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Psychosocial Factors Affecting Intention To Play Esports

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PSYCHOSOCIAL FACTORS AFFECTING INTENTION TO PLAY ESPORTS

A thesis submitted to
the Graduate College of
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In
School of Kinesiology

by

Soojung Park

Approved by

Dr. Jennifer Y. Mak, Committee Chairperson

Dr. Lei Ouyang

Dr. Jungsu Ryu

Dr. Hyochang Hong

Marshall University
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APPROVAL OF THESIS

We, the faculty supervising the work of Soojung Park, affirm that the thesis, Psychosocial Factors Affecting Intention to Play Esports, meets the high academic standards for original scholarship and creative work established by the School of Kinesiology and the College of Health Profession. This work also conforms to the editorial standards of our discipline and the Graduate College of Marshall University. With our signatures, we approve the manuscript for publication.



Dr. Jennifer Y. Mak, School of Kinesiology

Committee Chairperson

June 30, 2022
Date



Dr. Lei Ouyang, School of Kinesiology

Committee Member

June 30, 2022
Date



Dr. Jungsu Ryu, School of Kinesiology

Committee Member

June 30, 2022
Date



Dr. Hyochang Hong, Department of English

Committee Member

June 30, 2022
Date

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ABSTRACT

In recent years, the negative perspective about esports that used to dominate the opinion of many people as well as sports researchers has gradually been changing in the academic world. Previous studies have shown that psychosocial values of esports such as having fun, escaping from daily life, and social interaction. However, previous studies on motivations for esports gameplay were conducted from qualitative research perspectives, focusing on esports viewership, and there has comparatively been little esports gameplay research from a quantitative perspective. Against the qualitative research heavy background, the purpose of this research is to examine the psychosocial factors that influence the intention to play esports from a quantitative perspective. To test the hypothesis that psychosocial factors are positively related to the intention to play esports, an online survey was distributed to esports players who live in the United States via Amazon Mechanical Turk (M-Turk). Specifically, respondents were esports players who are in the age range of 20 to 69 years old, who live in the United States, and who have played at least one popular multiplayer esports game. Two hundred responses were collected for obtaining information from a knowledgeable and accessible source, and a convenient sampling approach was used in the selection of subjects. To assess the factor structure of the constructs including intention and psychosocial factors (enjoyment, escapism, social interaction), Confirmatory Factor Analysis (CFA) was used. In addition, testing the relationship between each psychosocial factor of esports and the intention to play esports was conducted via Structural Equation Modeling (SEM).

CHAPTER 1

INTRODUCTION

Previous research on the connection between forms of entertainment and mobile network has shown that consumers take advantage of multiple forms of mobile networks for entertainment and communication (Kang, 2014). In particular, esports, a form of sport competition using video games (Jenny et al., 2016), has boomed worldwide over the years under the influence of the development of mobile networks (Hamari & Sjöblom, 2017). As the average number of hours that people spend playing esports is about one hour per day (Granic et al., 2014), this particular form of sports has become a very common phenomenon in the lives of many people. Accordingly, the negative perspective about esports that used to dominate the opinion of many people as well as sports researchers has gradually been changing in the academic world, leading to a number of studies that have looked into social, psychological and cultural issues in regard to esports (Adachi & Willoughby, 2017; Baltezarević & Baltezarević, 2019; Granic et al., 2014; Hamari & Sjöblom, 2017; Xiao, 2019).

In the past, violence, addiction, and depression were indicated as a representative effect of video games, and gamers were described as a socially isolated individual who spend most of their time alone loafing on the couch like an awkward nerd (Granic et al., 2014). However, in recent years, psychosocial benefits of video games have instead been emphasized. For example, fundamentally, interaction is required to play esports; video games are designed for players to actively take part in their systems and for these systems to, in turn, react to players' agentic behaviors (Granic et al., 2014). Diverse video games, thus, provide the environment in which they can be played cooperatively or competitively, alone, with other physically present players, or with thousands of other online players (Adachi & Willoughby, 2017; Baltezarević &

Baltezarević, 2019; Granic et al., 2014). Studies also have shown that gamers could relieve stress by escaping from daily life, having fun, experiencing the thrill of victory (Adachi & Willoughby, 2017; Hamari & Sjöblom, 2017; Xiao, 2019). As mentioned above, earlier studies on the effect of esports have focused on the psychosocial value of esports. That is, the psychosocial value of esports is important to understand why individuals intend to play esports.

It is yet quite noteworthy to emphasize that previous studies on motivations for playing esports were conducted from qualitative research perspectives (Banyai et al., 2018; Granic et al., 2014), focusing on online games (Alzahrani et al., 2017; Lee, 2009; Wu & Liu, 2007) and esports viewership (Hamari & Sjöblom, 2017; Qian et al., 2019; Xiao, 2019), and that there has comparatively been little esports gameplay research from a quantitative perspective. For example, although previous qualitative research has shown that playing esports contributes much to the psychosocial well-being of players (Gallup et al., 2016; Granic et al., 2014; Hudson & Cairns, 2016; Parshakov et al., 2018), how psychosocial factors as a whole and different aspects of the mental state of mind are connected to playing esports have not received much attention from a quantitative research perspective.

Of a number of psychosocial factors, one particular aspect is related to the intention to play esports. The intention to play esports brings consumers to not only participate in esports, but also has a significant impact on their willingness to re-participate (Gallup et al., 2016). In order to develop strategies to increase esports consumption, it is necessary to better understand such psychosocial motivational factors as why individuals have an interest in esports, and what psychosocial factors may motivate them to play esports. It is from this current lack of quantitative research on psychosocial impact on playing esports (Hamari & Sjöblom, 2017) that the current research begins.

With the expansion of esports industry in terms of the increasing number of players, it is hoped that the current research on psychosocial factors affecting the intention to play esports will provide a basis from which to predict future esports consumer behaviors. The result of this study might further be used to suggest a new dimension to forecast future consumer behaviors in esports and implications for esports marketing. It is also expected that the current research will help the esports industry become more important cultural contents in the future.

STATEMENT OF PROBLEM

There are relatively few studies that have been conducted to demonstrate the relationship between psychosocial factors of esports and the intention to play esports even though esports consumers are significantly increasing. Moreover, little is known how these three psychosocial factors, enjoyment, escapism and social interaction, affect the intention to play esports.

PURPOSE OF THE STUDY

The main aim of this study is to examine psychosocial factors affecting the intention to play esports, and to investigate how the three psychosocial factors (e.g., enjoyment, escapism, social interaction) influence the intention to play esports.

JUSTIFICATION OF THE STUDY

In order to develop marketing strategies to increase esports consumers, it is important to better understand why players have an interest in esports, and what factors may motivate them to engage in esports. However, even though positive psychosocial factors of esports have been studied, there is the limitation of the source model explaining psychosocial factors of esports affecting the intention to play esports. Previous studies on motivations for playing video games also mostly were conducted as qualitative literature (Banyai et al., 2018; Granic et al., 2014), and focused on esports viewership (Hamari & Sjöblom, 2017; Qian et al., 2019; Xiao, 2019).

Therefore, it is necessary to conduct quantitative research on psychosocial factors of esports affecting the intention to play esports because findings from such studies will serve as the foundation to help future scholars develop new lines of esports research. For sports marketing practitioners, moreover, researching why individuals play esports is valuable in developing products or services related to esports.

DELIMITATIONS

The study is delimited by the following factors:

1. Only adults (people who are at least 18 years old) were included as the target population of this study.
2. Only adults who live in the United States were included as the target population of this study.
3. Only esports players who have played at least one popular multiplayer esports game (e.g., League of Legends, Dota 2, Overwatch, Fortnite, Battlegrounds, Arena of Valor, Call of Duty, rFactor 2, Auto Chess, Rainbow Six Siege, Halo 5: Guardians, Shadowverse, Counter-Strike, Rocket League, Smite, Hearthstone, Free Fire) were included as the target population of this study.

LIMITATIONS

The study is limited by the following factors:

1. Willingness of participations to complete the survey and their degree of understanding the survey.
2. Limitation of the generalizability of the results because of a narrow range of psychosocial factors affecting the intention to play esports. The questionnaire may not provide the participants with the ability to explain their answers, as would be the case

with some qualitative methodologies. Thus, the results of this study might not represent every psychosocial factor affecting the intention to play esports.

ASSUMPTIONS

This study is based on the following assumptions:

1. The participants fully understood the research instrument to complete the survey.
2. The participants honestly answered each section of the survey questionnaire.
3. The survey instrument effectively measured each variable such as psychosocial factors and the intention to play esports.

DEFINITIONS OF TERMS

For purpose of convenience, the following terms in the current research project are defined below:

Esports: An abbreviated form of expression for electronic sports, and a form of sport competition using video games (Jenny et al., 2016).

Psychosocial factors: Causes affecting or arising in the mind, and these factors are associated with the mental and emotional state of a person. Individual-level processes and meanings that influence mental states are included in psychological factors (Stansfeld & Rasul, 2007).

Enjoyment: The degree of being enjoyable in its own right by using a specific system, apart from any performance consequences resulting from system use (Davis et al., 1992).

Escapism: Escape from stress and other troublesome in daily life (Xiao, 2019).

Social interaction: The way people talk and act with each other. It may include interactions in a team, family or bureaucracy. It includes any relationship between two or more

individuals. It is a source of socialization and characterizes all types of social relationships (Argyle, 2017; Becker, 1974).

Multiplayer games: Games in which more than one person can play in the same game environment at the same time, both locally and online over the Internet (Wikimedia Foundation, Inc., 2021).

CHAPTER 2

LITERATURE REVIEW

THE GROWTH OF ESPORTS

DEFINITION OF ESPORTS

Digitization and globalization have led to the creation of a new kind of playground called esports (Baltezarević & Baltezarević, 2019; Summerley, 2020). Along with the advent of esports, there have been several accounts that point to the increasing number of studies that dispute whether esports can be truly defined as a sport (Hallmann & Giel, 2018; Hamari & Sjöblom, 2017; Jenny et al., 2016; Thiel & John, 2018). Jenny et al. (2016) state that sports must consist of physical competitions and that it is clear that physicality is the key to sports. Hamari & Sjöblom (2017) similarly state the fans of traditional sports are likely to think that esports cannot be called a sport because esports player competence is not measured via physical ability as esports players appear to be simply sedentary. Both studies, however, agree that playing esports can be as taxing on players as a traditional sport (Hamari & Sjöblom, 2017; Jenny et al., 2016). The modus of human-computer interaction required to control the states of the game's system suggests that esports players are physically drained by interacting with the computer (Hamari & Sjöblom, 2017). The method of physically taxing on esports players depends on the way of human-computer interaction in controlling the game's system (Hamari & Sjöblom, 2017). Fitness video games such as *Wii Sports*, *Dance Dance Revolution*, *Ring Fit Adventure*, and *Beat Saber* can be good examples to explain the physical depletion of esports players through interacting with the computer.

Other studies did additionally support that physical activity is involved in esports (Hallmann & Giel, 2018; Jenny et al., 2016; Thiel & John, 2018). Chess and basketball were

compared to answer a question as to what elevates a game to the level of a sport (Jenny et al., 2016). Jenny et al. (2016) explained that the physical activity of players was important to the successful completion of the task for a game to be elevated to the level of sport. The reason was that great physical skill is needed to score a goal in playing basketball because the manner of shooting performance of a player will have a direct effect on whether the shot is successful. However, not only physical skills but also their precision of physical skill may be additionally essential for a player to succeed in the competition (Hallmann & Giel, 2018; Jenny et al., 2016; Thiel & John, 2018). For example, even though physical activity does not play a major role in the game of chess, the German Olympic Sport Confederation officially accepted chess as a sport (Hallmann & Giel, 2018).

In chess, although how players choose to move the chess piece does not directly impact the outcome, the manner of the physical execution of moving the chess pieces is incidental to successfully position the chess piece at the correct spot on the board (Jenny et al., 2016). Similarly, in the game of Jenga, great concentration, strategies to remove blocks well, and fine motor skills are crucial to win a game (Jenny et al., 2016). These precise physical skills can only be developed through a long period of training, and as with Jenga, esports players are able to improve game performance through a long period of training precise physical skills such as a high level of concentration, problem-solving strategies, and cognitive skills (Hallmann & Giel, 2018; Jenny et al., 2016; Thiel & John, 2018). In addition to physical skills and training, because of intellectual powers, spectatorship, and competitive character of esports, esports has gained more acceptance as a legitimate form of sports in general (Hallmann & Giel, 2018; Hamari & Sjöblom, 2017; Jenny et al., 2016; Thiel & John, 2018).

THE RISING ESPORTS INDUSTRY

The esports industry has been growing around the world over the years (Hamari & Sjöblom, 2017; Lokhman et al., 2018; Mangeloja, 2019; Newzoo, 2022; Scholz, 2019). According to Newzoo (2022), the world's most trusted source for esports analytics, global esports revenues will grow to approximately \$1.38 billion by the end of 2022, a year-on-year growth of +21.8%, up from \$1.13 billion in 2021. In addition, there were approximately 489 million esports viewers in 2021, and the number is expected to increase to about 640 million viewers by 2025 (Newzoo, 2022). Of the 532 million projected viewers, “occasional viewers” are estimated to be 270 million, and “esports enthusiasts” are estimated to reach 261 million in 2022 (Newzoo, 2022).

With the popularity of esports, people gradually come to esports for business (Jenny et al., 2018; Lokhman et al., 2018; Marchand & Henning-Thurau, 2013; Mangeloja, 2019). The annual global growth of esports market is more than 30%, and esports organizations can make profits in a variety of ways, including revenues for broadcasting, sponsorships, merchandise sales, and gaming subscriptions (Lokhman et al., 2018). For example, the 2016 League of Legends (LoL) World Championship — the famous esports tournament — captivated 21,000 live spectators, was broadcasted by over 23 entities in 18 languages, and collected 47.7 million unique viewers with a peak concurrent viewership of 14.7 million people (Jenny et al., 2018; Lokhman et al., 2018). Furthermore, esports is sponsored with over \$500 million annually by large companies including *Coca-Cola*, *Red Bull*, *Visa*, *Intel*, *Audi* and *Nissan* (Jenny et al., 2018; Lokhman et al., 2018). These high yields and consumer rates suggest that esports is becoming a mecca of sport industry (Lokhman et al., 2018).

PSYCHOLOGICAL FACTORS OF INTENTION TO PLAY ESPORTS

Psychological factors refer to causes affecting or arising in the mind, and these factors are associated with the mental and emotional state of a person. Individual-level processes and meanings that influence mental states are included in psychological factors (Stansfeld & Rasul, 2007). The two psychological factors, enjoyment and escapism, have been frequently used to investigate not only motivators of traditional sport consumptions (James & Ross, 2004; Mak & Chen, 2012; Mak et al., 2018; Trail & James, 2001) but also motivators of esports consumptions (Chang, 2019; Hamari & Sjöblom, 2017; Jang & Byon, 2019; Qian et al., 2019; Weiss & Schiele, 2013; Xiao, 2019). That is, enjoyment and escapism are reasonable factors to predict esports consumptions. The current study, thus, will consist of enjoyment and escapism as psychosocial factors to predict the intention to play esports.

ENJOYMENT

Perceived enjoyment is the degree of enjoyment by using a specific system (Davis et al., 1992). Perceived enjoyment is classified as intrinsic motivation (Deci & Ryan, 1987), and players mostly tend to be motivated by intrinsic interests in online gaming settings (Lee, 2009; Wu & Liu, 2007). Scholars emphasize that when individuals' behaviors are prompted by enjoyment as an intrinsic motivation, they are willing to continue the behaviors in the future (Deci & Ryan, 1987; Lee, 2009; Wu & Liu, 2007). As the conceptualization of intrinsic motivation, enjoyment has served as a significant trigger leading to the intention to participate in esports (Chang, 2019; Jang & Byon, 2019; Qian et al., 2019).

According to Wu and Liu (2007), enjoyment positively influences the intention to play online games, and, similarly, Lee (2009) has demonstrated that perceived enjoyment has a positive impact on the intention to play online games. Jang and Byon (2019) operationalized

hedonic motivation as the enjoyment related with esports gameplay, and the positive effect of hedonic motivation on the intention to play esports was demonstrated. Chang (2019) and Qian et al. (2019) conducted qualitative research using semi-structured interviews and online open-ended surveys to find motivations for esports consumption. The results of their research (Chang, 2019; Qian et al., 2019) show that esports consumers could be motivated to engage in esports by getting enjoyment from entertaining features and competition excitement of esports. Thus, the current research will use the enjoyment factor as one of the psychological factors, and expect the enjoyment will significantly influence the intention to play esports.

ESCAPISM

Escapism means the escape from stress and other troublesome in daily life (Xiao, 2019). Trail and James (2001) developed the Motivation Scale for Sport Consumption (MSSC) including an escape factor to measure the motivations behind sport spectator consumption behavior. Findings from Trail and James (2001) have shown that the escape factor significantly correlates with being a fan of a sport team, loyalty to a sport team, an increase in sport merchandise purchasing, and an increase in sport media consumption. According to Trail and James (2001), “The MSSC will allow academics and practitioners to better understand the impact of psychological motives (e.g., escape, social interaction, etc.) on attendance at sporting events, purchase of merchandise, and other consumptive behavior” (p. 123).

In esports, Weiss and Schiele (2013) used semi-structured interviews and open-ended surveys to examine hedonic motivators including escapism that affects esports consumption. The results revealed escapism as the hedonic determinant of esports consumption. Other studies correspondingly found escapism positively impacted esports viewership (Hamari & Sjöblom, 2017; Xiao, 2019). The current research consequently will choose escapism as one of the

psychological factors, and it is reasonable to expect that escapism will affect the intention to play esports.

THE SOCIAL FACTOR OF INTENTION TO PLAY ESPORTS

The social factor means a general factor at the level of human society concerned with social structure and social processes that impact the individual (Stansfeld & Rasul, 2007).

Playing esports, like traditional sports, naturally accompanies social interaction; team-based esports games provide the environment to be played cooperatively or competitively, with other physically present players, or with thousands of other online players (Adachi & Willoughby, 2017; Baltezarević & Baltezarević, 2019; Chang, 2019; Granic et al., 2014; Lee, 2009; Qian et al., 2019, Xiao, 2019). A social interaction factor, thus, has been used to examine motivators of esports consumptions (Chang, 2019; Lee, 2009; Qian et al., 2019, Xiao, 2019). Based on the reason above, the social factor will consist of social interaction to predict the intention to play esports.

SOCIAL INTERACTION

The Motivation Scale for Sport Consumption (MSSC) of Trail and James (2001) includes a social interaction factor. According to the findings from Trail and James (2001), social interaction factor significantly correlated with being a fan of a sport team, loyalty to a sport team, an increase in sport merchandise purchasing and an increase in sport media consumption. The results imply the social interaction factor will positively correlate with participation in sports and sport consumptions. In online game player behaviors research, Lee (2009) extended TPB framework by adding flow experience, perceived enjoyment and interaction to understand behavioral intentions to play online games. Findings from Lee (2009) have shown that the significantly positive relationships between flow experience, perceived enjoyment, interaction

and the intention to play online games. Although all variables of the extended TPB were found to influence the intention to play online games, flow experience notably was a more important factor than other variables in influencing customer acceptance of online games (Lee, 2009). The flow experience was influenced by social interaction and human-computer interaction, therefore, Lee (2009) suggested that focusing more on establishing the interactions between players (social interaction) and online games (human-computer interaction) in marketing strategies.

Esports studies also found that the social interaction factor was related to esports consumption motivation (Chang, 2019; Qian et al., 2019). Qian et al. (2019) used interviews and online open-ended surveys to investigate motivations of esports spectators, and distinct perspectives were found regarding social factors: friends bonding and socialization opportunity. Similarly, Chang (2019) interviewed 10 esports fans to research factors influencing esports viewership, and a social factor such as interpersonal communication was found to motivate esports consumption. Thus, these findings can lead to the hypothesis that social interaction factor will influence the intention to play esports.

SUMMARY OF LITERATURE REVIEW, AND HYPOTHESES

The present review analyzed the published empirical studies by considering psychosocial factors affecting esports participation. This review is written to draw attention to academics and scholars who are in an emerging field of gaming activity, and to encourage future studies in the field of esports management. In the past, researchers generally focused on the aspect that the sedentary nature of video gaming has a negative effect on well-being because of the lack of physical activity. However, with the development of modern network technologies over time, the video gaming industry came into the spotlight and negative perspectives of video gaming are

gradually changing (Adachi & Willoughby, 2017; Baltezarević & Baltezarević, 2019; Granic et al., 2014; Hamari & Sjöblom, 2017; Xiao, 2019).

The changing perspectives on video gaming have led to the creation of a new kind of playground called esports (Baltezarević & Baltezarević, 2019), and esports is becoming accepted more as a sport because of the physical skills, intellectual powers, training, spectatorship, and competitive character of esports (Hallmann & Giel, 2018; Hamari & Sjöblom, 2017; Jenny et al., 2016; Thiel & John, 2018). According to the previous literature, the esports industry has seen great growth around the world over the years, and esports has been treated as a billion-dollar industry (Hamari & Sjöblom, 2017; Lokhman et al., 2018; Mangelaja, 2019; Scholz, 2019). Through revenue for broadcasting, sponsorships, merchandise sales, and gaming subscriptions, esports organizations can make profits, and the annual global growth of esports market is more than 30% (Lokhman et al., 2018). Large companies such as *Coca-Cola and Intel*, moreover, sponsored over \$500 million annually (Jenny et al., 2018; Lokhman et al., 2018).

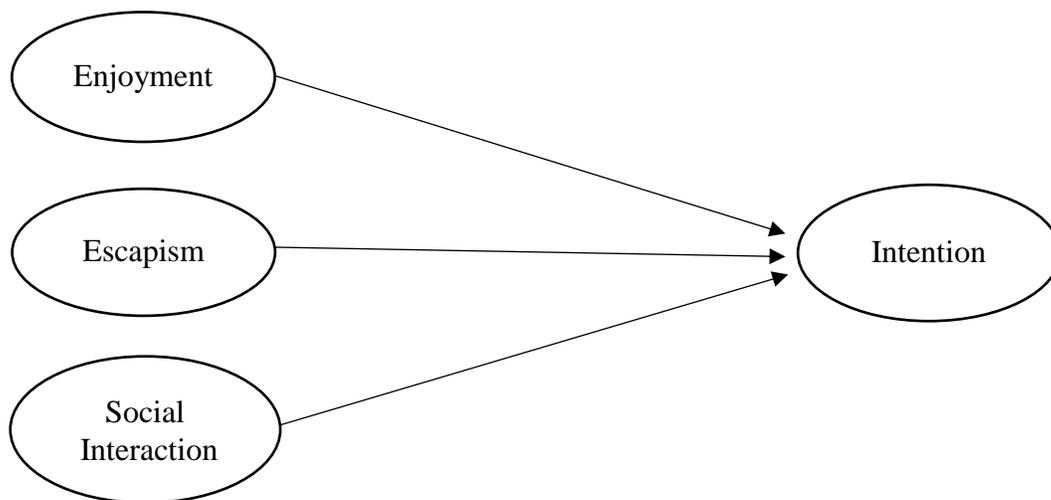
Along with the growth of esports, research on esports also has been growing (Hamari & Sjöblom, 2017; Qian et al., 2019; Xiao, 2019). Several psychosocial factors (e.g., enjoyment, escapism, social interaction) were demonstrated to influence playing online games and esports consumer motivation (Chang, 2019; Hamari & Sjöblom, 2017; Jang & Byon, 2019; Lee, 2009; Qian et al., 2019; Weiss & Schiele, 2013; Wu & Liu, 2007; Xiao, 2019). Firstly, players typically tend to be motivated in esports gameplay through intrinsic interests such as enjoyment (Lee, 2009; Wu & Liu, 2007), and findings from esports studies have shown that enjoyment has a positive influence on the intention to play esports (Chang, 2019; Jang & Byon, 2019; Lee, 2009; Qian et al., 2019; Wu & Liu, 2007). Secondly, escapism has been widely used to examine motivators affecting the consumption of sports and esports (Hamari & Sjöblom, 2017; Trail &

James, 2001; Weiss & Schiele, 2013; Xiao, 2019), and scholars found that escapism positively influenced esports consumption (Hamari & Sjöblom, 2017; Weiss & Schiele, 2013; Xiao, 2019). Thirdly, social interaction also has been mentioned by esports scholars (Chang, 2019; Lee, 2009; Qian et al., 2019), and social interaction was demonstrated to positively impact esports consumption motivation (Chang, 2019; Lee, 2009; Qian et al., 2019). Based on the foregoing discussion, it is expected that there will be an independent variable to have significant effects on the intention to play esports.

In summary, the current study hypothesizes three psychosocial factors (enjoyment, escapism, social interaction) affecting the intention to play esports. Figure 1 illustrates a path model representing the hypothesized relationships among the variables.

Figure 1

Hypothesized Model



Note. This figure shows the relationships between psychosocial factors (enjoyment, escapism, social interaction) and the intention to play esports.

For purposes of convenience, a summary of all the hypotheses in current research project are shown in Table 1.

Table 1

Summary of Hypotheses

Study	Hypothesis	Hypothesis
H1		Enjoyment would be positively related to the intention to play esports.
H2		Escapism would be positively related to the intention to play esports.
H3		Social interaction would be positively related to the intention to play esports.

CHAPTER 3

METHODOLOGY AND DESIGN

This study was conducted to uncover and examine which factor is the most effective to build a strong linkage between the intention to play esports, enjoyment, escapism, and social interaction. Furthermore, this examination sought to better define the effectiveness of psychosocial motivation based on all variables and select the most appropriate psychosocial factors to maximize the effectiveness of marketing. In this chapter, the research methodology was organized into the following five sections (a) population and sampling, (b) research design, (c) procedure, (d) measurement items and variables, and (e) statistical analysis.

POPULATION AND SAMPLING

In its broadest conceptualization, this study is intended to address the population of esports players. However, this population is global, too broad, and vast: there were approximately 532 million esports consumers in 2022 worldwide (Newzoo, 2022). It is, therefore, necessary to delimit the setting from which a sample for the current study is drawn. Previous esports studies received questionnaires from all esports players in the United States without restrictions on states (Jang & Byon, 2019; Xiao, 2019) because other demographic variables such as gender, age, income, ethnicity have relatively significant influence on esports consumption (Jang & Byon, 2019; Jang & Byon, 2021; Jang et al., 2021; Lee, 2009; Xiao, 2019). The setting for the proposed study, thus, consists of esports players who live in the United States regardless of a residential state.

To yield positive results that are the significant influences of social factors (e.g., social interaction) on esports gameplay, the setting for the proposed study additionally consists of esports players who have an experience of multiplayer esports games. Furthermore, to establish a

clear boundary regarding the multiplayer esports games, esports players who have played at least one popular multiplayer esports game (e.g., League of Legends, Dota 2, Overwatch, Fortnite, Battlegrounds, Arena of Valor, Call of Duty, rFactor 2, Auto Chess, Rainbow Six Siege, Halo 5: Guardians, Shadowverse, Counter-Strike, Rocket League, Smite, Hearthstone, Free Fire) are included in the setting. This setting provides a sample of esports players who have an experience of the popular multiplayer esports games within a confined geographic area thereby facilitating the collection of data, while at the same time meeting the representativeness of the population. Inclusion criteria, therefore, requires participants to be 18 years old or older, live in the United States, and have played at least one popular multiplayer esports game (e.g., League of Legends, Dota 2, Overwatch, Fortnite, Battlegrounds, Arena of Valor, Call of Duty, rFactor 2, Auto Chess, Rainbow Six Siege, Halo 5: Guardians, Shadowverse, Counter-Strike, Rocket League, Smite, Hearthstone, Free Fire).

To obtain information from a knowledgeable and accessible source, the survey questionnaire was distributed to 390 and collected 200 responses from the sample. The participants were recruited on Amazon Mechanical Turk (M-Turk), an online crowdsourcing service provided by Amazon.com that allows “Requesters” (e.g., researchers) to provide human intelligence tasks (HITs) to “Workers” (e.g., participants) in exchange for a reward.

DEMOGRAPHIC CHARACTERISTICS OF SAMPLE

The participants in the current study were at least 18 years old, live in the United States, and have played at least one popular multiplayer e-sports game (e.g., League of Legends, Dota 2, Overwatch, Fortnite, Battlegrounds, Arena of Valor, Call of Duty, rFactor 2, Auto Chess, Rainbow Six Siege, Halo 5: Guardians, Shadowverse, Counter-Strike, Rocket League, Smite, Hearthstone, Free Fire). The survey instrument was distributed through the Amazon Mechanical

Turk (M-Turk) online crowdsourcing service. For data screening, the survey questionnaire was distributed to 390 participants and 200 responses were collected from the sample. Removed 190 responses from the distributed 390 questionnaires consisted of 19 responses from participants who have not played at least one popular multiplayer esports game, 13 duplicate survey responses, and 158 irrelevant open-ended survey responses. Therefore, the reliable data was a total of 200.

The subjects consisted of 102 (51%) males, 95 (47.5%) females, and 3 (1.5%) non-binary or third gender. Regarding ethnicity, 192 (96%) participants were White, 6 (3%) participants were Black or African American, 1 (0.5%) participant was American Indian or Alaska Native, and 1 (0.5%) participant was other. Married respondents were 192 (96%), and never married respondents were 8 (4%). With regard to occupation, open-ended responses of participants were classified according to the International Standard Classification of Occupations (International Labour Office, 2012), and 47 (23.5%) participants were professionals, 84 (42%) participants were managers, 45 (22.5%) participants were technicians, 18 (9%) participants were services and sales workers, and 6 (3%) participants were others. One hundred ninety-one (95.5%) participants were employed full time, 7 (3.5%) participants were employed part time, and 2 (1%) participants were student. Concerning education level, high school graduate respondents were 9 (4.5%), some college respondents were 7 (3.5%), two year degree respondents were 1 (0.5%), four year degree respondents were 136 (68%), professional degree respondents were 44 (22%), and doctorate respondents were 3 (1.5%). As to player types, recreational participants were 57 (28.5%), semi-professional participants were 81 (40.5%), and professional participants were 62 (31%). Call of Duty (17.5%) was the most popular among the favorite esports games of the respondents. Table 2 shows the demographic characteristics of the subjects.

Table 2*Demographic Characteristics of Subjects (N = 200)*

Characteristics	<i>n</i>	%
Gender		
Male	102	51.0
Female	95	47.5
Non-binary/third gender	3	1.5
Ethnicity		
White	192	96.0
Black or African American	6	3.0
American Indian or Alaska Native	1	0.5
Other	1	0.5
Marital Status		
Married	192	96.0
Never married	8	4.0
Occupation		
Professionals	47	23.5
Managers	84	42.0
Technicians	45	22.5
Services and sales workers	18	9.0
Other	6	3.0
Employment Status		
Employed full time	191	95.5
Employed part time	7	3.5
Student	2	1.0
Education Level		
High school graduate	9	4.5
Some college	7	3.5
2 year degree	1	0.5
4 year degree	136	68.0
Professional degree	44	22.0
Doctorate	3	1.5

Player Types

Recreational	57	28.5
Semi-Professional	81	40.5
Professional	62	31.0

Favorite Esports Game Title

Call of Duty	35	17.5
Auto Chess	29	14.5
Free Fire	26	13.0
Dota 2	22	11.0
Battlegrounds	22	11.0
League of Legends	17	8.5
Fortnite	9	4.5
Rainbow Six Siege	8	4.0
Overwatch	7	3.5
rFactor 2	6	3.0
Smite	6	3.0
Rocket League	5	2.5
Counter-Strike	3	1.5
Hearthstone	3	1.5
Halo 5: Guardians	1	0.5
Shadowverse	1	0.5

In addition, the participants ranged in ages from 20 to 69 ($M = 36$, $SD = 10.4$). The annual household income of the respondents ranged from \$10,000 to \$1,000,000 ($M = \$69,756$, $SD = 10.0$), and the number of people in a household ranged from 1 to 6 ($M = 3$, $SD = 1.0$). On average, participants have played esports for 54 months (4 years 6 months), and play esports 4 times and 9 hours a week. Table 3 indicates the mean and standard deviations of characteristics of study participants.

Table 3*Mean and Standard Deviations of Characteristics of Study Participants*

Characteristics	<i>M</i>	<i>SD</i>
Age	36	10.4
Annual Household Income	\$69,756	10.0
Number of Household	3	1.0
Gameplay Period		
Months	54	2.5
Gameplay Frequency		
Times/a week	4	1.5
Hours/a week	9	8.4

RESEARCH DESIGN

The proposed study employed a quantitative research: the process of collecting and analyzing numerical data to investigate psychosocial factors affecting esports gameplay. The current study involved the gathering of information about psychosocial motivations associated with the intention to play esports in the United States. The questionnaire of this study referred to research of related literature. After drawing from previous research, the survey was designed with six sections to capture the current study's main variables: (a) screening test, (b) enjoyment, (c) escapism, (d) social interaction, (e) intention, and (f) demographic information.

PROCEDURE

After receiving approval from the Institutional Review Board at Marshall University, participants were recruited on Amazon Mechanical Turk (M-Turk), an online crowdsourcing service provided by Amazon.com that allows "Requesters" (e.g., researchers) to provide human intelligence tasks (HITs) to "Workers" (e.g., participants) in exchange for a reward. For the

recruitment and screening, the survey information, the privacy of participants, instructions with inclusion criteria, and contact information were posted on the HITs. Additionally, a questionnaire was created via Qualtrics, an online survey tool, and a link to the questionnaire was posted on the HITs to allow the participants to complete the questionnaire. The first page of the questionnaire was the consent form. The consent form included the survey information, the privacy of participants, instructions with inclusion criteria, and contact information. The consent form had all of the elements of a regular consent, but it did not require a signature.

Worker IDs and survey codes were used to track responses and pay rewards. The participants were asked to enter their worker ID, a unique numeric identification code used instead of private information, into a blank at the end of the questionnaire. Additionally, the participants received survey codes after completing the survey, and they were asked to paste the survey codes into a box on the HIT. The worker IDs and the survey codes were used to identify who completed the survey and find inappropriate answers (e.g., giving the same rating for all items). After matching the worker IDs and the survey codes, rewards were given to approved participants; transferring \$1 to Amazon.com gift card balance or Amazon payments account. The participants who submitted inappropriate answers and who did not meet inclusion criteria were not be able to get rewards.

Participants had 10-15 minutes to complete the questionnaires, and the information in the study records was kept confidential. Individual subjects were not identified in any reports developed from the findings of this research. The online survey was conducted for seven days.

MEASUREMENT ITEMS AND VARIABLES

There are three exogenous variables as follows: 1) enjoyment, 2) escapism, 3) social interaction. Additionally, there is one endogenous variable: intention.

SCREENING TEST

To improve the validity of the questionnaire, the screening questions in section A were added to the survey of the current research. The screening test consists of six questions, and one statement is: “Do you have recent experiences of multiplayer esports gameplay.” Then, those respondents who have not recently played multiplayer esports games were excluded from the sample for further analysis. Questions about esports gameplay period, frequency, and player types were asked in order to get more accurate information: “How long have you played esports?”, “How often do you play esports per week?”, “How many hours per week do you spend playing esports?”, and “What a type of esports player are you?” Moreover, to establish a clear boundary regarding esports games, respondents were asked to select their favorite esports game titles from a list that included specific esports game titles related to extant esports tournaments or events (e.g., League of Legends, Dota 2, Overwatch, Fortnite, Battlegrounds, Arena of Valor, Call of Duty, rFactor 2, Auto Chess, Rainbow Six Siege, Halo 5: Guardians, Shadowverse, Counter-Strike, Rocket League, Smite, Hearthstone, Free Fire) (E-Sports Earnings, 2018; Jang & Byon, 2019): “What is your favorite esports game title.” This screening question, furthermore, included “other” as an option at the end of the list. The respondents who selected “other” were dropped to establish a clear boundary regarding esports gameplay experiences. Therefore, data was collected from esports players who have played at least one popular multiplayer esports game. In the current study, 19 participants who answered “other” from the screening questions were deleted from the study.

ENJOYMENT

The second section (Section B) of the survey consists of enjoyment factor. Here the respondents were asked to rate enjoyment with a 7-point Likert scale ranging from 1 “strongly

disagree” to 7 “strongly agree.” The five items were “I enjoy playing esports,” “I feel interested in playing esports,” “Playing esports makes me happy,” “Playing esports is very pleasant,” and “Playing esports is a lot of fun.” The items adapted from a study of physical activity enjoyment scale (Kendzierski & Decarlo, 1991) were used to measure the enjoyment factor.

ESCAPISM

The third section (Section C) of the survey involves escapism. The respondents were asked to rate escapism with a 7-point Likert scale ranging from 1 “strongly disagree” to 7 “strongly agree.” The four items were “I play esports because it helps me to forget about daily hassles,” “I play esports because it makes me forget real life,” “I play esports because it helps me escape reality,” “I play esports to forget about unpleasant things or offences.” The items adapted from a study of the development of the motives for online gaming questionnaire (Demetrovics et al., 2011) were used to measure escapism factor.

SOCIAL INTERACTION

The fourth section (Section D) of the survey involves social interaction. Here the respondents were asked to rate social interaction with a 7-point Likert scale ranging from 1 “strongly disagree” to 7 “strongly agree.” The four items were “I play esports because I can get to know new people,” “I play esports because I can meet many different people,” “I play esports because it is a good social experience,” “I play esports because gaming gives me company.” The items adapted from a study of the development of the motives for online gaming questionnaire (Demetrovics et al., 2011) were used to measure social interaction factor.

INTENTION

The fifth section (Section E) of the survey involves the intention to play esports. Here the respondents were asked to rate the intention to play esports with a 7-point Likert scale, ranging

from 1 “extremely unlikely” to 7 “extremely likely.” The items were “I plan to continue playing esports,” “I intend to play esports next week,” “I intend to play esports next month,” “I intend to play esports next year,” and “I will make an effort to play esports.” The items adapted from Theory of Planned Behaviour Questionnaire database (Ajzen, 2013) to make participants evaluate the intention to play esports. To reduce a risk that one or more items might not work well for the sample, the items consist of those five items adapted from the research.

DEMOGRAPHIC INFORMATION

The last section (Section F) consists of nine questions to elicit data to give out general background information such as gender, age, annual household income, household size, ethnicity, marital status, occupation, employment status, and education level. This information is important to obtain an accurate sample of esports consumers aged 18 and older, and is necessary in analyzing the demographic and psychographic segments of the sample. For purposes of convenience, a summary of the current research questions is reported in Table 4.

Table 4

Summary of the Survey

Section	Items	Sources
A. Screening questions	<ol style="list-style-type: none"> 1. Do you have recent experiences of multiplayer esports gameplay? 2. How long have you played esports? 3. How many times do you play esports per week? 4. How many hours per week do you spend playing esports? 5. What type of esports player are you? 6. What is your favorite esports game title? 	

B. Enjoyment	<ol style="list-style-type: none"> 1. I enjoy playing esports 2. I feel interested in playing esports 3. Playing esports makes me happy 4. Playing esports is very pleasant 5. Playing esports is a lot of fun 	Kendzierski & Decarlo (1991)
C. Escapism	<ol style="list-style-type: none"> 1. I play esports because it helps me to forget about daily hassles 2. I play esports because it makes me forget real life 3. I play esports because it helps me escape reality 4. I play esports to forget about unpleasant things or offences 	Demetrovics et al. (2011)
D. Social Interaction	<ol style="list-style-type: none"> 1. I play esports because I can get to know new people 2. I play esports because I can meet many different people 3. I play esports because it is a good social experience 4. I play esports because gaming gives me company 	Demetrovics et al. (2011)
E. Intention	<ol style="list-style-type: none"> 1. I plan to continue playing esports 2. I intend to play esports next week 3. I intend to play esports next month 4. I intend to play esports next year 5. I will make an effort to play esports 	Ajzen (2013)
F. Demographic Information	<ol style="list-style-type: none"> 1. What is your gender? 2. What is your age? 3. What is your annual household income? 4. How many people in your household including yourself? 5. What is your ethnicity? 6. What is your marital status? 7. What is your occupation? 8. What is your employment status? 9. What is your highest education level? 	

STATISTICAL ANALYSIS

The current study used Analysis of Moment Structures 26.0 (AMOS) to conduct confirmatory factor analysis on the four measurement models and to test the hypothesized full structural model. IBM Statistical Package for the Social Sciences (SPSS) 26.0 was used for all other statistical analysis including descriptive analysis, normality analysis, and reliability analysis. Structural Equation Modeling (SEM) refers to a statistical methodology that provides a multivariate statistical analysis technique to analyze structural relationships (Byrne, 2010). Compared to multiple regressions, SEM allows to handle not only observed variables but also latent variables, and complex causality between multiple variables can be verified simultaneously (Byrne, 2010). Confirmatory Factor Analysis (CFA) is a type of factor analysis, which is the fundamental first step in running most types of SEM models to test the underlying structure of latent variables. CFA allows for researchers to test how well the measured variables represent the number of constructs (Brown, 2015). Combining similar independent variables into constructs and testing the relationship between each construct and the intention to play esports, therefore, were conducted via SEM-CFA. For the current study, data analysis involved internal consistency analysis, data screening, CFA, and SEM.

To begin with, data was entered into SPSS 26.0 for coding and analysis. Initial data analysis consists of a descriptive analysis that is useful for understanding the characteristics of the data set (e.g. gender, age, ethnicity, marital status) and identifying the data entry errors. Cronbach's alpha scores ($\alpha > .70$) were used to establish the internal consistency reliability of the scales and measure the homogeneity of the items comprising each of the latent variables (Nunnally & Bernstein, 1994).

Before conducting SEM-CFA, data screening was performed to test assumptions of SEM-CFA. Before data analyses are conducted, an approach should be used to substitute missing data since missing data is inevitable in the research. Therefore, data screening was necessary before implementing confirmatory factor analysis and structural equation modeling analysis.

CFA, furthermore, was conducted through AMOS statistical software. A latent variable refers to a variable that is not directly observed but are rather inferred from other observed variables, and CFA is appropriate to test the underlying structure of latent variables (Brown, 2015). To verify how well the measured variables represent the number of constructs (e.g., enjoyment, escapism, social interaction, intention), CFA was used in this study.

Maximum Likelihood (ML) estimation was used to test the fit of the hypothesized model because ML is suitable when the variables in the model approximate normality (Byrne, 2010). In addition, goodness-of-fit indices, such as Standardized Root Mean square Residual (SRMR), Root Mean Square Error of Approximation (RMSEA), Comparative Fit Index (CFI), and Incremental Fit Index (IFI) were used to evaluate whether the model fits the data. Guidelines for interpreting goodness-of-fit indices from Bentler (1990) suggested that comprehensive evaluations of cutoff criteria for these indices found that adequate model fit is obtained in instances where (1) SRMR values are less than .06; (2) RMSEA values are less than .08; and (3) CFI and IFI values are greater than .90. Based on the guidelines from Bentler (1990), the following cutoff values were selected for the current study: $SRMR < .06$, $RMSEA < .08$, CFI and $IFI > .90$.

After the psychometric properties of the measurement models were tested, a full structural casual model with all parameter estimates was computed. Causal models consist of endogenous and exogenous latent variables. Exogenous variables refer to independent variables

that are not influenced or determined by other variables. On the contrary, endogenous variables are influenced and determined by other variables in a causal model (Byrne, 2010). In the current study, psychosocial factors of esports serve as exogenous latent variables and the intention to play esports is an endogenous latent variable. The causal relationships between exogenous variables (e.g., enjoyment, escapism, social interaction) and endogenous variable (e.g., intention) were examined via SEM. Similar to CFA, multiple fit indices were used to test whether the proposed model has a good fit to the data. The model fit was evaluated by the combination indices in terms of Chi-square value, SRMR, RMSEA, CFI, and IFI. If the model fit did not indicate a good fit, post hoc model modification was performed based on the statistical criteria (e.g. modification indices).

CHAPTER 4

RESULT

This chapter reveals the results of the survey questionnaires. This chapter is structured as follows: (1) the result of measurement models to examine the properties of the measurement model, (2) the result of the proposed model to assess the hypotheses (e.g., enjoyment would be positively related to the intention to play esports, escapism would be positively related to the intention to play esports, social interaction would be positively related to the intention to play esports) by analyzing the structural model.

MEASUREMENT MODELS

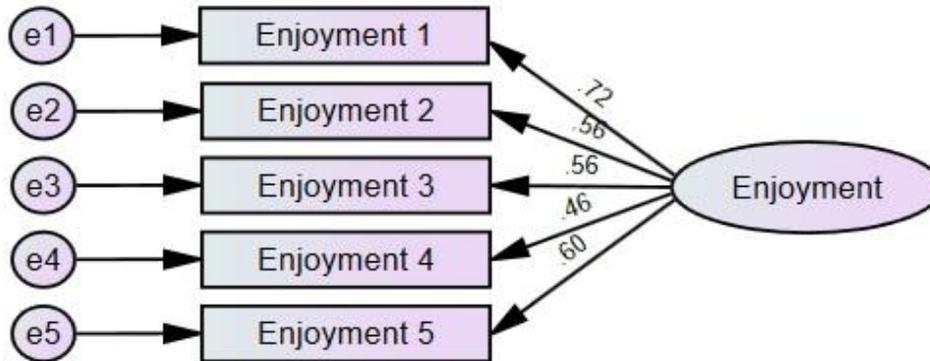
Confirmatory Factor Analysis (CFA) was conducted on each measurement construct to examine the indicator variables of the proposed measurement model. As mentioned in Chapter 2, there are three psychosocial factors that influence the intention to play esports: enjoyment, escapism, and social interaction. The results of CFA showed that the measurement model presented an acceptable fit to the data as showed by multiple fit indices falling into an acceptable range.

ENJOYMENT

First of all, confirmatory factor analysis was conducted on the five items that measured enjoyment. The initial model fit was good (chi-square [5, $N = 200$] = 11.33, $p < .001$, SRMR = 0.04, RMSEA = 0.08, CFI = 0.96, and IFI = 0.96). All factor loadings were significant at .00, and the standardized factor loadings ranged from .46 (Enjoyment 4) to .72 (Enjoyment 1). Cronbach's alpha value for Enjoyment was 0.71, and this exceeded the standard of 0.70 (Nunnally & Bernstein, 1994). Figure 2 indicates the measurement model and the standardized factor loadings.

Figure 2

Measurement Model for Enjoyment



ESCAPISM

Confirmatory factor analysis was conducted on the four items that measured escapism.

The initial model fit was good (chi-square [2, $N = 200$] = 4.06, $p < .001$, SRMR = 0.03, RMSEA

= 0.07, CFI = 0.98, and IFI = 0.98). All factor loadings were significant at .00, and the

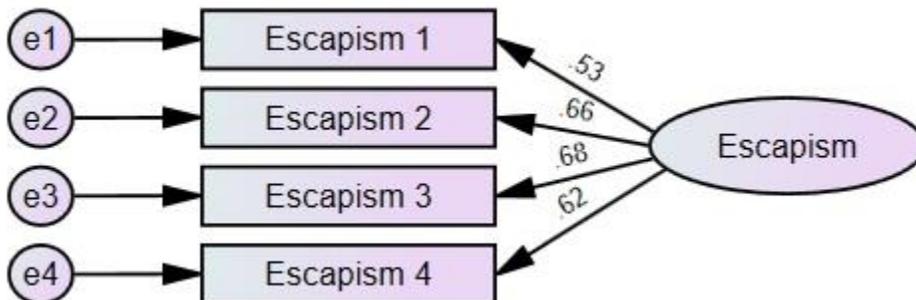
standardized factor loadings ranged from .53 (Escapism 1) to .68 (Escapism 3). Cronbach's alpha

value for Escapism was 0.72. Figure 3 indicates the measurement model and the standardized

factor loadings.

Figure 3

Measurement Model for Escapism

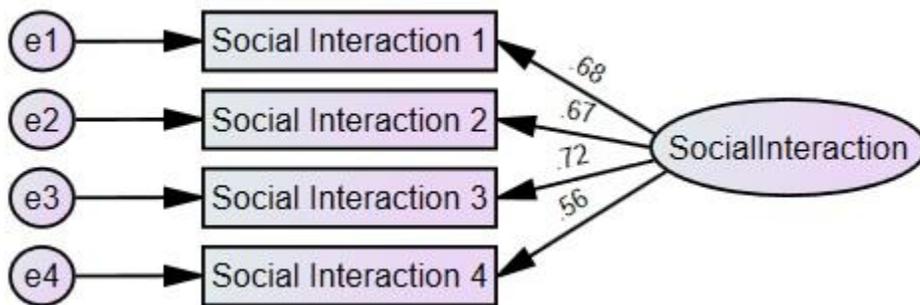


SOCIAL INTERACTION

Confirmatory factor analysis was conducted on the four items that measured social interaction. The initial model fit was good (chi-square $[2, N = 200] = 0.77, p < .001$, SRMR = 0.01, RMSEA = 0.00, CFI = 1.00, and IFI = 1.00). All factor loadings were significant at .00, and the standardized factor loadings ranged from .56 (Social Interaction 4) to .72 (Social Interaction 3). Cronbach's alpha value for Social Interaction was 0.75. Figure 4 indicates the measurement model and the standardized factor loadings.

Figure 4

Measurement Model for Social Interaction



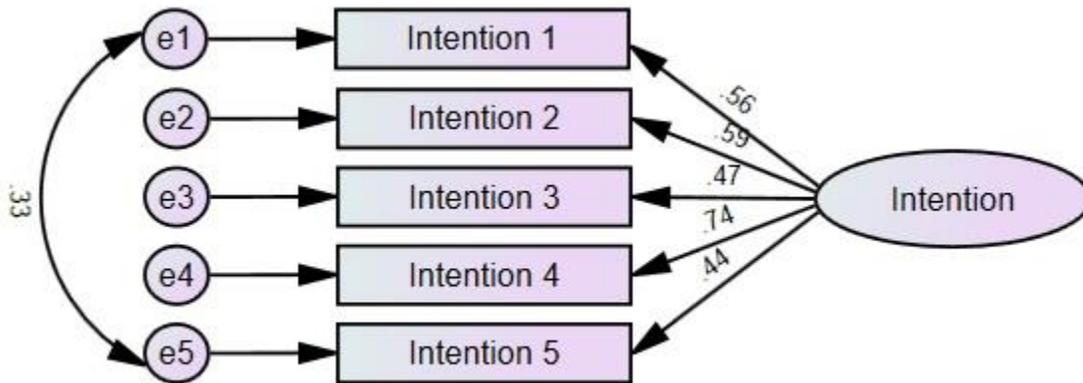
INTENTION

Confirmatory factor analysis was conducted on the five items that measured intention. The initial model fit was good (chi-square $[5, N = 200] = 16.76, p < .001$, SRMR = 0.04, RMSEA = 0.10, CFI = 0.93, and IFI = 0.93) with the exception of the RMSEA. Post hoc analysis, therefore, was utilized based on the statistical criteria (e.g. modification indices). One correlation among observed-variable residuals was added to the model: Intention 1 with Intention 5 ($r = .48$). The reason is that Intention 1 and Intention 5 both ask a similar type of question. Intention 1 is “I plan to continue playing esports”, and Intention 5 is “I will make an effort to play esports.” As a

result, the model showed more acceptable values for RMSEA (chi-square [4, $N = 200$] = 2.07, $p < .001$, SRMR = 0.01, RMSEA = 0.00, CFI = 1.00, and IFI = 1.00). All factor loadings were significant at .00, and the standardized factor loadings ranged from .44 (Intention 5) to .74 (Intention 4). Cronbach's alpha value for Intention was 0.72. Figure 5 indicates the measurement model and the completely standardized factor loadings.

Figure 5

Measurement Model for Intention



Descriptive statistics, factor loadings, and Cronbach's alpha (α) for the measurement model are reported in Table 5.

Table 5*Descriptive Statistics Standardized Factor Loading and Cronbach's Alpha (α)*

Factor	Items	Mean	Standard Deviation	Factor Loading	Cronbach's Alpha
Enjoyment	I enjoy playing esports	5.99	0.79	0.72	0.71
	I feel interested in playing esports	5.86	0.97	0.56	
	Playing esports makes me happy	5.88	0.85	0.56	
	Playing esports is very pleasant	5.71	0.89	0.46	
	Playing esports is a lot of fun	5.89	0.90	0.60	
Escapism	I play esports because it helps me to forget about daily hassles	5.61	1.01	0.53	0.72
	I play esports because it makes me forget real life	5.50	1.05	0.66	
	I play esports because it helps me escape reality	5.58	1.07	0.68	
	I play esports to forget about unpleasant things or offences	5.42	1.17	0.62	
Social Interaction	I play esports because I can get to know new people	5.56	1.06	0.68	0.75
	I play esports because I can meet many different people	5.44	1.10	0.67	
	I play esports because it is a good social experience	5.58	1.09	0.72	
	I play esports because gaming gives me company	5.65	1.02	0.56	
Intention	I plan to continue playing esports	5.71	0.96	0.56	0.72
	I intend to play esports next week	5.72	0.86	0.59	
	I intend to play esports next month	5.80	0.92	0.47	
	I intend to play esports next year	5.75	0.89	0.74	
	I will make an effort to play esports	5.70	0.90	0.44	

Table 6 shows the correlations between factors included in the measurement model.

Table 6

Correlations between Factors included in the Measurement Model

Factors	Enjoyment	Escapism	Social Interaction	Intention
Enjoyment	1			
Escapism	0.64	1		
Social Interaction	0.57	0.86	1	
Intention	1.05	0.82	0.64	1
<i>M</i>	5.86	5.52	5.55	5.73
<i>SD</i>	0.88	1.07	1.06	0.90

SEM TESTING OF THE PROPOSED MODEL

The overall model fit of the proposed structural model was evaluated by analyzing goodness-of-fit indices. The results of the SEM indicated adequate fit indices of the model (chi-square [129, $N = 200$] = 253.03, $p < .001$, SRMR = 0.05, RMSEA = 0.07, CFI = 0.88, and IFI = 0.88) with the exception of the CFI and IFI. Post hoc analysis, therefore, was utilized based on the statistical criteria (e.g., modification indices). Due to the high Pearson correlation, two paths among observed-variable residuals were added to the model: Enjoyment 2 with Enjoyment 3 ($r = .25$) and Enjoyment 5 with Escapism 4 ($r = .35$). As a consequence, the adjustment improved the CFI and IFI (chi-square [127, $N = 200$] = 221.91, $p < .001$, SRMR = 0.05, RMSEA = 0.06, CFI = 0.91, and IFI = 0.91). Additionally, enjoyment, escapism, and social interaction accounted for 37 percent ($R^2 = .37$) of variance in the intention to play esports. Figure 6 indicates the standardized path coefficients of the model from the CFA.

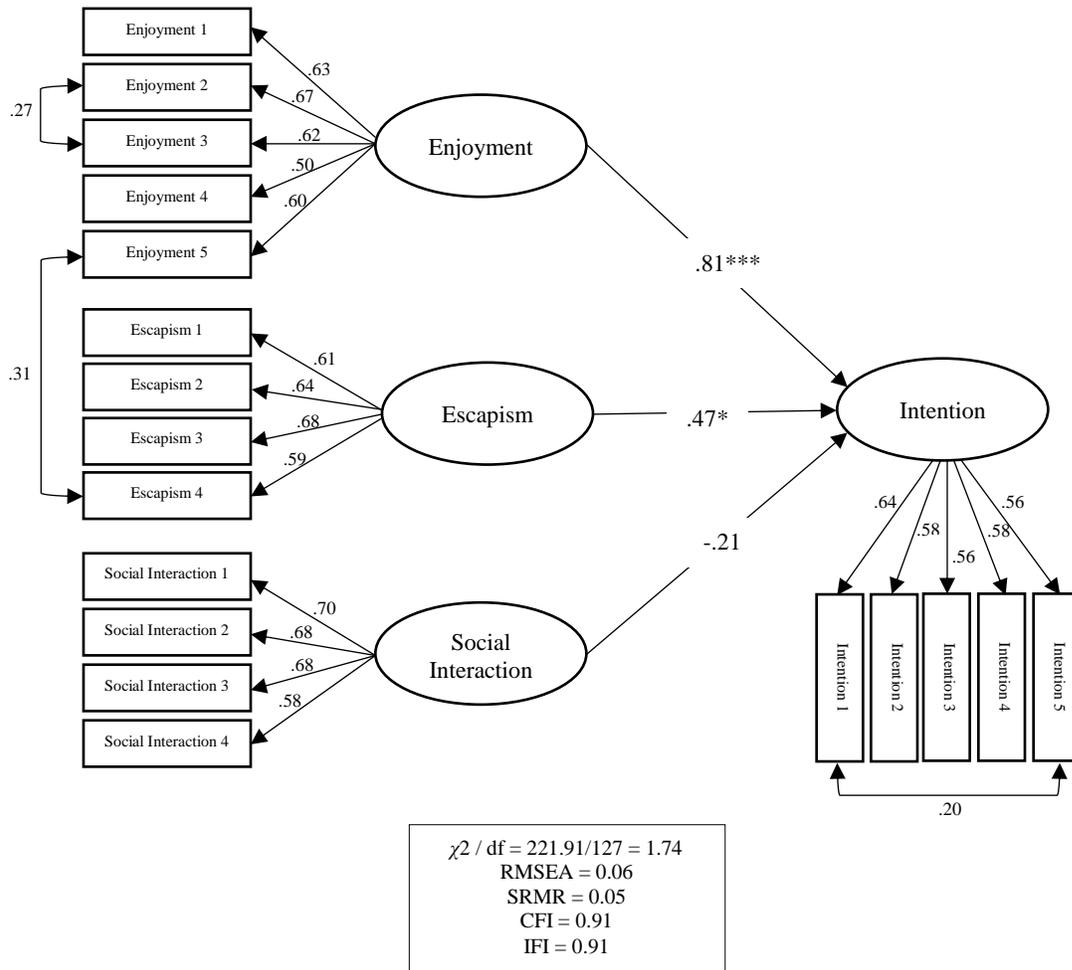
Hypothesis 1 predicted that enjoyment would be positively related to the intention to play esports. Looking at the structural relationships, enjoyment had a significant direct impact on intention to play esports ($\beta = .81, p < 0.001$). Therefore, *H1* was supported in the current study.

Hypothesis 2 predicted that escapism would be positively related to the intention to play esports. Looking at the structural relationships, escapism had a significant direct impact on intention to play esports ($\beta = .47, p < 0.05$). Therefore, *H2* was supported in the current study.

Hypothesis 3 did not predict that social interaction would be positively related to the intention to play esports. Looking at the structural relationships, social interaction had no significant direct impact on intention to play esports ($\beta = -.21, p = .29$). Therefore, *H3* was not supported in the current study. Figure 6 shows the final structural model of measurement model with standardized path coefficient from the SEM.

Figure 6

Path Diagram of the Final Structural Model with Standardized Path Coefficients



Note. * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$

To sum up the above results, two independent variables, Enjoyment and Escapism had significant direct impacts on Intention. Enjoyment was found to be the highest level of effect on Intention among all the three independent variables.

CHAPTER 5

CONCLUSION

This chapter includes a summary of findings, discussion, implications, limitations, and recommendation for further research.

This research examined a linear structural equation model that explained psychosocial factors affecting the intention to play esports based on the three variables: enjoyment, escapism, and social interaction. In addition, this study showed which factor had the most impact on esports gameplay intention. For purposes of convenience, a summary of all the findings are presented in Table 7.

Table 7

Summary of Findings

#	Hypothesis	Result
H1	Enjoyment would be positively related to the intention to play esports.	Supported
H2	Escapism would be positively related to the intention to play esports.	Supported
H3	Social interaction would be positively related to the intention to play esports.	Non-supported

DISCUSSION

The purpose of the current study was twofold: (a) to examine psychosocial factors affecting the intention to play esports, and (b) to investigate how the three psychosocial factors (e.g., enjoyment, escapism, social interaction) influence the intention to play esports. Previous studies showed that psychosocial values of esports (e.g., having fun, escaping from daily life, social interaction). However, the prior studies focused on esports viewership (Hamari &

Sjöblom, 2017; Qian et al., 2019; Xiao, 2019) and conducted from qualitative research perspectives (Banyai et al., 2018; Granic et al., 2014).

In comparison to the previous research, this current study examined psychosocial factors that influence the intention to play esports from a quantitative perspective. Additionally, testing three variables (e.g., enjoyment, escapism, social interaction) together was the differentiation in the current research outcomes from previous studies.

The current study explored how psychosocial factors such as enjoyment, escapism, and social interaction affect the intention to play esports. The impact of enjoyment and escapism factors on esports gameplay intention was demonstrated in this research. The present study confirmed hypotheses (1-2) indicating the positive relationships between psychological factors (e.g., enjoyment, escapism) and the intention to play esports. It has been further shown that enjoyment appeared to have a more significant effect on the intention to play esports than escapism.

Enjoyment has been consistently identified as a critical predictor of behavioral intention in esports literature (Chang, 2019; Jang & Byon, 2019; Lee, 2009; Wu & Liu, 2007; Qian et al., 2019). Individuals' behaviors are prompted by intrinsic motivation such as enjoyment (Deci & Ryan, 1987), and as the conceptualization of intrinsic motivation, the enjoyment would have triggered esports gameplay intention. Esports games are engaging and fun, and playing esports results in dopamine secretion (Koepp et al., 1998), which makes players feel good and reduce stress. Additionally, esports games provide players with a challenge and instant rewards for overcoming it, which leads to feelings of competence (Granic et al., 2014). The instant rewards would have helped to reduce the stress of achieving long term goals, and to unwind after a long

day. Thus, it can be suggested that playing esports is an easy way to experience enjoyment, and if esports players do not enjoy playing esports, they are unlikely to play esports.

The results of this study are consistent with those of previous studies indicating escapism additionally had a positive effect on the intention to play esports. Trail and James (2001) demonstrated that escapism significantly correlates with being a fan of a sport team, loyalty to a sport team, an increase in sport merchandise purchasing, and an increase in sport media consumption. In esports, escapism has served as a psychological motivator leading to esports participation (Hamari & Sjöblom, 2017; Weiss & Schiele, 2013; Xiao, 2019). Virtual world contexts such as esports are a more accessible form to pass time, relieve pressure, and to prevent thinking about real-world problems when compared to traditional sports (Hamari & Sjöblom, 2017; Weiss & Schiele, 2013; Xiao, 2019). These findings suggest that individuals who consider playing esports as a good diversion from their life are likely to play esports.

There is another possible interpretation of the positive relationship between escapism and the intention to play esports in the current research. People spend a lot of time on leisure that has often defined as free time spent away from daily duties and responsibilities, and the importance of leisure activities for health has been demonstrated by scholars (Kelly, 2012; Kim et al., 2018; Pomohaci & Sopa, 2018). Willpower is rechargeable, not a fixed trait. Escaping from daily life such as leisure activities helps to recharge individuals' willpower and thus makes people better equipped to handle their obligations and responsibilities (Kelly, 2012). One interesting thing was that the current study participants reported that full-time employees (95.5%) formed the highest percentage in the sample, who can be exposed to workload stress. Full-time employees have a potential for burnout because long working hours, many responsibilities, and high expectations can lead the full-timers to feeling overwhelmed (Bannai & Tamakoshi, 2014; Beheshtifar &

Omidvar, 2013). Therefore, esports might have been used as a leisure activity to recharge the participants' willpower, and individuals who consider playing esports as a good diversion from their life are likely to play esports.

On the other hand, social interaction was not found to be significant, and this was an unexpected finding. According to Jang and Byon (2019), participation in esports of beginner players can be triggered by social interaction. Experienced esports players, however, were likely to participate in esports due to interest in a specific game. This may support the non-significance of the social interaction factor because the current study recruited only participants who had previous experience in esports gameplay. Specifically, the study participants reported that they have played esports for more than four years on average. Other scholars showed that a similar insignificant relationship between social interaction and the frequency of watching esports, and interpreted the result as the level of social interaction offered by participating in esports was inadequate for gratifying the participants' social needs (Hamari & Sjöblom, 2017; Xiao, 2019). Experienced esports players, therefore, may prefer to play esports alone and do not consider playing esports as a social occasion.

THEORETICAL IMPLICATIONS

The current study contributes to the marketing literature by demonstrating which factor led to the highest level of the intention to play esports among the three psychosocial factors (e.g., enjoyment, escapism, and social interaction).

Along with the growth of esports, a number of theories and models has been suggested to explain the influence of psychosocial motives on esports participation. However, up to now, far too little attention has been paid to quantitative analysis of psychosocial factors affecting esports gameplay intention, and testing all the three psychosocial factors (e.g., enjoyment, escapism,

social interaction) together. To address the knowledge gap, the current study examined psychosocial factors that influence the intention to play esports from a quantitative perspective, and demonstrated which one has the most impact on esports player's intention to play esports.

The results of the current study showed that enjoyment and escapism were significantly related to the intention to play esports with the exception of social interaction. The finding suggests that the psychological factors such as enjoyment and escapism have the possibility to attract esports players. The enjoyment, especially, had the most influence on the intention to play esports. Therefore, the current research suggested that the enjoyment is a most important motivator for esports players to intend playing esports.

In addition, the findings of this study showed that experienced esports players who have played esports for more than four years on average do not intend to play esports for the social interaction. This result implies that the social interaction is not a critical factor in leading the experienced esports players in playing esports. While the social interaction has been demonstrated as a significant motivator, particularly for beginners, in previous esports research, it appears that the motivational influence of social interaction does not significantly apply to experienced esports players.

MANAGERIAL IMPLICATIONS

As the esports industry is growing, it is imperative for practitioners to better understand what motivates people to participate in esports. The findings of the current study not only help expand our understanding of esports players' motives, but also provide esports marketers with specific clues to devise appropriate strategies to reach out to esports players and meet their particular needs in an increasingly accessible and prevailing online environment. Additionally,

sport managers would understand the future of sport consumption on digital platforms through the findings.

One noticeable managerial implication is that providing fun and a good diversion from daily life would present a significant value to experienced esports players because the sampled esports players in this study were active players and were influenced by enjoyment and escapism. This finding implies that psychological rather than social factors are more important in attracting experienced esports players' attention. Developing content with creative and solid storylines should be pursued to provide more fun, and sport marketers can market an esports game as a good escape from one's daily routine and design their advertising messages accordingly. In addition, sport marketers can develop a multiplatform marketing campaign in order to decrease society's misunderstanding of esports. The more people accept the behavior of playing esports, the more esports participants will feel comfortable playing esports.

LIMITATIONS AND FUTURE DIRECTIONS

Future studies are needed to address three limitations of the study. Firstly, the current research did not measure actual actions of playing esports beyond the intention to play esports. The actual behaviors can be included in future research models to improve their explanatory power. Secondly, this study removed 158 subjects from distributed 390 questionnaires due to irrelevant open-ended survey responses. Open-ended questions could provide detailed information and allow a wide range of answers; however, it is needed to distribute many more questionnaires to prevent the insufficient sample problem. Thirdly, this study examined only three psychosocial factors. Further studies could investigate more diverse psychosocial factors to obtain adequate information.

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APPENDIX A: IRB APPROVAL LETTER



Office of Research Integrity
Institutional Review Board
One John Marshall Drive
Huntington, WV 25755

FWA 00002704

IRB1 #00002205
IRB2 #00003206

December 9, 2021

Jennifer Mak, PhD
School of Kinesiology

RE: IRBNet ID# 1839065-1

At: Marshall University Institutional Review Board #2 (Social/Behavioral)

Dear Dr. Mak:

Protocol Title: [1839065-1] Psychosocial Factors Affecting Intention to Play Esports
Site Location: MU
Submission Type: New Project APPROVED
Review Type: Exempt Review

In accordance with 45CFR46.104(d)(2), the above study was granted Exempted approval today by the Marshall University Institutional Review Board #2 (Social/Behavioral) Designee. No further submission (or closure) is required for an Exempt study **unless** there is an amendment to the study. All amendments must be submitted and approved by the IRB Chair/Designee.

This study is for student Soojung Pak.

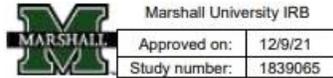
If you have any questions, please contact the Marshall University Institutional Review Board #2 (Social/Behavioral) Coordinator Anna Robinson at (304) 696-2477 or robinsonn1@marshall.edu. Please include your study title and reference number in all correspondence with this office.

Sincerely,

A handwritten signature in blue ink that reads 'Bruce F. Day'.

Bruce F. Day, ThD, CIP
Director, Office of Research Integrity

APPENDIX B: STAMPED CONSENT FORM



You are invited to participate in a research project entitled “Psychosocial Factors Affecting Intention to Play Esports” designed to analyze the relationship between psychosocial factors and intention to play esports. The study is being conducted by Dr. Jennifer Mak and Ms. Soojung Park from Marshall University and has been approved by the Marshall University Institutional Review Board (IRB). This research is being conducted as part of the thesis for Ms. Soojung Park.

This survey is comprised of thirty-three questions: six screening questions, thirteen psychosocial factors questions, five intention questions, and nine demographic information. The survey questionnaire will take approximately 10-15 minutes to complete.

Your replies will be anonymous, so do not type your name anywhere on the form. There are no known risks involved with this study. Participation is completely voluntary and there will be no penalty if you choose to not participate in this research study or to withdraw. If you choose not to participate, you can leave the survey site. You may choose to not answer any question by simply leaving it blank. Once you complete the survey you can delete your browsing history for added security. Completing the online survey indicates your consent for use of the answers you supply.

You will be paid \$1 if you complete all the survey questions and meet the inclusion criteria. The inclusion criteria will require participants to be at least 18 years old, live in the United States, and have played at least one popular multiplayer e-sports game (e.g., League of Legends, Dota 2, Overwatch, Fortnite, Battlegrounds, Arena of Valor, Call of Duty, rFactor 2, Auto Chess, Rainbow Six Siege, Halo 5: Guardians, Shadowverse, Counter-Strike, Rocket League, Smite, Hearthstone, Free Fire).

If you withdraw for any reason from the study before completion and do not meet the inclusion criteria, you will receive no payment or other compensation. If you have any questions about the study you may contact Dr. Jennifer Y. Mak at (304) 696-2927 or mak@marshall.edu, Soojung Park at 82-(010)4281-3429 or park78@marshall.edu.

If you have any questions concerning your rights as a research participant you may contact the Marshall University Office of Research Integrity at (304) 696-4303.

By completing this survey you are also confirming that you are 18 years of age or older.

Please print this page for your records.

APPENDIX C: FINAL REVISED QUESTIONNAIRE



Psychosocial Factors Affecting Intention to Play Esports



You must be 18 or over to participate in this survey. Participants who complete the survey will be rewarded with \$1, and you may refuse to participate without penalty. If you decide to participate, you may withdraw from the study at any time without penalty. This is an anonymous survey study. No reference will be made in oral or written reports, which could link you to the study.

Section A. Screening test

1. Do you have recent experiences of multiplayer esports gameplay? ¹ Yes ² No
2. How long have you played esports? _____ Years _____ Months
3. How many times do you play esports per week? _____ Times/a week
4. How many hours per week do you spend playing esports? _____ Hours/a week
5. What type of esports player are you? ¹ Recreational ² Semi-Professional
³ Professional
6. What is your favorite esports game title? League of Legends Dota 2 Overwatch
 Fortnite Battlegrounds Arena of Valor Call of Duty rFactor 2 Auto Chess
 Rainbow Six Siege Halo 5: Guardians Shadowverse Counter-Strike Rocket League Smite Hearthstone Free Fire Others

Section B. Enjoyment

	Strongly Disagree	Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Agree	Strongly Agree
7. I enjoy playing esports	1	2	3	4	5	6	7
8. I feel interested in playing esports	1	2	3	4	5	6	7
9. Playing esports makes me happy	1	2	3	4	5	6	7
10. Playing esports is very pleasant	1	2	3	4	5	6	7
11. Playing esports is a lot of fun	1	2	3	4	5	6	7

Section C. Escapism

12. I play esports because it helps me to forget about daily hassles	1	2	3	4	5	6	7
13. I play esports because it makes me forget real life	1	2	3	4	5	6	7
14. I play esports because it helps me escape reality	1	2	3	4	5	6	7
15. I play esports to forget about unpleasant things or offences	1	2	3	4	5	6	7

Section D. Social Interaction

16. I play esports because I can get to know new people	1	2	3	4	5	6	7
17. I play esports because I can meet many different people	1	2	3	4	5	6	7
18. I play esports because it is a good social experience	1	2	3	4	5	6	7
19. I play esports because gaming gives me company	1	2	3	4	5	6	7

Section E. Intention

20. I plan to continue playing esports	1	2	3	4	5	6	7
21. I intend to play esports next week	1	2	3	4	5	6	7
22. I intend to play esports next month	1	2	3	4	5	6	7
23. I intend to play esports next year	1	2	3	4	5	6	7
24. I will make an effort to play esports	1	2	3	4	5	6	7

Section F. Demographic Information

25. What is your gender? ¹ Male ² Female ³ Non-binary/third gender ⁴ Prefer not to say

26. What is your age? _____ years old

27. What is your annual household income? _____

28. How many people in your household including yourself? _____
29. What is your ethnicity? ¹ White ² Black or African American ³ American Indian or Alaska Native ⁴ Asian ⁵ Native Hawaiian or Pacific Islander ⁶ Other
30. What is your marital status? ¹ Married ² Widowed ³ Divorced ⁴ Separated ⁵ Never married
31. What is your occupation? _____
32. What is your employment status? ¹ Employed full time ² Employed part time ³ Unemployed looking for work ⁴ Unemployed not looking for work ⁵ Retired ⁶ Student ⁷ Disabled
33. What is your highest education level? ¹ Less than high school ² High school graduate ³ Some college ⁴ 2 year degree ⁵ 4 year degree ⁶ Professional degree ⁷ Doctorate