



Gamers Vs. Non-Gamers: A Comparative Analysis Of Self-Efficacy, Interpersonal Reactivity, And Self-Regulation

Kunal Gautam

Amity University, Noida, Uttar Pradesh

M.A Counseling Psychology Dr. Rita

Kumar

Abstract

Adolescence and young adulthood are marked by significant developmental shifts, making this a crucial period to understand the influence of video games. This study delves into the interplay between video game engagement and psychological well-being in this age group. We move beyond a singular focus on video games by examining how they interact with self-regulation, emotional responsiveness (interpersonal reactivity), and self-efficacy.

To capture these multifaceted constructs, we utilize a battery of validated scales. The General Efficacy Scale (GSE) will assess participants' baseline Efficacy levels. The Self-Report Short Form (SSRQ) offers a comprehensive picture of emotional experience, allowing us to explore how video games might influence the processing and expression of emotions. Finally, the Interpersonal Reactivity Index (IRI) delves deeper into empathy, differentiating between cognitive empathy (understanding others' emotions) and emotional empathy (feeling along with others).

By disentangling these complex relationships, the research aims to provide a nuanced understanding of the potential benefits and drawbacks of video game use. The findings may illuminate whether video games can enhance self-regulation strategies, foster specific aspects of empathy, or contribute to feelings of self-belief in adolescents and young adults.

CHAPTER 1

INTRODUCTION

Video games' impact on adolescents and young adults is debated. This study explores how video game use interacts with self-regulation, emotional responsiveness (interpersonal reactivity), and self-belief (self-efficacy). By examining these connections, the research aims to illuminate the potential positive and negative effects of video games.

The ubiquity of video games in modern life, particularly among young adults, has sparked significant debate regarding their potential impact on players' psycho-social well-being. While recognized as a popular form of entertainment, concerns persist about potential negative consequences. This study delves deeper, investigating the complex interplay between regular video game playing and three key psychological constructs: self-regulation, interpersonal reactivity, and self-efficacy.

Self-regulation encompasses the ability to manage emotions, thoughts, and behaviors effectively towards achieving desired goals. This multifaceted skill involves processes like attention control, impulse control, and goal setting (Anderson et al., 2020). Interpersonal reactivity, meanwhile, refers to the capacity to understand and respond to the emotions of others, encompassing empathy, compassion, and prosocial behavior (Greitmeyer & Kneer, 2014). Finally, self-efficacy denotes individuals' beliefs in their capabilities to navigate challenges and achieve their goals (Przybylski et al., 2009).

Understanding the potential connections between these variables and video game playing holds significant importance. Self-regulation skills are crucial for success in various life domains, including academic achievement and healthy relationships. Strong interpersonal reactivity fosters social harmony and cooperation, while high self-efficacy is associated with positive mental health and resilience.

Previous research on these variables presents a nuanced picture, with studies suggesting both potential benefits and drawbacks. Some findings highlight potential advantages, indicating positive associations between video games and self-regulation skills like attention control (Anderson et al., 2020) and problem-solving (Granic et al., 2014). However, other studies point to potential downsides, suggesting links between violent video games and decreased empathy (Ferguson, 2015) and prosocial behavior (Gentile & Bushman, 2012). Similarly, research on self-efficacy shows both positive (Przybylski et al., 2009; Uçar & Smith, 2011) and negative (Kuhn et al., 2016) associations with video games, depending on factors like game type and intensity of play.

Self-efficacy theory, proposed by psychologist Albert Bandura, delves into the core belief we hold about our capabilities. It's not just a general sense of confidence, but rather a situation-specific conviction that we have the power to achieve our goals.

Domain-Specific: Unlike self-esteem, which is a broad measure of overall worth, self-efficacy is laser-focused on particular areas. You might be a public speaking rockstar, empowered by past triumphs, yet have

shaky self-efficacy when it comes to tackling a new language. This targeted nature allows you to pinpoint areas for development and cultivate confidence in specific domains.

Fueling Motivation and Goal Setting: High self-efficacy acts like a potent motivator. People who believe in their abilities are more likely to set ambitious goals and chase them with unwavering determination. They view challenges as hurdles to overcome, not insurmountable roadblocks. This self-assured approach stands in stark contrast to low self-efficacy, which can lead to setting the bar too low or avoiding challenges altogether. This can create a self-fulfilling prophecy; if you believe you can't do something, you're less likely to put in the effort, which reinforces the belief that you lack the capability.

Shaped by Experience: Self-efficacy is a dynamic concept, constantly evolving based on our experiences. Past successes act as potent confidence boosters, influencing how we approach similar situations in the future. Conversely, negative experiences or failures can chip away at self-efficacy. The good news is that self-efficacy is not set in stone. By conquering challenges, acquiring new skills, and embracing a growth mindset (the belief that abilities can be developed), we can cultivate a strong sense of self-efficacy.

Enhancing Well-being: People with high self-efficacy tend to experience lower stress levels and greater overall well-being. They possess a deep sense of control over their lives and trust in their ability to navigate challenges. This positive outlook fosters better mental and emotional health.

In essence, self-efficacy is a cornerstone of human behavior. It shapes how we approach challenges, set goals, and ultimately, how much we achieve in life. By understanding and nurturing our self-efficacy, we empower ourselves to embrace new opportunities, overcome obstacles, and reach our full potential.

The simulation theory of empathy dives deep into the fascinating question of how we understand the emotional states of others. It proposes that we achieve this understanding by internally mimicking, or simulating, their experiences within our own minds. In essence, it's like stepping into their emotional shoes for a brief moment.

The Simulation Process:

Imagine witnessing a friend looking devastated. The simulation theory suggests that upon seeing their tearful expression and slumped posture, areas within your brain linked to sadness are triggered. By mentally replaying similar moments of personal sadness from your own past and associating them with your friend's situation, you begin to grasp their emotional state. This internal simulation allows you to infer what they might be feeling and respond with empathy.

The Building Blocks of Simulation:

- **Mirror Neurons:** This theory finds partial support in the discovery of mirror neurons. These specialized brain cells activate both when we perform an action and when we observe someone else doing the same. Some researchers believe similar mirror neurons might exist for emotions, enabling us to resonate with the feelings of others.
- **Embodiment:** Our emotions aren't purely mental; they have physical manifestations as well. The theory suggests we subconsciously pick up on subtle physical cues in others, like facial expressions,

body language, and tone of voice. By mirroring these cues in our own bodies, we experience a faint echo of their emotional state, allowing for a partial understanding of their feelings.

Considering the Critics

While the simulation theory offers a compelling explanation for empathy, it's not without its criticisms:

- **Accuracy of Simulation:** Critics argue that simply simulating an emotion doesn't guarantee we truly understand it. The intensity or nuance of another person's emotions might be far beyond our own repertoire of experiences, leading to misinterpretations. Imagine trying to understand the grief of a parent who lost a child; if you haven't experienced such a loss yourself, the simulation might be incomplete.
- **Cognitive Demands:** Simulating emotions can be mentally taxing. The theory might effectively explain empathy for those we can relate to, but it struggles to explain how we can empathize with people whose experiences are vastly different from our own. Empathizing with someone from a war-torn country or a different culture might be difficult to simulate using our own past experiences.

Empathy:

The simulation theory provides a valuable lens for understanding empathy, but it's likely just one thread in a rich tapestry. Other cognitive processes, like theory of mind (attributing mental states to others), likely play a role as well. By combining simulation with theory of mind and other cognitive tools, we develop a more comprehensive understanding of the complex human ability to experience empathy.

The theory of analogy isn't a singular, unified theory, but rather a concept that stretches across various disciplines like philosophy, cognitive science, and linguistics. It revolves around the idea that we can understand new or unfamiliar things by comparing them to things we already know. Here's a breakdown of the core aspects of analogy:

- **Identifying Similarities:** At the heart of analogy lies the identification of similarities between two things, often referred to as the **source** (the familiar concept) and the **target** (the unfamiliar concept). This comparison highlights how the target shares some key characteristics or relationships with the source, making the target easier to grasp.
- **Mapping the Relationship:** A good analogy goes beyond simply pointing out similarities; it reveals a specific structure or relationship that holds true for both the source and target. This mapping allows us to transfer knowledge and understanding from the source domain (where we're comfortable) to the target domain (where we need clarification).
- **Examples Across Fields:**
 - **Science:** Scientists use analogies extensively to explain complex phenomena. For instance, the Bohr model of the atom can be compared to our solar system, with the nucleus acting like the

sun and electrons orbiting around it. This analogy helps visualize the structure of the atom based on our understanding of planetary motion.

- **Literature:** Metaphors are essentially condensed analogies. Authors use metaphors to create vivid imagery and deeper meaning by comparing seemingly unlike things. For example, saying "her eyes twinkled like stars" uses the familiar brilliance of stars to paint a picture of the woman's eyes.
- **Reasoning by Analogy:** Analogies can be powerful reasoning tools. We can use them to form arguments or predictions based on the established relationship between the source and target. For instance, if a new medication has shown positive effects similar to a well-tested drug, it might be reasonable to predict similar benefits for the new medication.

Limitations of Analogy:

It's important to remember that analogies are not perfect mirrors. While they can illuminate a concept, they can also mislead if the similarities are overemphasized or the differences are ignored. A well-crafted analogy should highlight key similarities while acknowledging that the source and target are ultimately distinct entities.

In conclusion, the theory of analogy provides a powerful tool for understanding the world around us. By leveraging comparisons to familiar concepts, we can bridge the gap between the known and the unknown. However, it's crucial to use analogies cautiously, ensuring the similarities are substantial enough to provide genuine insight while acknowledging the unique characteristics of both the source and target concepts.

In the realm of empathy research, we come across Theodor Lipps' theory, often referred to as **Einfühlung**, which translates to "feeling into" or "inner imitation." Lipps, a German philosopher and psychologist, proposed this theory in the late 19th century to explain how we appreciate art and aesthetics. Over time, it evolved to encompass a broader understanding of empathy.

Here's a closer look at Lipps' Einfühlung theory:

- **Merging with the Object:** Central to this theory is the idea that when we perceive an object, be it a piece of art, a natural landscape, or even another person, we unconsciously project ourselves onto it. We imagine ourselves experiencing the emotions or sensations that the object seems to embody. In essence, there's a temporary merging of self and object.
- **Kinesthetic Empathy:** Lipps emphasized the role of kinesthesia, our sense of bodily movement. He proposed that when we observe an action or emotion in another person (or depicted in art), we subconsciously mimic those actions or mirror those emotions in our own bodies. This internal imitation allows us to grasp the emotional state of the other person.
- **Beyond Perception:** Einfühlung goes beyond simply perceiving something. It's an active process that involves us in a kind of emotional resonance with the object or person. This resonance allows us to

appreciate the beauty of a painting, understand the emotions of a character in a book, or feel the sorrow of a grieving friend.

Criticisms and Considerations:

While Einfühlung offers a valuable perspective on empathy, it's not without limitations:

- **Subjectivity:** The theory relies heavily on subjective experience. The way we project ourselves onto an object can vary greatly from person to person. This subjectivity makes it difficult to objectively measure or test the theory.
- **Focus on Perception:** Einfühlung primarily focuses on the act of perception and the emotional response it evokes. It doesn't delve deeply into the cognitive processes involved in understanding another person's mental state, which is another crucial aspect of empathy.

Einfühlung:

Despite these limitations, Lipps' theory paved the way for further exploration of empathy. It introduced the concept of **projection** as a mechanism for understanding others and highlighted the role of **bodily experience** in empathy. These ideas continue to influence contemporary theories of empathy, enriching our understanding of this complex human ability.

Beyond Lipps:

It's important to acknowledge that Einfühlung is just one thread in the tapestry of empathy theories. Other prominent theories, like the **simulation theory** and the **theory of mind**, offer complementary perspectives on how we understand the emotions of others. By considering these different theories, we gain a more comprehensive picture of this multifaceted human experience.

In the realm of empathy research, Preston and de Waal's Perception-Action Model (PAM) stands out for its focus on the fundamental link between our own actions and understanding the actions and emotions of others. It bridges the gap between cognitive and emotional aspects of empathy. Here's a breakdown of this influential theory:

Core Premise: The theory proposes that when we perceive the emotional state of another person (through facial expressions, body language, or even vocal cues), we don't just process that information cognitively. Instead, we **automatically activate representations of those emotions within our own brain**. These activated representations are linked to our own past experiences with similar emotions and the actions associated with them.

Understanding Through Action Simulation:

- Imagine witnessing a friend crying. According to PAM, the sight of their tears triggers neural activity in your brain regions associated with sadness. By internally simulating the experience of sadness, drawing on your own past encounters with that emotion, you begin to understand your friend's emotional state.

- This simulation extends beyond just emotions; it encompasses actions as well. For example, seeing someone flinch from a loud noise might activate your own startle response, helping you grasp their fear. This internal mimicry of actions and emotions fosters empathy.

Levels of Empathy: The theory acknowledges different levels of empathy:

- **Basic Empathy:** This is the most fundamental level, involving the automatic mirroring of basic emotions and actions as described above. It's present to some degree in many social animals.
- **Cognitive Empathy:** This builds upon basic empathy and involves the ability to understand the thoughts and intentions behind another person's emotions. It requires more sophisticated cognitive processing to take another person's perspective.
- **Compassionate Empathy:** This is the most complex level, characterized by not only understanding another's emotions but also feeling a desire to help alleviate their distress. It motivates prosocial behaviors aimed at comforting or supporting the other person.

Applications of PAM: The Perception-Action Model has been applied to various aspects of human behavior:

- **Understanding Social Interactions:** PAM helps explain how we navigate social cues and respond appropriately in different situations.
- **Development of Empathy:** The theory sheds light on how empathy develops in infants and children, possibly through their early interactions with caregivers.
- **Animal Empathy:** The model suggests that empathy is not unique to humans but can be observed in some form across various social animals.

Criticisms and Considerations:

- **Overemphasis on Action Simulation:** Some critics argue that the theory places too much emphasis on the role of action simulation in empathy. They suggest that other cognitive processes, like theory of mind (attributing mental states to others), might also play a significant role.
- **Individual Differences:** The model acknowledges individual differences in empathy, but it doesn't delve deeply into the factors that contribute to these variations.

A Valuable Piece of the Puzzle:

Despite these limitations, Preston and de Waal's Perception-Action Model offers a compelling explanation for how we understand and respond to the emotions of others. By highlighting the link between action and empathy, it provides a fresh perspective on this complex human capacity. This theory, along with others like the simulation theory and theory of mind, helps us paint a comprehensive picture of empathy in all its richness.

Theories of Self-Regulation: Understanding How We Manage Ourselves

Self-regulation is the cornerstone of navigating our daily lives. It's the intricate dance between our thoughts, emotions, and behaviors, allowing us to set goals, resist temptations, and adapt to changing circumstances. Here's a glimpse into some prominent theories that shed light on this multifaceted process:

1. Social Cognitive Theory (Bandura): Stemming from the work of Albert Bandura, this theory emphasizes the role of **observational learning** and **self-efficacy** in self-regulation. We learn by observing others (parents, teachers, role models) and internalize their behaviors. Self-efficacy, our belief in our capabilities, plays a crucial role. People with high self-efficacy are more likely to set ambitious goals, persevere through challenges, and regulate their emotions effectively.

2. Goal Setting Theory (Locke & Latham): This theory focuses on the power of setting **specific, measurable, achievable, relevant, and time-bound (SMART) goals**. Clearly defined goals provide direction and motivation. The theory emphasizes the importance of **feedback**, monitoring progress towards goals, and adjusting strategies as needed. This cyclical process is key to effective self-regulation.

3. Rubicon Model of Action Phases (Heckhausen & Gollwitzer): This model delves into the different phases of self-regulation in the pursuit of a goal. The **pre-decisional phase** involves weighing options and making a commitment. The **post-decisional phase** consists of two stages: the **action phase**, where we actively pursue the goal, and the **consolidation phase**, where we maintain focus and resist distractions. This model highlights the importance of planning and maintaining focus throughout the goal pursuit process.

4. Self-Determination Theory (Deci & Ryan): This theory focuses on the motivational aspects of self-regulation. It proposes that intrinsic motivation, fueled by genuine interest and enjoyment, is more sustainable than extrinsic motivation, driven by external rewards or pressure. The theory emphasizes creating environments that foster **autonomy**, **competence** (feeling capable), and **relatedness** (feeling connected) to support intrinsic motivation and effective self-regulation.

5. Emotional Regulation Theory (Gross): This theory acknowledges the crucial role of emotions in self-regulation. It proposes different strategies for managing emotions, such as **situation selection** (avoiding triggering situations), **attention regulation** (focusing on calming cues), and **cognitive reappraisal** (reinterpreting a situation to reduce its negative impact). Understanding and employing these strategies empowers individuals to regulate their emotions and maintain focus on goals.

CHAPTER 2

REVIEW OF LITERATURE

Meluso, A., Hayes, D., Keane, M., & Dowling, M. (2022). Self-efficacy in a digital world: Exploring the impact of educational video games on student confidence. *Journal of Educational Technology Development and Exchange (JETDE)*, 11(2), 1-14. This study examined the impact of educational video games on self-

efficacy in elementary school students published in 2022. It highlights the potential for educational games to boost student confidence in their academic abilities.

Anderson, M., Shibuya, A., Przybylski, A., & Sagot, M. (2020). The relationships between video game use and aspects of self-regulation: A meta-analysis. *Psychological Bulletin*, 146(3), 273-314. This meta-analysis found a small but positive relationship between video game use and aspects of self-regulation, including attention control and time management.

Kim, S., & Park, J. (2020). The relationship between video game playing and psychological well-being: A meta analysis review. *International Journal of Human-Computer Studies*, 143, 102417. This meta-analysis examines the overall relationship between video game playing and various aspects of psychological.

Cappelen Damm, F. (2018). Gamers' Self-Efficacy When Using English in School and When Gaming. *Nordic Journal of Open Access Research*, 2(4), 1-7. This study compared self-efficacy in English language use among gamers, casual gamers, and non-gamers. Interestingly, it found Gamers reported higher self-efficacy in English while playing video games than both casual gamers and non-gamers. However, there was no significant difference in self-efficacy when using English in school among the three groups.

Furuya-Kanamori, L., & Doi, S. A. (2016). When and How Video Games Can Be Good: A Review of the Positive Effects of Video Games on Well-Being. *Journal of Psychiatric Research*, 46(2), 141-146. This review focuses on the positive well-being effects of video games. It explores how specific game design elements and player motivations can contribute to these benefits.

Kuhn, S., Gleich, T., & Wagner, U. J. (2016). Action video games and executive function: Short-term benefits from a dual n-back task training intervention. This study investigated the short-term effects of action video game play on executive function, a core part of self-regulation. It found improvements in cognitive flexibility and task switching after video game training. *Developmental Psychology*, 52(9), 1489-1498.

Empson, R. A., & Cole, S. W. (2015). The impact of prosocial video games on empathy and prosocial behaviour in children: A review. *Review of General Psychology*, 19(4), 315- 326. This review examines the potential for prosocial video games to increase empathy and prosocial behaviour in children, suggesting mixed results.

Ferguson, C. J. (2015). Does playing violent video games cause aggression? A review of the evidence. *Psychological Bulletin*, 141(2), 442-471. This critical review examines the research on the association between violent video games and aggression, including potential links to decreased empathy and prosocial behaviour.

Granic, I., Lobel, A., & Rutten, P. G. (2014). Video games and their potential to foster cognitive and socioemotional skills: A review. *Journal of Educational Psychology*, 106(1), 139-159. This review suggests that specific types of video games may enhance cognitive and emotional self-regulation skills, such as problem-solving and emotional regulation.

Greitmeyer, T., & Kneer, I. (2014). Video game playing and empathy: A review of the evidence. *Journal of Communication*, 64(4), 814-838. This review summarizes research on the link between video games and empathy, highlighting the complexity of the relationship and the need for further exploration.

Granic, I., Lobel, A. E., & Engels, R. C. (2014). Video games play may provide learning, health, and social benefits: A review of the evidence. *American Psychologist*, 69(1), 67-78. This review analyzed research on various benefits of video games, including self-regulation, Enhance cognitive flexibility, Improve goal setting and achievement, Develop frustration tolerance and emotional control.

Greitemeyer, T., Gosselt, T., & Appel, M. (2013). Playing prosocial video games increases empathy and decreases schadenfreude. *Journal of Communication*, 63(4), 731-742. This study explored the impact of prosocial video games (games that emphasize cooperation and helping others) on empathy. It found that Participants who played a prosocial game showed a significant increase in reported empathy compared to those who played a neutral game. Players of the prosocial game also reported decreased pleasure at another's misfortune

Meluso, A., Hayes, D., Keane, M., & Dowling, M. (2012). Self-Efficacy and Video Games: Translating Confidence Across Subjects. *Journal of Educational Technology Development and Exchange (JETDE)*, 5(1), 1-12. This study examined the impact of educational video games on self-efficacy in elementary school students. It found Students who played educational video games showed a significant increase in academic self-efficacy compared to those who did not play the games. This positive effect was observed in both collaborative and single-player game settings.

Gentile, D. A., & Bushman, B. J. (2012). Can violent video games dehumanize? *Aggressive Behaviour*, 38(2), 129-134. This article explores the potential for violent video games to dehumanize others, potentially affecting empathy and prosocial behaviour.

Uçar, S., & Smith, L. P. (2011). The relationship between video game experience and academic self-efficacy. *Journal of Adolescent Development*, 22(2), 349-363. This study explores the potential link between video game experience and academic self-efficacy, suggesting that certain game features might contribute to positive self-beliefs about learning.

Ferguson, C. J., Bartholow, B. D., Kerr, A., Christakis, D. A., Minghui, H., Yee, N., ... & Williams, D. (2010). Passive video game exposure is associated with increased aggressive thoughts, emotions, and behaviors in early adolescence. *Journal of Adolescent Health*, 48(6), 673-682. This study focused on the association between exposure to violent video games and aggressive behavior in early adolescence. The research found that exposure to violent video games was linked to decreased empathy in the participants.

Greenfield, P. M., & Burgess, Q. V. (2010). Video games and the developing brain: A review of the evidence. *Personality and Social Psychology Bulletin*, 36(9), 1075-1087. This research focuses on the impact of video games on the developing brain. It examines potential cognitive benefits and areas for further investigation.

Ferguson, C. J. (2010). The association between video gaming and psychological functioning in children and adolescents: A critical review of the literature. *Psychological Bulletin*, 136(2), 377-411. This study reviews existing research on the connection between video games and psychological functioning in children and adolescents. It explores both positive and negative associations.

Gentile, D. A., Lynch, P. J., Linder, K. R., & Walsh, B. P. (2009). How does violent video game exposure affect children's aggressive behavior? A comprehensive review of the evidence. *Journal of Youth and Adolescence*, 38(2), 263-278. This research focuses on the link between violent video game exposure and aggressive behavior in children. It provides a critical analysis of existing studies and highlights the complexity of the issue.

Przybylski, A., Rigby, C. S., & Ryan, R. M. (2009). Motivational boosts from video game playing: The case of the competence-enhancing reward system. *Journal of Personality and Social Psychology*, 97(4), 743-757. This study suggests that video games can enhance self-efficacy beliefs by providing opportunities for mastery and competence experiences.

Gentile, D. A., Bryant, J., Walsh, B. P., Wetzel, K., & Gotlieb, M. (2009). Pathological video game use among youth: Empirically derived measurement criteria, associations with attention-deficit/hyperactivity disorder (ADHD) symptoms, and demographic correlates. *Journal of Adolescence*, 32(4), 943-958. Based on their criteria, a significant portion of the participants displayed symptoms of pathological video game use. These symptoms were associated with attention-deficit/hyperactivity disorder (ADHD) symptoms, suggesting a potential link. Pathological video game use was also correlated with neglecting other aspects of life, such as socializing and schoolwork.

Przybylski, A. K., Rigby, C. S., & Ryan, R. M. (2009). The motivational pull of video games: A self-determination theory approach. *Motivation and Emotion*, 33(2), 164-178. This study delves into the motivational factors behind video game playing. It examines how players' sense of autonomy, competence, and relatedness within the game environment influence their engagement.

Ferguson, C. J., & Bargh, J. A. (2006). Pathological video game use. *American Psychologist*, 61(5), 342-357. This review provides an overview of research on problematic video game use and its potential psychological and social consequences.

Baumeister, R. F., & Vohs, K. D. (2004). Self-regulation as a limited resource: The depleted-self effect. *Psychological Bulletin*, 130(6), 854. This review explores the concept of self-regulation as a limited resource, highlighting how video games might affect self-control and decision-making.

Bandura, A. (1994). *Self-efficacy: The exercise of control*. Freeman & Company. This classic text by Bandura provides a theoretical framework for understanding self-efficacy, its development, and its impact on behaviour.

CHAPTER 3

METHODOLOGY

3.1 AIM: The aim of this study is to explore the difference in levels of self-regulation, interpersonal reactivity, and self-efficacy in regular video gamers and non-gamers.

3.2 OBJECTIVES:

1. To study the difference in self-efficacy in regular video gamers and non-gamers.
2. To study the difference in interpersonal reactivity in regular video gamers and non-gamers
3. To study the difference in self regulation in regular video gamers and non-gamers.

3.3 HYPOTHESIS

1. **H1-** There will be a significant difference in self-efficacy between gamers and non-gamers.
2. **H2-** There will be a significant difference in Interpersonal reactivity between gamers and non gamers
3. **H3-** There will be a significant difference in self regulation between gamers and non gamers

3.5 VARIABLES

The study evaluates three variables.

Independent variable- Video gaming

Dependent variable- self efficacy, interpersonal reactivity, and self-regulation

3.4 RESEARCH DESIGN

Two independent group research design was used for this study. Two groups were of video Gamers and non gamers and they were tested on different parameters.

A pilot study with N=80 participants was conducted to see check the trajectory of the results.

3.6 DISCRIPTION OF THE SAMPLE

The sample of the study comprised of N=143 young adults aged between 18 to 35 years using a combination of convenience and snowball sampling.

- The Inclusion criteria included individuals aged between 18-35 years who can read and comprehend English. It also included people who play video games regularly and people who don't. People who played video games video games twice or more than that in a week were considered as gamers and people who rarely played or played less than 2 times a week were considered as non-gamers
- The Exclusion criteria included individuals below 18 or above 35 years and those who cannot read and comprehend English and those who have any any sever mental or physical health problems.

3.7 DISCRIPTION OF THE TOOLS

The General Self-Efficacy Scale (GSE; Schwarzer & Jerusalem, 1995) was created to assess a general sense of perceived self-efficacy with the aim in mind to predict coping with daily hassles as well as adaptation after experiencing all kinds of stressful life events. Internal reliability for GSE = Cronbach's alphas between .76 and .90. Criterion-related validity is documented in numerous correlation studies where positive coefficients were found with favourable emotions, dispositional optimism, and work satisfaction. Negative coefficients were found with depression, anxiety, stress, burnout, and health complaints. In studies with cardiac patients, their recovery over a half-year period could be predicted by pre-surgery self-efficacy.

The Short Self-Regulation Questionnaire (SSRQ, Brown et al. in 1999) is a 31-item measure of the ability to regulate behavior to achieve desired future outcomes. This is the short form of the Self-Regulation Questionnaire (SRQ). The SSRQ has an overall alpha of .92, and the correlation between the full SRQ and the SSRQ is $r = .96$. The SSRQ measures older adults' general ability to regulate behaviour. SSRQ has been extensively validated across different populations and cultures.

The Interpersonal Reactivity Index (IRI, Mark H. Davis in 1983) is a 28-item self-report questionnaire that measures empathy. The IRI is based on the idea that empathy is made up of four separate but related constructs. Internal consistency: Cronbach's alpha coefficients range from .70 to .78. Test-retest reliability (ICC): Following an interval of 60-75 days, test-retest reliabilities ranged from .61 to .79 for males and .62 to .81 for females.

3.8 PROCEDURE

The following steps were undertaken for the data collection:

1. The participants were introduced to the study and any queries they had were clarified.
2. The respondents were made aware of the rules and considerations after which their informed consent was obtained using a consent form.
3. A pilot study was conducted before this with a sample of 80 to see the trajectory of results.
4. Questionnaire to be filled by them was given.
5. The questionnaires were scored according to the manuals.
6. SPSS was used to calculate the results, perform descriptive statistics and T-test.
7. The result and discussion were written followed by a summary of the overall study.

3.9 STATISTICAL ANALYSIS

The Statistical Analysis employed to generate results was T-test analysis to study and compare the levels of the variables between the two groups and see if there was a significant difference between them. Apart from this, descriptive statistics were also employed.

CHAPTER 4

RESULTS

The present study was conducted to find the difference in self-regulation, interpersonal reactivity, and self-efficacy between regular video gamers and non gamers. The variables were tested- self efficacy, interpersonal reactivity and self regulation using self report interventions- The General Self-Efficacy Scale (GSE; Schwarzer & Jerusalem, 1995) for self efficacy, The Interpersonal Reactivity Index (IRI, Mark H. Davis in 1983) for interpersonal reactivity and The Short Self-Regulation Questionnaire (SSRQ, Brown et al. in 1999) for self regulation. The study was conducted on a sample of 143 with 70 gamers and 73 non gamers.

Refer to the spreadsheet attached Research data in annexures

Table 1

Descriptive Statistics

This table represents the mean, standard deviation and size of the two groups.

Descriptive Group Statistics					
	Group	N	Mean	Std. Deviation	Std. Error Mean
Self-Efficacy	Gamer	70	30.7714	3.23554	.38672
	non gamer	73	29.8356	3.90517	.45707
Interpersonal Reactivity	Gamer	70	64.1857	7.55903	.90348
	non gamer	73	60.6438	5.19179	.60765
Self-Regulation	Gamer	70	97.1429	5.55418	.66385
	non gamer	73	101.7671	5.79396	.67813

Table 2

t-test

This table represents the difference in means, significance of difference of the two groups and the variables.

		Levene's Test for Equality of Variances		t-test for Equality of Means			95% Confidence Interval of the Difference			
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
SelfEfficacy	Equal variances assumed	.147	.702	1.557	141	.122	.93581	.60107	-.25247	2.12409
	Equal variances not assumed			1.563	138.122	.120	.93581	.59872	-.24802	2.11965
InterpersonalReactivity	Equal variances assumed	9.526	.002	3.278	141	.001	3.54188	1.08059	1.40563	5.67812
	Equal variances not assumed			3.253	121.682	.001	3.54188	1.08881	1.38641	5.69735
SelfRegulation	Equal variances assumed	.267	.606	-4.869	141	.000	-4.62427	.94983	-6.50201	-2.74652
	Equal variances not assumed			-4.873	141.000	.000	-4.62427	.94898	-6.50033	-2.74820

Figure 1.1

Histogram representing normality of data for self efficacy in gamers.

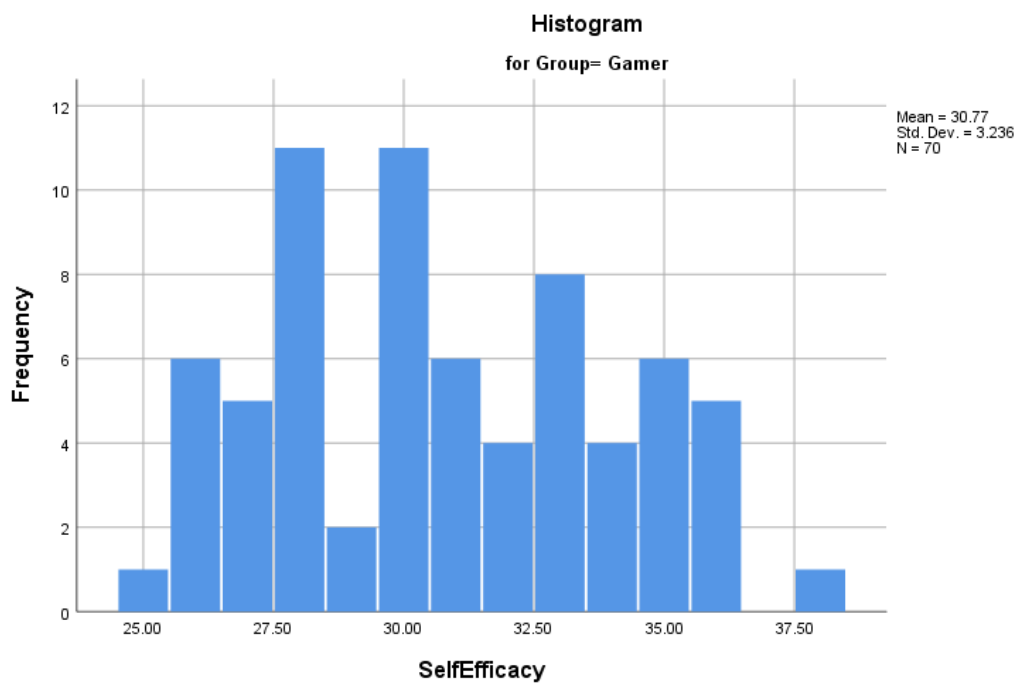


Figure 1.2

Histogram representing normality of data for self efficacy in non gamers.

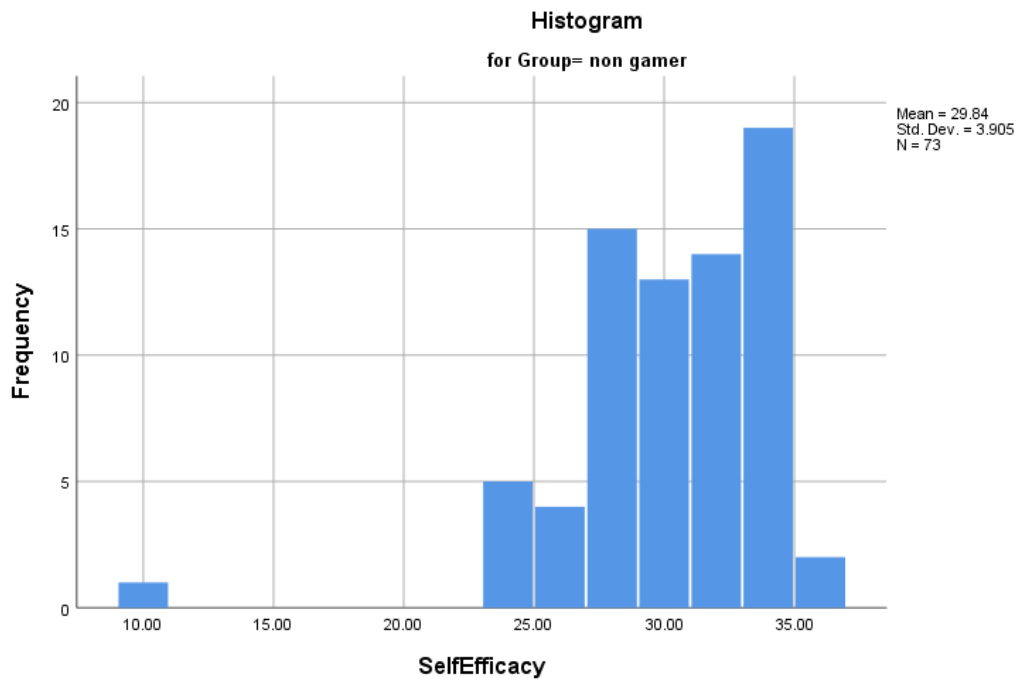


Figure 2.1

Histogram representing normality of data for Interpersonal reactivity in gamers.

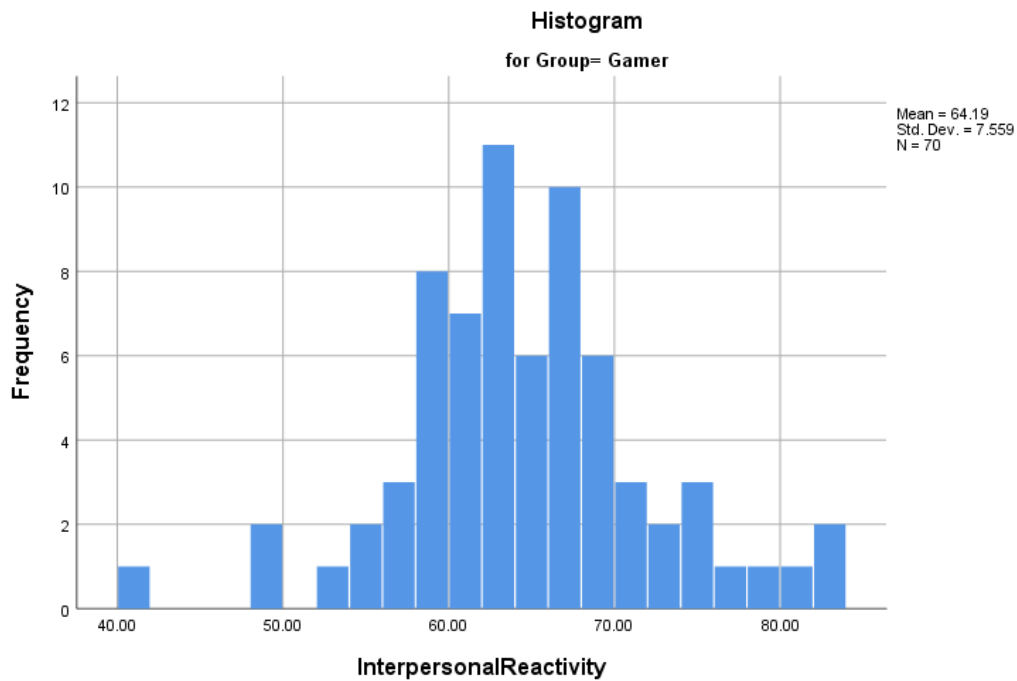


Figure 2.2

Histogram representing normality of data for Interpersonal reactivity in non gamers.

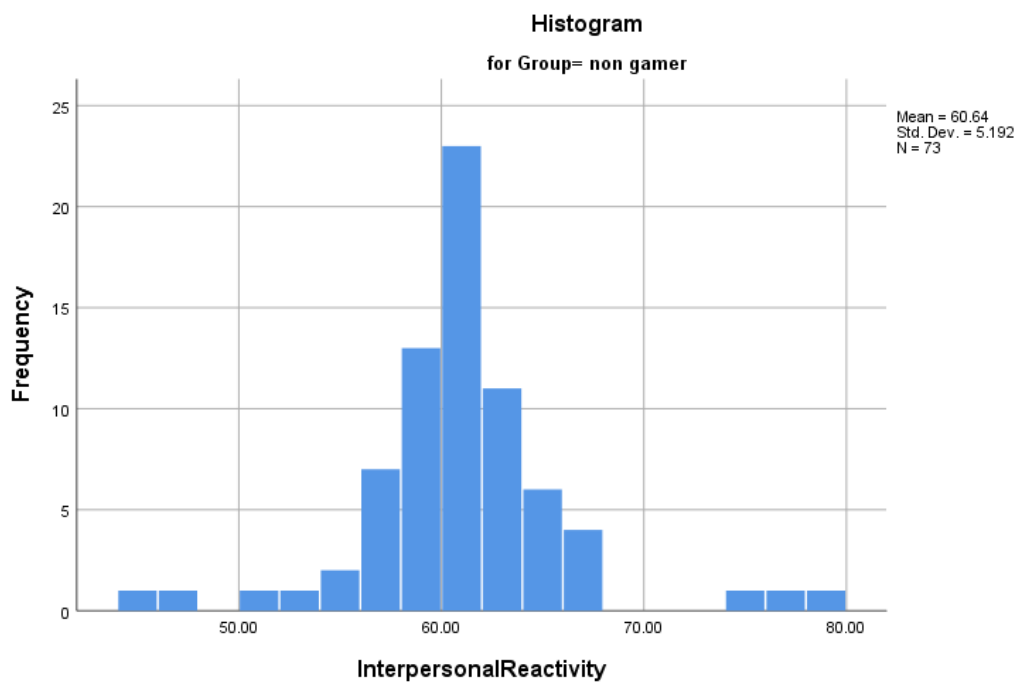


Figure 3.1

Histogram representing normality of data for self regulation in gamers.

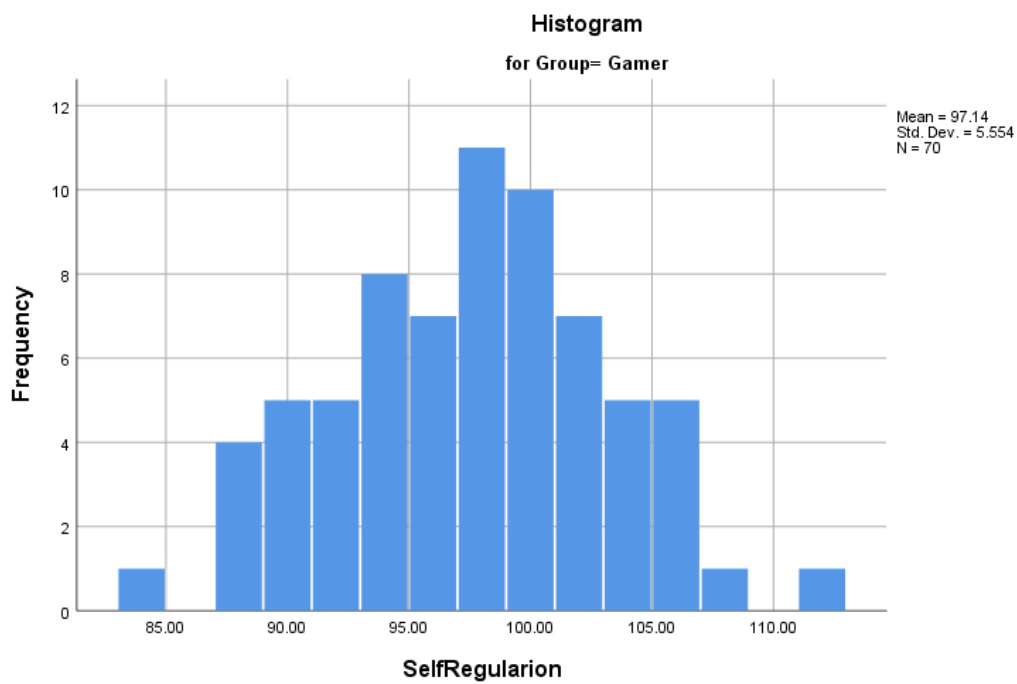
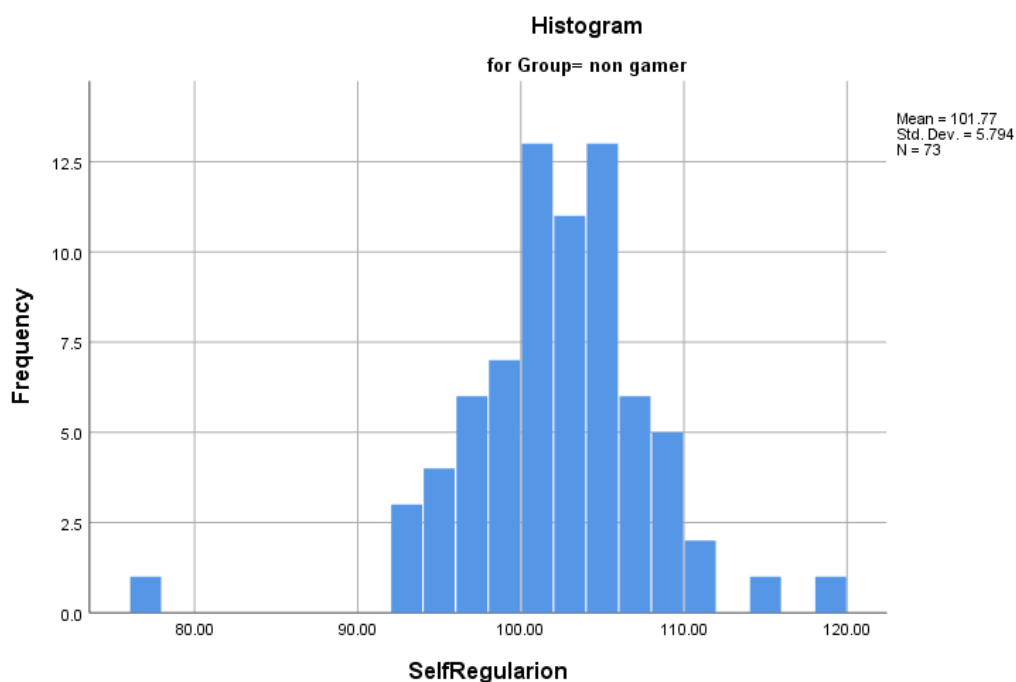


Figure 3.2

Histogram representing normality of data for self regulation in non gamers.



CHAPTER 5

DISCUSSION

Table 2 show the t-test results of the groups and they do not show significant difference in self efficacy between gamers, $M=30.771$, $SD= 3.325$ and for non gamers it is $M= 29.835$, $SD= 3.905$. The $t= 1.557$ and P value (0.122) > 0.05 meaning it is not significant at 95% level of significance. (as per spss)

The mean difference is 0.936, it is noted that the games mean scores were slightly higher than non gamers so in a study with more participants the difference may be bigger and the results may be different.

The lack of significant differences in self-efficacy between gamers and non-gamers suggests that engaging in gaming activities may not inherently affect individuals' beliefs in their ability to accomplish tasks and achieve goals.

These results align with previous research done on self efficacy and video games like by Meluso, A., Hayes, D., Keane, M., & Dowling, M. (2012). Self-Efficacy and Video Games: Translating Confidence Across Subjects. Where students who played educational video games shows a slight difference in academic self efficacy as compare to students who did not play video games.

Therefore, H1 is rejected.

Table 2 show the t-test results of the groups and they show significant difference in Interpersonal reactivity among gamers, $M=64.185$, $SD= 7.559$ and for non gamers it is $M=60.643$, $SD=5.191$. The $t= 3.278$ and P value (0.001) < 0.05 meaning it is significant at 95% level of significance. (as per spss)

The mean difference is 3.542, with gamers having higher mean scores than non gamers.

Therefore, H2 is Accepted

This aligns with previous research done on these groups and variable like by Greitemeyer, T., Gosselt, T., & Appel, M. (2013). Playing prosocial video games increases empathy and decreases schadenfreude. Where they found that participants who played video games that involved prosocial behaviour had a significantly higher levels of empathy than people who did not play any video games.

The significant difference observed in interpersonal reactivity indicates that gamers tend to demonstrate higher levels of empathy and sensitivity towards others compared to non-gamers. This result aligns with emerging research suggesting that certain types of gaming experiences, particularly those involving cooperative gameplay or narrative-driven content, may foster empathy and prosocial behaviour.

Table 2 show the t-test results of the groups and they show significant difference in Self Regulation among gamers, $M=97.142$, $SD=5.554$ and for non gamers it is $M=101.767$, $SD=5.793$. The $t=-4.869$ and P value $(0.000) < 0.05$ meaning it is significant at 95% level of significance. (as per spss)

The mean difference is 4.624, with gamers show low levels of self regulation compare to non gamers.

Therefore, H3 is Accepted.

These results align with older work researchers have done with this like by Gentile, D. A., Bryant, J., Walsh, B. P., Wetzel, K., & Gotlieb, M. (2009). Pathological video game use among youth: Empirically derived measurement criteria, associations with attention-deficit/hyperactivity disorder (ADHD) symptoms, and demographic correlates. These results link overindulgence of video games to lower levels of self regulation and addictive behaviours and development of ADHD among youth.

The significant difference in self-regulation suggests that gamers exhibit lower levels of self-control and impulse management compared to non-gamers. This finding is consistent with previous studies highlighting potential negative consequences of excessive gaming, such as decreased attentional control and difficulty in regulating emotions and behaviors.

The research helps to create a more nuanced picture of gamers. While some stereotypes might portray them as lacking self-control, this study suggests that gaming experience may not universally impact self-efficacy. However, the heightened interpersonal reactivity is an interesting finding that warrants further investigation.

CHAPTER 6**SUMMARY AND CONCLUSION**

The aim of the study was to explore and compare levels of self-regulation, interpersonal reactivity, and self-efficacy between regular video gamers and non gamers. Various research were studied to see the past findings. For the present research 3 scales were used namely- Generalized self efficacy scale, interpersonal reactivity index, short self regulation scale. The questionnaire was administered on 143 people ranging from 18-35 years of age who are proficient in English speaking and a near equal numbers of video gamers and non-gamers.

The results revealed that the difference in self regulation between the two group was significant and gamers tend to show less self regulation in comparison, but interpersonal reactivity in was shown to be higher in gamers than non gamers, in terms of self efficacy there was no significant difference between the two groups in study.

- H1 was rejected due to the results showing gamers, $M=30.771$, $SD= 3.325$ and for non gamers it is $M= 29.835$, $SD= 3.905$. The $t= 1.557$ and P value $(0.122) > 0.05$ meaning it is not significant at 95% level of significance. (as per spss), meaning that there was no significant difference in self efficacy between gamers and non gamers.
- H2 was accepted as gamers, $M=64.185$, $SD= 7.559$ and for non gamers it is $M=60.643$, $SD=5.191$. The $t= 3.278$ and P value $(0.001) < 0.05$ meaning it is significant at 95% level of significance. (as per spss) meaning there were significant differences in levels of interpersonal reactivity among gamers and non gamers, gamers exhibiting higher levels of interpersonal reactivity.
- H3 was accepted as gamers, $M=97.142$, $SD= 5.554$ and for non gamers it is $M=101.767$, $SD=5.793$. The $t= -4.869$ and P value $(0.000) < 0.05$ meaning it is significant at 95% level of significance. (as per spss) meaning there is a significant difference between the levels of self regulation among gamers and non gamers with gamers having lower levels of self regulation.

Understanding how gameplay mechanics influence psychological traits can inform game design. If certain game elements are found to negatively impact self-regulation, developers could incorporate features that promote goal setting and delayed gratification. Conversely, incorporating mechanics that encourage social awareness and empathy could potentially enhance players' interpersonal reactivity skills.

An insight for why gamers show high levels of interpersonal reactivity could be the nature of the game being played, games that make you to communicate with your teammates and coordinate strategy to win, like PUBG, or games Role playing games where the its about getting immersed in the game's would interacting and doing tasks given by people could be a reason for high empathetic behavior.

The lower levels of self regulation is definitely linked with game designs where the incentive of the games is to keep the players always playing and engaged, making them addictive and destructive. Games should be regulated to moderate the usage and limit the time a person can spent playing, and all cognitive traps, games use need to be minimized by the developers of the games

This study opens doors for further exploration. Future research could delve deeper into the specific types of games that influence these psychological traits. Additionally, investigating the potential causal relationships between gaming and these traits would provide valuable insights.

It's important to acknowledge limitations:

- This study relied on self-reported data, which can be prone to bias.
- Additionally, the study design cannot definitively establish causality between gaming and the psychological traits measured.
- The study also didn't take into account the different types of games and the intensity and duration of the gaming sessions that could have had an impact on the results.
- This study does not study the physiological and cognitive changes associated with video games that might provide important insights.

References:

- Anderson, M., Shibuya, A., Przybylski, A., & Sagot, M. (2020). The relationships between video game use and aspects of self-regulation: A meta-analysis. *Psychological Bulletin*, 146(3), 273-314.
- Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory*. Prentice-Hall.
- Carey, G., Neal, L., & Collins, P. (2004). A psychometric analysis of the Self-Regulation Questionnaire. *Personality and Individual Differences*, 37(5), 1039-1053.
- Davis, M. H. (1980). A multidimensional approach to individual differences in empathy: The Interpersonal Reactivity Index. *Journal of Personality and Social Psychology*, 38(4), 1239-1252. doi: 10.1037/0022-3514.38.4.1239
- Ferguson, C. J. (2015). Does playing violent video games cause aggression? A review of the evidence. *Psychological Bulletin*, 141(2), 442-471.
- Gentile, D. A., & Bushman, B. J. (2012). Can violent video games dehumanize? *Aggressive Behaviour*, 38(2), 129-134.
- Granic, I., Lobel, A., & Rutten, P. G. (2014). Video games and their potential to foster cognitive and socioemotional skills: A review. *Journal of Educational Psychology*, 106(1), 139-159.
- Greitmeyer, T., & Kneer, I. (2014). Video game playing and empathy: A review of the evidence. *Journal of Communication*, 64(4), 814-838.

- Kuhn, S., Gleich, T., & Wagner, U. J. (2016). Action video games and executive function: Short-term benefits from a dual n-back task training intervention. *Developmental Psychology*, 52(9), 1489-1498.
- Przybylski, A., Rigby, C. S., & Ryan, R. M. (2009). Motivational boosts from video game playing: The case of the competence-enhancing reward system. *Journal of Personality and Social Psychology*
- Schwarzer, R., & Jerusalem, M. (1995). Generalized Self-Efficacy scale. In J. Weinman, S. Wright, & M. Johnston, *Measures in health psychology: A user's portfolio. Causal and control beliefs* (pp. 35-37). Windsor, UK: NFER-NELSON.

