2024). While competitive esports players experience many stressors, not all cause tilt. However, stressors that stimulate a feeling of perceived injustice, such as teammate mistakes, miscommunications, flaming, or their own personal shortcomings may trigger anger. In esports, this anger may manifest as frustration and poor decision-making. While Lazarus' model offers a psychological explanation of tilt, the authors of this review believe there is potential for a new theoretical framework, the anxiety-perceived stress-tilt continuum, where the source of perceived stress is the mediating factor between anxiety and tilt responses for gamers. As the body of literature on tilt continues to expand, this framework could provide opportunities for a unique lens to observe stress responses in esports athletes and gamers and measure the psychological and physiological stress of tilting.

The methodologies used by researchers should also diversify when investigating tilt in esports. Validating measurement tools should be a priority for psychology researchers, which Bonilla et al. (2024) have already begun working on. The second part of Bonilla et al.'s (2024) work was to develop a tilt questionnaire using a thematic analysis of the players' and coaches' responses to interview questions. Their initial rigorous analysis yielded 53 questionnaire items. This number was narrowed down using proper statistical procedures to 18 total items, which were categorized into "causes" of tilt (7 items) and "consequences" of tilt (11 items). While the questionnaire demonstrated strong internal and external validity according to the authors, one limitation they note is that the questionnaire items don't address the role of teammates in causing tilt (Bonilla et al., 2024), a factor that has been reported to be an essential component of the tilt phenomenon (McClinton & Pascale, 2024; Wu et al., 2021). So, there is still work to be done to develop an optimal questionnaire that addresses all the elements of tilt.

Conclusion

Studying tilt in esports reveals a complex behavioral phenomenon that offers researchers opportunities to explore the experience from physiological, psychological, and social dimensions. The increased interest in tilt in esports after the industry's growth in the 2010s led to the development of measurement tools such as questionnaires and biometric assessments to study it. Refining and using these measurement tools in esports athletes is needed to understand tilt more accurately, especially in populations that haven't yet been studied thoroughly. Investigating the impact of team dynamics, in-game influences, and external stressors on tilt can also enhance our understanding of how esports athletes respond to and manage the pressures of competition. Once new insights are gained, clinical psychologists, mental health professionals, and esports coaches can use them to help develop targeted interventions for esports athletes. In particular, understanding triggers and responses linked to tilt can help guide clinicians toward more effective and productive coping strategies, thus promoting a healthier competitive environment. As the esports industry continues to grow, mental health professionals will play an increasingly important role in supporting the well-being of esports athletes. Researchers can contribute to the growing body of evidence to help clinicians, coaches, and esports professionals more effectively address tilt in esports.

Conflict of Interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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