ESPORTS CONSUMER MOTIVATION:

A SELF-DETERMINATION THEORY APPROACH

by

YIZHOU QIAN

(Under the Direction of James J. Zhang)

ABSTRACT

The esports industry has found itself at a critical stage in the quest for continuous growth and sustainable development, facing both tremendous opportunities and significant challenges. For achieving enhanced revenue generation and consumer retention, understanding esports consumption is essential for the inchoate yet burgeoning industry, especially in an online environment where a majority of fans follow the competitive scene of esports. The purpose of this research is to explain esports consumers' psychological processes and pertinent behaviors through the lens of the Self-Determination Theory (SDT). The research adds to the existing literature on consumer motivation by developing an SDT model in esports. By conceptualizing intrinsic motivation reflected by basic human needs, namely, competence, autonomy, and relatedness, as well as different types of extrinsic motivation and regulatory styles as antecedents to esports consumers' commitment, WOM intentions, and behavioral responses, a more in-depth understanding of esports consumers' decision-making process has been revealed.

INDEX WORDS: Esports, Motivation, Self-determination theory, Consumer behavior

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YIZHOU QIAN

B.A., Xiamen University of Technology, People's Republic of China, 2010

M.E.D., Shanghai University of Sport, People's Republic of China, 2015

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by

YIZHOU QIAN

Major Professor:	James J. Zhang
Committee:	John Hulland
	Steven Salaga
	Jerred J. Wang

Electronic Version Approved:

Suzanne Barbour
Dean of the Graduate School
The University of Georgia
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DEDICATION

I would like to dedicate this work to my parents, Liping Hou and Siping Qian, for their unconditional love, support, and sacrifice throughout this arduous journey. I am always proud to be your son and truly grateful for having you in my life.

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CHAPTER 1

INTRODUCTION

Esports, also known as electronic sports, competitive gaming, cyber sports, or organized video game competition, has received wide international recognition and generated enormous attention from the sport, event, and entertainment industries (Adler, 2016; Casselman, 2015; Cunningham et al., 2018; Funk, Pizzo, & Baker, 2018). According to leading figures in esports market intelligence (e.g., EEDAR, 2015; SuperData, 2016; Newzoo, 2017), the market size of esports has mushroomed substantially in the past few years: total revenue grew from $130 million in 2012 to $493 million in 2016, and it is estimated to exceed $696 million in 2017, with a projection of a five-year (2015-2020) compound annual growth rate (CAGR) of 35.6% to reach $1,488 million by 2020.

The increasing attraction of esports demonstrates the massive cultural shift of gaming from a niche hobby to a global cultural and digital phenomenon, reaching beyond early strongholds in South Korea and China to capture a large number of ardent fans in the West. North America and Europe now claim 28 million esports fans and the number will continue to be unabated (Casselman, 2015). The explosive growth has been largely ascribed to the advancement and increased accessibility of technology as well as the access to elite competition (Jenny, Manning, Keiper, & Olrich, 2017). High profile esports tournaments—the League of Legends (LoL) World Championships, the DOTA 2 The International (TI), and the ESL Intel Extreme Masters—have taken over large-capacity traditional sports arenas and enthralled numerous esports fans with the world's best professional esports teams and players.

Admittedly, although esports boasts a fan base that can rival those at any major sporting event in their enthusiasm and energy, esports remains an emerging industry that will continue to grow in size and popularity. As an embryonic industry, the growth of esports can be assessed by a wide range of metrics. While big moments like LoL's World Championships and DOTA 2's TI can show the world where esports is heading, the capacity of esports events to attract and boost live attendance is easily eclipsed by the online spectatorship through which most fans follow esports actions (Newzoo, 2017). Indeed, the most consistent sign of esports' rising popularity is the continued interest in its online spectatorship. Twitch, the industry leading online platform for esports streams, now rivals major cable channels like CNN and MSNBC in terms of average concurrent viewership (Trowbridge, 2018). According to Riot, the LoL 2015 World Championships boasted an online audience of 334 million people who followed the event over the course of 73 games on streaming platforms (e.g., twitch, Facebook Live, and YouTube Live), with an average concurrent viewership of over 4.2 million across the globe (Magus, 2015).

The attention drawn by the esports online spectatorship has provided the channel and opportunity for businesses to enter the esports space. Coca-Cola, Samsung, and American Express, as well as traditional sport organizations, such as Dallas Cowboys, Huston Rockets, and Paris Saint-Germain (PSG), have either established partnership with esports publishers and leagues or bought into professional esports teams in order to tap into this emerging market (Lariviere, 2014; Wolf, 2016a, 2016b, 2017). On the other hand, Fortnite's influencer, Tyler "Ninja" Blevins' rise to dominance among esports personalities has showcased the massive potential of individual streaming of esports games. His breakout performances that fill with highly-publicized events and games with high-profile celebrities explain why he's been partnering with major brands like Red Bull and Samsung for a variety of events and promotions

(Fragen, 2018). Essentially, online spectatorship can be an effective tool for professional esports teams and personalities to assess the value of their brands, quantify the size of the competitive community (and casual fan base). This can also be used as a critical metric for sponsors and advertisers interested in reaching out to the hard-to-reach young, cord-cutter demographics to ensure the maximization of their return on investment.

A subset of sport management and video game research has emerged to identify and measure the social-psychological factors that are essential to esports consumption, with much of the existing knowledge devoted to scale development and modeling in an attempt to understand the motivation of esports consumers (Cianfrone, 2007; Hamari & Sjöblom, 2017; Kim & Ross, 2006; Lee, An, & Lee, 2014; Pizzo et al., 2018; Qian, Wang, Zhang, & Lu, 2019; Sherry, Lucas, Greenberg, & Lachlan, 2006; Sjöblom & Hamari, 2017; Yee, 2006; Yee, Ducheneaut, & Nelson, 2012). Researchers have revealed a plethora of motives that represent people's desire to achieve intended outcomes and receive desirable benefits in distinct consumption settings including game participation, live event attendance, and online spectatorship. These settings indicate that esports consumption is shaped by a unique set of experiences, personal traits, and socio-cultural attributes. Indeed, motives for esports consumption are sophisticated and dynamic, and have been examined through a number of theoretical and empirical frameworks. Sloan's sport motivation theories (Qian, Wang, et al., 2019), uses and gratification (U&G) theory (Hamari & Sjöblom, 2017; Qian, Wang, et al., 2019), and a hybrid of the Motivation Scale for Sport Consumption (MSSC; Trail & James, 2001) and the Sport Interest Inventory (SII; Funk, Mahony, Nakazawa, & Hirakawa, 2001) (Pizzo et al., 2018) are the notable mentions in the literature. The empirical work on esports consumer motivation has provided a good descriptive foundation that highlights how varied motives elicit and drive behavior.

However, despite the empirical insights generated by these approaches, the adoption of multi-attribute survey instrument as measurement foundation seems to be the norm among the vast majority of previous esports consumer motivation studies. Ryan, Rigby, and Przybylski (2006) postulated that rather than focusing on content specific classifications or typologies, motivation in virtual environments should be conceptualized in a theoretical framework reflecting the fundamental or underlying needs that could stimulate and sustain consumption behaviors across different types of consumers and in various settings. This proposal was echoed by Funk, Beaton, and Alexandris (2012), who examined sport consumer motives through the lens of a broad theory of motivation. They suggested that domain specific knowledge could be strengthened and better interpreted by a theory-grounded approach, based on the assumption that people consume sport products or services to satisfy basic psychological needs.

As scholars develop more in-depth models of consumer motivation, researchers have been arguing that research utilizing a true theory of motivation should not simply tackle issues associated with behavioral classifications or be constrained by the content and structure of a particular consumption activity, but rather delve into how different motivational factors might address basic human psychological needs, and thereby lead to or enhance behaviors across all potential consumers and types of consumption activities (Deci & Ryan, 2000; Przybylski, Rigby, & Ryan, 2010; Ryan et al., 2006). Following this idea, the present study investigates esports consumer motivation from the perspective of Self-Determination Theory (SDT), which considers psychological needs as the grounds for human motivation (Deci & Ryan, 1985; Deci & Ryan, 2000). According to SDT, behaviors performed out of interest or their inherent satisfaction are considered intrinsically motivated, whereas those associated with the pursuit of separable outcomes are considered extrinsically motivated (Ryan & Deci, 2000). In addition, sub-theories

of SDT such as Cognitive Evaluation Theory (CET) and Basic Psychological Needs Theory (BPNT) suggest that intrinsic motivation is innate and volitional and can be fostered and enhanced by satisfying the fundamental human psychological needs, i.e., competence, autonomy, and relatedness (Deci & Ryan, 2000; Ryan & Deci, 2000). In contrast, extrinsic motivation pertains to activities performed to attain instrumental value or avoid sanction, and is often in pursuit of rewards, compliance, ego involvement, and personal endorsement. Thus, extrinsic motivation is distinguished from intrinsic motivation as the former can vary along a continuum where different psychological processes are involved in the acquisition and acceptance of external values or goals. Furthermore, according to Organismic Integration Theory (OIT), another sub-theory of SDT, extrinsic motivation can be differentiated based on the degree to which motivational types emanate from the self, in other words, are internalized with one's values and goals (self-determined) (Ryan & Deci, 2000). As a result, different forms of extrinsic motivation that either hinder or promote the internalization and integration of those values and goals are arranged from left (least self-determined) to right (most self-determined) in terms of the continuum and have varying impact on behavioral outcomes.

Statement of Problem

Because the vast majority of sport consumer motivation research has failed to understand consumer motivation and the related behavioral outcomes through the lens of a macro-theory of human motivation, the current research conducts three studies in which SDT-based models are integrated to explain esports consumers' psychological processes and pertinent behaviors. One major limitation shared by prior studies stems from their focus on the differences in what content-based gratification people consciously seek. Research reveals that such satisfaction may vary accordingly as a result of distinct personal, social, and cultural characteristics. By adopting

a broader theoretical framework of motivation, the current research utilizes a CET based approach that views esports consumption as a function of innate, irreducible, and universal human psychological needs. Studies conducted in other academic areas have demonstrated that the satisfaction of basic psychological needs is conducive to intrinsic motivation and the resulted behavioral outcomes (e.g., Engström & Elg, 2015; Gagné & Deci, 2005; Lin, Tsai, & Chiu, 2009; Przybylski, Rigby, & Ryan, 2010; Ryan et al., 2006). This consistency adds utility and generality to the models proposed for understanding esports consumption behaviors. Further, the present research investigates the effects of distinct forms of extrinsic motivation. As opposed to some studies that deem extrinsic motivation as non-directional (Fink, Trail, & Anderson, 2002; Kim & Trail, 2010), this research follows OIT and examines how different regulatory styles and types of extrinsic motivation on both low and high ends of the self-determination continuum would influence esports consumption.

Hence, Study 1 utilizes a large online esports consumer panel to articulate and empirically test whether SDT offers a viable theoretical framework for understanding esports consumer motivation. Based on the assumption that esports consumers seek to satisfy basic psychological needs for competence, autonomy, and relatedness, the motives discovered in the Motivation Scale of Esports Spectators (MSES) (Qian, Wang, et al., 2019) are re-conceptualized and remodeled. Study 2 extends the coverage of SDT to explain how basic psychological need orientations would enhance esports game commitment and WOM intentions, and ultimately lead to actual consumption behavior such as hours watched/played and monetary spending. Finally, Study 3 builds upon the findings in Study 1 and Study 2 and further evaluates the impact of different types of extrinsic motivation and regulatory styles on basic need orientations and behavioral outcomes. Ultimately, these three studies are designed to: (a) understand the

composition of basic psychological need orientations of competence, autonomy, and relatedness; (b) assess the effects of the basic need orientations on esports game commitment, WOM intentions, and actual esports consumer behaviors; and (c) explore the role of distinct regulatory styles (types of extrinsic motivation) in promoting/hindering esports consumption.

The dissertation is organized as follows. The next section reviews relevant literature regarding the definition and boundary of esports, drawing differences and connections between esports and traditional sports as well as between esports and video gaming. Next, I provide a discussion of the historic perspectives of motivation studies followed by an extensive review of SDT and its sub-theories, which leads to the development of hypotheses for the current study. Finally, the three studies are described in terms of their context and methodology. Findings and implications are presented respectively.

Significance of the Study

From a theoretical perspective, the current research is expected to fill gaps in the esports literature by conceptually and empirically investigating esports consumer motives through the perspective of basic psychological needs. By developing and testing empirical models based on SDT and its sub-theories, CET, BPNT, and OIT, this paper will enable a macro-theory approach to examine the relationship among esports consumers' basic need orientations, regulatory processes, and behavioral outcomes. Most importantly, the three studies conducted can provide evidence that the broad appeal of esports is originated from the innate psychological needs satisfaction, and that basic need orientations are robust predictors beyond differences in consumer demographics, and that they are applicable across distinctive esports game genres and content.

From a managerial perspective, with continuous growth and expansion of the esports industry, understanding esports consumers are of significant importance to marketers. The present research provides a more comprehensive and systemic understanding of esports consumers that would potentially inform marketing efforts and business practices. For example, it is more likely for esports consumers to engage in esports consumption activities when certain need is satisfied. Identifying basic need orientations and their impacts on consumption behaviors will allow esports marketers to focus on particular need accommodation and satisfaction, launch authentic marketing campaigns that are well received by fans, and consequently increase the likelihood to recruit and retain consumers. In addition, the testing of different forms of extrinsic motivational factors also offers new insights for esports marketers to understand esports contextual incentives with varying degree of self-determination that might facilitate or undermine esports consumption.

Delimitations

First, the participants for the research were those of 18 years or elder and self-identified as esports fans with at least a year of esports experience. Second, data were collected via online survey distributed in online discussion form, reddit. The data collection was facilitated by Qualtrics. Lastly, participants were required to identify one favorite esports game (genre) they watched most frequently. Research participants were asked to respond to questions with sincerity and honesty.

Limitations

There were several limitations that should be recognized in the present research. As is commonplace with studies conducted via online surveys, the data were self-reported. Using self-reported data might affect the findings as the users responding were potentially more actively

engaged with the service and therefore willing to participate in activities related to it. Thus, the results possibly disregarded the perceptions and intentions of less active spectators. As suggested by Hulland, Baumgartner, and Smith (2018), CMV could be further teased out with specific measures included in the survey to account for its impact. Future research could combine survey data with actual usage data and proper experiments to increase the robustness of research on the topic.

The length of the survey also seemed susceptible to issues that might lead to poor comprehension, less careful judgement, and less thorough retrieval (MacKenzie & Podsakoff, 2012). Efforts should be made to minimize the length of the survey and streamline items such that the quality of the responds could be continuously improved. Also, the data were primarily collected from a single online platform, reddit. It would be more rigorous to examine the test-retest reliability of the MSES by sampling other social media groups (e.g., Twitter, Facebook) and online communities (e.g., Discord). Female participants were underrepresented in the sample. Future study should strive for a more balanced gender ratio. The survey questionnaires are only available in the English. Participants in other non-English speaking markets might be underrepresented as well. Future endeavors should cross validate the proposed models in other major esports markets, e.g., Asia (China, South Korea), Eastern Europe (Russia, Ukraine), and South America (Brazil, Chile), in order to provide a more thorough understanding esports consumption. Additionally, split-sample validation was adopted for data analysis. Although this method has been widely used in past studies, it is still suggested that two-round data collection would be more robust for cross-validation.

Finally, only two types of extrinsic motivation were investigated as Study 3 did not include all the four forms of extrinsic motivation identified by Ryan and Deci (2000). Instead,

Study 3 explored the effects of extrinsic motivation from a more general perspective and broadly differentiated the two extrinsic motivational factors in terms of controlling vs. autonomous. Future study is strongly advised to provide a whole gamut of extrinsic motivation. Also, the present studies examine the full range of self-determination spectrum except for amotivation as proposed by SDT and OIT. Future research is encouraged to represent amotivation and non-self-determined regulatory processes in order to capture the maximum variance of esports consumer behaviors.

CHAPTER 2

LITERATURE REVIEW

Esports: Definition and Delimitation

To expound the essence of esports is an inherently contentious and complex enterprise given the relative novelty of the industry as well as the fusion of various cultural factors, technological elements, sport features, and business practices (Jenny et al., 2017; Jin, 2010; Martončik, 2015). There does not appear to be consensus on the definition of esports or a generally accepted format of the title until the Associated Press wrote that "esports" is the correct spelling of the competitive gaming industry in their new stylebook (AP, 2017). Only the idea that esports is an activity that grows out of video games is unanimous among scholars (Hamari & Sjöblom, 2017; Jansz & Tanis, 2007; Jonasson & Thiborg, 2010; Karhulahti, 2017; Qian, 2015; Seo, 2013, 2015; Seo & Jung, 2016; Witkowski, 2012).

A number of qualitative studies in the gaming environment have made initial efforts from the player's perspective to understand the phenomenon and espoused the idea that esports, originated from video gaming, has evolved to surpass an experience of narrative immersion and storytelling escapism into virtual worlds as the outlet of dissatisfaction in everyday life (Buchanan‐Oliver & Seo, 2012; Seo, 2015); more importantly, it provides competition and rivalry between and among players in search for greater "fun and challenge" and the mastery of the game (Wagner, 2007; Witkowski, 2012). Esports can be serious, intense, and challenging or easy, relaxing, and recreational; this is largely dependent on the type of experience one desires.

Prior work has suggested that esports and non-esports gaming are similar but distinct activities (Buchanan-Oliver & Seo, 2012; Seo, 2013; Wagner, 2007).

Esports is distinguished from other types of video games such as massively multiplayer online role-playing games (MMORPG) mainly because the latter focuses on immersing players in storytelling or digital narratives; and more fundamentally, because of the skill-based and technology mediated human competition embedded in esports as opposed to regular video gaming where gamers play against artificial intelligence and interact with non-player characters (NPCs) (Seo & Jung, 2016; Taylor, 2012). In brief, esports requires a unique set of abilities, skills, and tacit knowledge to be performed competitively in a lieu of memorialized storytelling or narrative as commonly observed in non-esports settings, whereby it can be distinguished from some other video games for other purposes.

In the wake of the early endeavors to understand esports, increased academic attention has been directed to explicitly delineate the characteristics of esports in a few key interdisciplinary academic texts. Most subsequent studies have been built upon the conceptual boundaries established in these texts, though some of this work attempted to re-center esports' association with sports, media, and event marketing. For instance, Jonasson and Thiborg (2010) drew on Guttmann's definition of sports, namely, the model of "play-games-contests-sports" and found esports, being competitive and organized although failing to meet the disputable physical requirement, turned out to fulfill Guttmann's basic requirement as a sport. They proceeded to apply Guttmann's seven characteristics of modern sport to esports and put forward three sequential scenarios (counterculture, modern sport, and future sport) as the development path for esports.

Jonasson (2016) continued to advance the understanding of the relationship between esports and sports from a historic account by placing esports in the context of ancient Roman games. He implied that the 21st century was marked by the advent of the hybrid phase of sports that featured the renegotiation of human and non-human elements, thereby accentuating the importance of studying esports as "media, as technology, as gaming, as sport" (p. 39). Through this lens of event marketing and experience economy, Borowy and colleagues (Borowy, 2012; Borowy & Jin, 2013) postulated how esports could be understood as the legitimate spawn of conventional sports, specifically, "a technologically mediated type of public sporting event based on competition between embodied performers" (p.18). Furthermore, they articulated that the success of esports was contingent on the synergies between competitive play, public events, spectating, marketing, and business strategy, whereas the rise of esports events could be largely attributed to the amalgamation of conceptual models of sport and media. Arguing from a historic point of view, they made the claim that the Olympic Games was the conceptual predecessor of esports tournaments, as illustrated by the South Korea-innovated World Cyber Games (WCG) – an esports championship for a variety of esports titles that took place annually around the globe, attracting more than 6 thousand contestants and 10 million spectators from 90 countries over the course of 10 years.

Adamus (2012) noted that the definition of esports provided by Wagner was too general. Adamus instead described esports as the engagement in sport-like competition of playing video games, either as a solo player or as part of a team, to defeat the opponent with special skills, precision, and tactical knowledge. Following that description, Seo (2013) proposed that esports was played primarily to improve consumers' capacities to digital technologies and abilities to play video games as a form of competition where players' performances were judged by

objective measures of comparison and regulated by external governing bodies. Along this line, Seo and Jung (2016) further sought to examine the organized and competitive gaming from a practice-based theoretical perspective, revealed a distinctive conceptualization of esports as a collection of practices that traverse playing, watching, and governing, and uncovered a unique social practice of esports consumers who made use of sociocultural and technological resources to embark on a professionalized career.

Most recently, research conducted by Hamari and Sjöblom (2017) has directed attention to esports in a more empirical sense. They suggested that competitive (pro and amateur) gaming is an activity or a practice that is "often coordinated by different leagues, ladders and tournaments, and where players customarily belong to teams or other 'sporting' organizations which are sponsored by various business organizations" (p. 211). In line with this proposition, Taylor (2016) highlighted the role of esports as a spectator-driven sport, driven and empowered by the video gaming enactment, promotional activities, broadcasting infrastructures, socioeconomic organization of teams, tournaments, and leagues, and the embodied performances of players. Similarly, Karhulahti (2017) stressed the core of contemporary esports was derived from professional sports with some of most pronounced features including refined leagues, live broadcasts, collegiate programs, and global institutionalization. Notably, he also emphasized the necessity to initiate more structured and empirical investigation from an economic perspective, since the development, distribution, consumption, and maintenance of esports are the critical components of the emergent phenomenon that brought about the radical sport and media evolution.

Studies in law have also joined the debate over the status of esports whose issues and problems are germane to traditional sports. Holden, Kaburakis, and Rodenberg (2017) noted that

the absence of a legal definition of sports has hindered the fast-growing esports segment. As such, they introduced a number of competitive sport tests that could be utilized by lawmakers and regulators to determine the legal standing of esports. Interpreting esports as a sport would have a profound impact on the litigation landscape of the competitive gaming industry since some of the legal aspects of esports such as gambling, broadcasting, gender equity, participant representation, consumer protection, intellectual property rights, and antitrust concerns could determine the trajectory of future esports and influence the application litigation at both the federal and state levels (Holden et al., 2017; Holden, Rodenberg, & Kaburakis, 2016).

Interestingly, notwithstanding the salient relationship between esports and traditional sports, embracing esports remains a provocative issue in the realm of sport management, as demonstrated by the resistance of and disapproving statements made by some of the world's renowned sport practitioners and top ranked officials of international sport governing bodies. The president of the International Olympic Committee (IOC), Thomas Bach, expressed caution and concern regarding the possible inclusion of esports in the Olympics, positing that the violence in esports would run against the Olympic values. Likewise, ESPN president John Skipper disregarded esports as a "genuine sport", instead referring to it as a competition despite the fact that ESPN had already launched a dedicated vertical for coverage of professional video gaming. In a similar vein, doubts over the legitimacy of esports have been observed in the academic inquiries of the discipline as illustrated by the paucity of scholarly work published in marquee sport management journals (e.g., Sport Management Review, Journal of Sport Management, and European Sport Management Quarterly) with notable exceptions for four studies published in 2017 by Funk et al. (2018), Hallmann and Giel (2018), Heere (2018), and Cunningham et al. (2018).

The primary argument levied against proponents of labeling esports as sports stems from the alleged absence of adequate physical activity, i.e., physical skill, prowess, or finesse, or the lack of corporeality, as the input and output of esports are enabled and mediated by virtual systems. To address this conceptual quandary, sport management researchers have specifically looked at the boundary of esports and approached the conundrum as to accepting the discussion of esports into sport management discourse by eliciting a set of attributes that are necessary to its identity and function. Funk et al. (2017) extrapolated Suits' (2007) definition of sports and proposed that video games must have (a) structure (rules and regulations), (b) organization (rule compliance), (c) competition (winners and losers), and (d) institutionalization (standardized activities and governing bodies) to be considered sport; regarding the disputed physicality concerns, Funk and colleagues contrasted games such as chess that required no bodily skill with esports that demanded a high level of manual dexterity, hand-eye coordination, and strategic or tactical knowledge (the former two could be measured by actions per minute, APM), such that esports, to some extent, fulfill the standards of a sport with fine physical skill, organized competition, global recognition, and institutional conditions. Similarly, Hallmann and Giel (2017) utilized five criteria, i.e., (a) involving physical activity, (b) being practiced for recreational purpose, (c) involving an element of competition, (d) having a framework of institutional organization, and (e) receiving general acceptance by the media or sports agencies, to discuss whether esports should be considered sports. According to the authors, the psychological stresses and drains experienced by esports players were comparable to those of top athletes of traditional sports. However, the biggest challenge for esports to be accepted by the sport community was not the amount of physical activity—or lack thereof—but how to establish a universal and concrete organizational structure and to strike a balance between commercial

interest of game publishers and the independence of esports games. Finally, Heere (2017) conceptualized esports as a manifestation of sportification, purporting an inclusive approach towards non-sport activities simulating sports or incorporating sport components. In the light of this proposition, individuals are able to compete and cooperate in a fair, pleasurable, and safe environment. He also asserted that sport industry should recognize the polymorphic nature of sports and embrace esports as a new form of sports, whereas academics should allow esports to be examined in the sport management domain to facilitate the synergies between sport and relevant disciplines to advance the multi-disciplinarity of sport management scholarship.

This section has provided insight from authors across various disciplines to attempt to summarize and compare the theoretical and empirical foundations of, as well as analytical approaches to, esports. It is worth noting how esports gradually evolved from a sheer derivate of video gaming to a sophisticated but inclusive sportified practice, as exemplified by the richness in its forms and features. Previous research has revealed a resemblance between traditional sports and esports practices that allows scholars from different disciplines to take advantage of this association to probe the emerging phenomenon. Sport management scholars have become increasingly cognizant of the strength of the sport management discipline as it pertains to how it can be leveraged by esports research. Yet, while the debate on the physical engagement manifested in esports still prevails in scholarly exchange, it is the immanent criteria, specifically, organization, institutionalization, and competition, as well as the potential to create social, economic, and educational value that make addressing esports from a sport management perspective academically relevant.

Given the interdisciplinarity of esports, the idiosyncratic properties of esports such as technological literacy and digital specificity should not be overlooked. It is critical that

researchers explore esports from within the defined scale and scope in their specific research background. Similar to traditional sports, it is unrealistic and perhaps pernicious to forge an all-encompassing definition for esports that incorporates all variability in order to comply with the entire spectrum of research orientations. As such, we in sports management should be free to define esports in the specific sport management context and settle the boundary for the current study.

Unlike previous qualitative research with focus on the rhetoric of "electronic" or the nomological definition of esports, the present study aims to adopt a metatheoretical and interdisciplinary approach to understand esports from a consumer perspective:

Esports can be conceived as a distinct assemblage of video game productions, characterized and coordinated by a wide array of publishers, game titles, players, teams, leagues, and tournaments with unique ethos that juxtaposes esports consumption against both traditional sports and non-esports gaming.

The intention of this study to re-conceptualize esports is not to initiate yet another terminological or conceptual revolution, but to provide a foundation for discovering the factors that evoke esports consumption behavior. While the continuous growth of the esports industry suggests ample opportunity on its own, the inclusion of esports in the 2022 Asian Games as a medal event created new possibilities for cooperation between esports and traditional sports, and marked an important transition that brings competitive gaming closer to the traditional sports community (Graham, 2017; Morrison, 2017). As such, consistent with the conceptualization of esports, Qian, Wang, et al. (2019) adopted a holistic view that incorporated pertinent aspects from both traditional sports and video game consumption literature (Table 1) in order to decipher esports consumer motivation in an online spectatorship setting. Ten distinct motives were

identified and confirmed to form the MSES. Their findings underlined that esports consumer motives were an integrated composite of traditional sport and video game consumption motives that had been shaped and transformed by the unique characteristics of esports (Qian, Wang, et al., 2019). However, the lack of overriding theoretical framework hampered the explanatory power of their models and limited the theoretical significance of their research. Therefore, a theory-grounded study is much needed to investigate esports consumer motivation and relevant consumption outcomes.

In the next section, the author moves forward to elucidate historical development of motivation theories and discuss the SDT concept of motivation, needs, and the application of SDT in an esports context.

Motivation and Need Perspectives

Motivation refers to an activated state that incentivizes, drives, and arouses an individual towards a goal-directed behavior (Ryan & Deci, 2000). Contemporary academic inquiry on motivation dates back nearly a century when early motivation researchers proposed that people initiate and sustain behaviors because they believe the behaviors will lead to desired outcomes or goals (Lewin, 1936; Tolman, 1951). This proposition has laid a vital premise for the ensuing research efforts to understand motivation by exploring and identifying the mechanisms of goal attainment, the psychological value of goals, and how different types of goals lead to different behavioral and affective outcomes (Bayton, 1958; Dweck, 1986; Hebb, 1955; Mowen & Minor, 1998).

Since then, a multitude of motivation theories have made distinctions between diverse goal-directed behaviors (e.g., Dweck, 1986; Elliot & Church, 1997; Nicholls, 1984). Similar to those theories, SDT also differentiates the concept of goal-directed behavior, but it primarily

focuses on the "content" of goals and the "regulatory process" through which the goals are pursued (Deci & Ryan, 2000). Most importantly, SDT adopts the concept of needs as the foundation for the integration of differing goal contents and regulatory processes and the consequences as a result of the differences (Deci & Ryan, 1985; Deci & Ryan, 2000). According to Deci and Ryan (1985), the study of motivation is "the exploration of the energization and direction of behavior" (P. 3), suggesting that the fundamentals in motivation theories—energy and direction—are essentially a matter of the satisfaction of innate needs. Indeed, the concept of need represents the content of motivation and provides a substantive basis for the energizing force that directs purposeful behavior as a result of unfulfilled needs. Nevertheless, there are two distinct streams that have discrete interpretations of the nature of needs in motivation research, one from a physiological/psychoanalytic perspective and the other from a psychological one. The former tradition began with drive/instinct theories posited by Freud (1914, 1915) and Hull (1943) that asserted that behaviors were powered by a number of innate physiological drives such as hunger, thirst, and sex. Although this line of research has generated a number of insightful findings, scholarship has increasingly shown that drive theories are insufficient in deciphering many sophisticated aspects of human behaviors, for instance, proactive exploration, vibrant play, and other voluntary activities that are not directly derived from the drive elements. In contrast, the second tradition complemented drive theories with the proposition of intrinsic motivation that eventually led to the recognition and specification of the psychological needs (Murray, 1938; White, 1959). This non-drive-oriented propensity is capable of explaining behaviors and psychological procedures that are spontaneous and volitional. White (1959) described this psychological inclination as effectance motivation given it is dependent on organisms' innate needs to be competent and self-determining in dealing with their environment.

Ever since, the critical question regarding how people would satisfy their innate psychological needs as they pursue and attain their valued outcomes (e.g., psychological growth, personal well-being, and social functioning) has become an important scientific topic in the study of motivation. In an effort to integrate the aforementioned intellectual traditions that hold very different conceptualizations of needs, SDT, the theory that supplied the inspiration for the current research program, defines needs as innate, organismic, and psychological necessities of human features that affect performance, persistence, and well-being (Deci & Ryan, 2000; Ryan & Deci, 2000). Specifically, SDT identifies the fundamental need for competence, autonomy, and relatedness, and argues that the satisfaction of those needs is the necessary premise for optimal development and effective functioning. In a similar vein, if the satisfaction of any of the needs is hindered or thwarted, degradation or ill-being will occur as psychological well-being requires the satisfaction of all three needs; one or two does not suffice (Deci & Ryan, 2000). As such, motives or goals are always connected with basic needs such that positive psychological consequences are observed when conditions that allow need satisfaction are met and negative consequences are present in situations where the fulfillment of the needs are inhibited.

Following this tenet, a rich array of empirical studies have utilized or adapted SDT to address issues associated with motivation in a variety of academic disciplines, including but not limited to psychology, education, organizational behavior, consumer behavior, and marketing where the understanding of innate psychological needs is the crux of the research efforts. Researchers have, for example, documented how the basic needs would affect and predict video game enjoyment and engagement, (Przybylski et al., 2010; Ryan et al., 2006), WOM intentions and behaviors within online communities (Sweeney, Webb, Mazzarol, & Soutar, 2014; Wang, Yeh, Chen, & Tsydypov, 2016), workplace motivation and organizational commitment (Deci et

al., 2001; Gagné, Chemolli, Forest, & Koestner, 2008; Gagné & Deci, 2005), and customer loyalty and citizenship behaviors (Engström & Elg, 2015; Wang et al., 2016), suggesting that the extent to which people's innate psychological needs are fulfilled would lead to varying psychological outcomes and behavioral tendencies. Therefore, it can be reasonably argued that articulating motives and their relations to basic psychological needs is the precursor to understanding more complex behaviors and interactions.

As noted, esports is a multifaceted and dynamic phenomenon with significant potentials associated with its exponential growth. It is critical for relevant stakeholders to understand the reasons behind people's decision to consume esports such that once an individual's needs are identified marketers can implement appropriate tactics to augment or optimize the needs involved, thus incentivize consumption and patronage behaviors. After explicating the need perspectives in former motivation studies and in SDT, the following section will move on to expound the distinctions between intrinsic motivation and extrinsic motivation as well as how SDT sub-theories links intrinsic motivation, extrinsic motivation and the concept of basic needs together.

Intrinsic Motivation

SDT can be understood as a dialectic between the active organism and the social context, and primarily addresses the psychological processes influencing people's experience, behavior, and health (Deci & Ryan, 2000). It assumes that humans are organisms with natural tendencies to develop organized and coherent senses of self as they voluntarily engage in exploratory, curiosity-driven, and developmental behaviors (Deci & Ryan, 2000). The concept of intrinsic motivation in SDT reflects human's positive and proactive nature to engage in interesting, challenging, or enjoyable activities without operationally separable rewards, reinforcement, or

instrumental consequences (Deci & Ryan, 1985; Deci & Ryan, 2000; Ryan & Deci, 2000; Ryan & Deci, 2000). This definition fits with the propositions of the early work of human psychology and behavior that individuals, at the outset, are playful, inquisitive, and curious, with natural propensities towards active assimilation, creative application of skills, visceral exploration, and spontaneous interest, which, in turn, promote development and better performance throughout life (Csikszentmihalyi & Rathunde, 1993; Ryan, 1995; White, 1959). Consequently, intrinsic motivation is one of the most important and pervasive motivational tendencies within human motivation and should be considered pivotal to cognitive, psychological, and social development as it represents a major source of inherent interest, novelty, and enjoyment (Ryan, 1995; Ryan & Deci, 2000; Ryan et al., 2006; Ryan & Deci, 2000).

It is important to note that SDT does not examine the causes of intrinsic motivation; rather, it attempts to understand the supportive conditions that strengthen and sustain, as opposed to detrimental situations that sabotage and undermine, this natural inclination. According to SDT, intrinsic motivation is not automatically activated; instead, it is enhanced by nutriments and disrupted by detriments derived from different social contexts that can either support or hamper growth and functioning (Ryan & Deci, 2000). The maintenance and enhancement of intrinsic motivation requires nourishments of basic need fulfillment (Deci & Ryan, 2000; Ryan & Deci, 2000). In other words, people's involvement with and commitment to a particular task will vary significantly as a function of the extent to which the innate needs are satisfied while engaging in the task. The degree to which basic needs are satisfied will determine how people develop and function effectively, whereas the extent to which those needs are subdued will determine how people will experience ill-being and suffer from poor functioning.

Over the past decades, two sub-theories within SDT, Cognitive Evaluation Theory (CET) and Basic Psychological Needs Theory (BPNT), have been utilized to specify factors that explain variability in intrinsic motivation in various domains (e.g., Ferrer-Caja & Weiss, 2000; Przybylski et al., 2010; Ryan et al., 2006; Vallerand & Reid, 1984; Van den Broeck, Vansteenkiste, De Witte, & Lens, 2008; Van den Broeck, Vansteenkiste, De Witte, Soenens, & Lens, 2010). CET proposes that intrinsic motivation can be fostered and reinforced by satisfying innate human needs: the needs for competence, autonomy, and relatedness (Deci & Ryan, 2000; Ryan & Deci, 2000). Hence, conditions sanctioning experience of competence, autonomy, and relatedness are argued to facilitate the highest quality forms of motivation and behavioral engagement. Social events or contextual structures conducive to the need for competence in an activity, for instance, optimal challenges, opportunities to acquire new skills, and a sense of efficacy, can bolster intrinsic motivation for that activity. CET also postulates that the satisfaction of competence will not enhance intrinsic motivation unless it is accompanied by the fulfillment of the need for autonomy, which refers to the feeling of volition and the sense of ownership of one's behavior that will lead to the self-endorsement of one's activity (Ryan & Deci, 2000). Further, the need for relatedness is defined as people's inherent propensity to formulate close and intimate relationships and desire for belongingness and communion, as well as love and care by significant others (Deci & Ryan, 1985). Finally, BPNT considers that all three needs are essential, and that the degree to which people are able to satisfy the fundamental needs is an important predictor for optimal functioning and performance. As such, the principal purpose of specifying the needs for competence, autonomy, and relatedness is that it enables the prediction of the social environments and task characteristics that facilitate versus impair intrinsic motivation.

The overarching hypothesis that guides the current study is that intrinsic motivation and the subsequent psychological and behavioral outcomes will be facilitated by motivational orientations that conduce toward innate psychological needs. Stated differently, to the extent any activity affords experiences of effectiveness, volition, and social connection, it should yield development in psychological wellbeing and functioning.

Based on Qian, Wang, et al.'s (2019) MSES, the present study posits that the ten motives identified can be theoretically conceptualized as representing the three basic need orientations. Therefore, it is contended that the esports consumption is mainly a result of the realization of need satisfaction, and that the basic need orientations not only can contribute to the enhancement of intrinsic motivation, but also can lead to pertinent consumption behaviors (e.g., commitment, WOM intentions, and actual watching/playing behaviors). Consistent with this proposition, the discussion below articulates how distinct motives in MSES can be viewed in an SDT framework characterized by competence, autonomy, and relatedness orientations.

Competence Need Orientation

Competence need orientation represents one's propensity to feel capable of mastering a task, to test and extend skills, to receive positive feedback, and to manage various challenges (Deci & Ryan, 1985; Deci & Ryan, 2000; Ryan et al., 2006; Ryan & Deci, 2000). A sense of competence is perceived in the interaction with the social circumstance where an individual is able to express capacities, enhance skills, and feel confident in an action. Previous research has suggested that the concept of competence is related to the construct of self-efficacy (Bandura, 1977). However, other scholars argued that these two concepts are distinct in important ways (e.g., Van den Broeck et al., 2008; Van den Broeck et al., 2010). Indeed, the need for competence reflects a more general and innate feeling of effectiveness which originates from

task mastery and is more likely to nourish one's functioning and well-being on a more general level. In contrast, self-efficacy represents socially acquired cognitions as to one's capacities to successfully accomplish a specific future task or achieve a desired goal. Yet, despite the conceptual distinction between self-efficacy and the need for competence, both are likely correlated at the empirical level (Van den Broeck et al., 2008).

In the context of esports online spectatorship, competence need orientation is hypothesized to include motives that allow esports consumers to acquire new skills, cope with complex and changing environmental contingencies, and to experience effectiveness. Consistent with Qian, Wang, et al.'s (2019) work, skill improvement, game knowledge, and vicarious sensation emerge to be reflective of this orientation given their capacity to make esports consumers feel accomplishment and control.

The skill improvement motive reflects the fundamental need for competence, as esports fans actively seek and learn from live streams or tutorials that would help them become better players themselves. According to Qian, Wang, et al.'s (2019) review of the qualitative descriptions of this motive, esports fans watched professional/veteran players, professional/amateur events, and game tutorials/highlights in an effort to elevate skills, improve strategy, and ultimately obtain a better understanding of their own game. Terms and phrases such as "learn new things", "get new ideas", "copy strategies", and "pick up tactics" are typical manifestation of this orientation.

The game knowledge motive, which refers to the extent to which esports fans' understanding of the game contributes to their enjoyment, also falls under competence need orientation. The more people know about a given esports game, the more likely they are going to engage in esports online spectatorship and relevant esports consumption activities. Considering

many esports online spectators are avid players who invest significant amount of time and effort in mastering an esports game, watching esports, therefore, becomes a viable alternative to reinforce and display their knowledge of the game. Oftentimes, esports fans can either test their esports know-how or augment what they already know by following the streams of some best players or elite competitions. The online spectatorship provides constructive feedback to the fans that are usually keen to the intricacies of an esports game and want to learn from watching. This, in turn, translates into an enhanced sense of competence.

Finally, the vicarious sensation motive pertains to the extent to which esports fans enjoy the experience of playing an esports game by watching others play. As esports fans usually spectate game actions directly from players/streamers' view, what is presented on the screen mimics what a player sees in-game (Qian, Wang, et al., 2019). As such, vicarious sensation reflects an indirect psychological engagement that stimulates the viewer's sense of competence, especially when the game requires a comprehensive set of skills and a serious commitment of time and effort in order to excel. More specifically, albeit a lesser requirement on physical ability as opposed to traditional sports, acquiring skills and abilities necessary for the success in professional esports is still a challenging task for most esports fans. As a result, watching high level competitions is an alternative for fans who want to experience top-level play without playing the game. Further, most esports games nowadays require a relatively sizable and uninterrupted amount of time (at least 30 minutes) to play a match. For those who have a less flexible schedule, esports online spectatorship provides a mediated means to engage in esports activities. Therefore, because skill improvement, game knowledge, and vicarious sensation are key to esports fans' experience of competence need satisfaction, each of them represents an important element in competence need orientation.

Autonomy Need Orientation

The need for autonomy reflects a sense of volition to act willingly and voluntarily. Autonomy oriented activities are consistent with one's personal interest and/or importance (Deci & Ryan, 2000). An individual is autonomously stimulated when the person is provided with a meaningful rationale for doing a task and the person's feelings are recognized and acknowledged. When activities are done for interest or personal value, perceived autonomy is high. Consequently, autonomy need orientation offers the opportunity for people to follow their interests, make personal decisions, and endorse their actions or behaviors.

In the current research context, skill appreciation, competition excitement, competitive nature, entertaining nature, and dramatic nature are hypothesized to be autonomy need orientated motives for two reasons. First, esports online spectatorship is deemed a voluntary activity; and second, these motives represent the attraction and desirability of esports online spectatorship, which is in concordance with esports consumers' interest and integrated values.

Skill appreciation is a powerful autonomy-oriented motive across the spectrum of esports genres, as it reinforces the status of esports as a legitimate form of spectator entertainment that accommodates fans' personal interest in appreciating skills, plays, and strategies in esports. This motive is commonly reported among fans that enjoy high level competitions demonstrating manual dexterity, hand-eye coordination, micro and macro mechanics, strategical and tactical-knowledge, or a combination of all (Qian, Wang, et al., 2019).

Competition excitement captures the sentiment of many esports fans that experience the sense of enthusiasm and eagerness while watching esports. Similar to prior sport consumer motivation research (Funk, Filo, Beaton, & Pritchard, 2009; Funk, Ridinger, & Moorman, 2003; Wang, Zhang, & Tsuji, 2011), Qian, Wang, et al. (2019) identified competition excitement

motive with terms and expressions such as “thrilling”, “tense”, “sensational”, “pumped”, “passionate”, “nerve wrecking”, “hyped”, and “euphoric”, which are observed across the major five esports genres, suggesting esports online spectatorship is an inherently exciting activity.

Competition has been found to be an influential motive in fantasy sports consumption (Dwyer & Kim, 2011; Larkin, 2015; Lee, Seo, & Green, 2013). Qian, Wang, et al. (2019) revealed that the appeal of competitiveness in esports should also be considered in order to understand why people engage in esports online spectatorship. Some fans are motivated to watch esports because of their desire for competition. In contrast to non-esports gaming, esports convey experiences beyond merely narrative immersion. The competitive structure of esports further differentiates itself from regular gaming activities as professional esports features serious, competitive, and performative events and tournaments that gratify fans’ hankering for the thrill of competition.

Many people become involved in traditional sport spectatorship because watching sporting events is perceived as an enjoyable pastime in the same way other recreational pursuits are, such as watching movies, going to the theater, or trips to an amusement park (Wann, 1995; Wann, Grieve, Zapalac, & Pease, 2008). Similarly, esports online spectatorship can be considered an entertaining activity as esports fans are motivated by the pleasure and enjoyment derived from watching esports events/tournaments and interacting with esports personalities. As discussed in the section on the vicarious sensation motive, watching esports can be seen as an extension of gameplay, or, put differently, a combination of active serious leisure and casual passive entertainment (Seo, 2015).

The dramatic nature motive reflects the extent to which people are motivated to watch esports because of the element of uncertainty in relation to the outcome of esports competition, a

dramatic comeback scenario, upset/underdog plots, and intriguing storylines about teams and players (Qian, Wang, et al., 2019). Although drama has been identified as an important motive incorporated in many consumer motivation frameworks and models (Funk et al., 2003; Kim & Trail, 2010; Trail & James, 2001b; Trail, Fink, & Anderson, 2003; Wang et al., 2011), this construct has not been explored and grouped with other motives from an autonomy need orientation. Essentially, the motives belonging to autonomy need orientation can foster intrinsic motivation. More importantly, when esports fans follow their interests and preferences to consume esports, they are being themselves, and therefore contributing to a sense of autonomy which may in turn give rise to favorable attitudes and behaviors.

Relatedness Need Orientation

The relatedness need orientation is a collection of motives pertaining to interpersonal, intimate, and social relationships. Theory and research suggest that relatedness is important for intrinsic motivation and essential for well-being (Deci & Ryan, 2000; La Guardia, Ryan, Couchman, & Deci, 2000). The need for relatedness is satisfied when one experiences a sense of community or companionship and develops a close relationship with others (Deci & Ryan, 2000). The interactive nature of esports online spectatorship facilitates relatedness need satisfaction given the socialization functions offered by online platforms. As a result, the friends bonding and socialization opportunity motives are reflective of esports fans' natural propensity to strive for belongingness in the social matrix and benefit from social interaction and connection while watching esports.

Esports, like traditional sports, is characterized by a salient group dynamic. It has been imbued with social elements, from the early arcade scenes where fighting games flourished with cheering crowds to today's massive LAN events where face-to-face interactions take place

(Sjöblom & Hamari, 2017). Online spectatorship, as the digital counterpart of live events, provides bonding opportunities and social gratification for esports fans. According to Qian, Wang, et al. (2019), a considerable number of esports fans reported that the primary reason why they started playing/watching esports was the influence of their close friends in reality.

Funk et al. (2003) defined the socialization motive in traditional sports as "the extent to which a game provides an opportunity to interact with other fans." They found that it was a vital factor, and that it was positively associated with the level of consumers' attitudinal and behavioral support. Similar to this conceptualization, this motive is expected to display similar psychological properties in esports, where passionate fans desire to satisfy their needs for belongingness and connectedness with a growing ecosystem. While friends bonding focuses on how esports might exert a positive impact on existing social relationship or established friendship in an actual physical location, socialization centers on meeting, interacting, and befriending people with similar interests and familiar identities in the online community. In this way, the socialization opportunity motive is unique in esports online spectatorship thanks to the technologies that facilitate communications and interactions among fans, e.g., reddit, Discord, and twitch chat, where fans from all around the world can talk to each other and to streamers simultaneously while watching. Indeed, relatedness need oriented motives are deeply rooted in esports consumption activities. People watch esports because of the camaraderie built between viewers and streamers/players and the dynamic relationships among esports fans enabled by communication tools and platforms which are rarely seen in other forms of entertainment.

In summary, the ten distinct motives identified in MSES encapsulate the idiosyncratic characteristics of esports consumption motivation, and most importantly, reflect the basic psychological needs, i.e., competence, autonomy, and relatedness delineated in SDT, which

contribute to the enhancement and maintenance of intrinsic motivation, and in turn influence people's engagement in esports consumption activities. The current study proposes that the MSES motives converge theoretically on three higher second order latent need orientation constructs. In line with SDT's perspective on basic needs satisfaction, three motives (skill improvement, game knowledge, and vicarious sensation) that are related to the satisfaction of perceived competence and effectiveness represent the competence need orientation. Five motives (skill appreciation, competition excitement, competitive nature, entertaining nature, and dramatic nature) that are associated with volitional experience, inherent interests, and personal values represent the autonomy need orientation. Three motives (friends bonding and socialization opportunity) that are related to social interactions, interpersonal connections, and close relationships represent the relatedness need orientation. Further, it is proposed that the competence need orientation, autonomy need orientation, and relatedness need orientation will be reflective of a third order factor intrinsic motivation.

Extrinsic Motivation

Despite the fact that intrinsic motivation is a prevalent and important form of motivation, people are not always intrinsically motivated. To explain these non-intrinsic motivations, extrinsic motivation is defined as the performance of an activity in order to obtain a desired end state, a contingent outcome, or some instrumental values (Ryan & Deci, 2000). Ryan and Deci (2000) utilized De charms' (1968) concept of internal and external perceived locus of causality to describe these two types of motivation: when intrinsically motivated, a person's behavior is internally regulated or assimilated such that the perception of locus is within the self (congruent and harmonious), whereas with extrinsic motivation, the locus of regulation of one's behavior is perceived to be external (controlled or alienated). Although some perspectives have considered

extrinsically motivated behaviors as invariantly nonvolitional or not self-determined, namely, antithetical to intrinsic motivated behaviors that are driven by experience of freedom of choice, personal interest, and pure enjoyment (De Charms, 2013; Ryan & Deci, 2002), SDT proposes that extrinsic motivation can vary significantly in degree due to the level of relative autonomy allowed by different regulatory processes and perceived locus of causality. For example, regulations that have been taken in by an individual but are less internalized would function as the basis for more controlled forms of extrinsic motivation (e.g., tangible rewards, threats, or punishments). In contrast, for regulations that have been profoundly internalized, they would ground more autonomous forms of extrinsic motivation that entail personal endorsement and a feeling of choice.

Accordingly, another important sub-theory of SDT, Organismic Integration Theory (OIT), argues that humans' natural propensity is to integrate ongoing experiences, and that people intend to internalize regulation and integrate non-intrinsically motivated activities into part of the integrated self if external props are used by significant others or salient reference groups to encourage them to do so (Deci & Ryan, 2002). The more thoroughly that a regulation is internalized, the more it serves as the basis for self-determined behavior. In this light, OIT views regulation internalization in terms of a continuum and specifies different forms of motivation. Per OIT, motivation is not a unitary construct, but rather posits three types of motivation: amotivation, extrinsic motivation, and intrinsic motivation. There are also four types of regulatory styles within extrinsic motivation—external regulation, introjected regulation, identified regulation, and integrated regulation—that range in degree with respect to level of autonomy as well as perceived locus of causality. Figure 1 demonstrates the taxonomy of motivation, regulatory styles and processes, and loci of causality postulated by OIT.

The far right of the continuum is intrinsic motivation. As discussed before, it refers to doing an activity for the inherent satisfaction and represents the highest magnitude of self-determination. On the opposite end of the continuum sits amotivation, the state of lacking an intention to act (Ryan & Deci, 2000; Ryan & Deci, 2000; Ryan & Deci, 2002). When amotivated to engage in an activity, neither do people behave with intentionality nor act with personal relevance as they just go through the motions due to the lack of competence, interest, or innate values associated with the activity (Ryan & Deci, 2000; Ryan & Deci, 2002). Extrinsic motivation covers the continuum between amotivation and intrinsic motivation and is characterized by four types of regulatory styles that reflect differing levels of self-determination.

Types of Extrinsic Motivation

The least autonomous form of extrinsic motivation is labeled *external regulation*. Externally regulated behaviors are perceived to have external loci of causality and are performed to obtain some tangible rewards contingency or satisfy an external demand in that they are predicted to be contingency dependent (Deci & Ryan, 1985; Ryan & Deci, 2000). This type of extrinsic motivation is considered controlling and is found to negatively influence intrinsic motivation as it is poorly maintained once contingencies are removed (Deci, Koestner, & Ryan, 1999).

Introjected regulation is a form of extrinsic motivation that is partially internalized, but remains largely external in terms of its locus of causality (Ryan & Deci, 2000). Introjection-based behaviors are performed as a result of either guilt or anxiety avoidance or self-worth maintenance (e.g., pride, esteem, or ego-enhancement). Unlike external regulation, which is characterized by poor sustainability, introjected regulation is more likely to be maintained over

time, but they are, nonetheless, not experienced as part of the self, and perceived to be controlling as opposed to autonomous, thus not a stable form of regulation (Deci & Ryan, 2000).

The third form of extrinsic motivation, *regulation through identification*, is accompanied by a higher degree of perceived autonomy or self-determination (Ryan & Deci, 2002). Identification is more internalized than introjection as it is guided by personal values and self-endorsed beliefs and perceived to have a relatively internal locus of causality. This regulation reflects a conscious evaluation of the importance of a behavior and is supposed to become more a part of people's identity. However, albeit identification is more self-determined, it is still instrumental because it is not derived from spontaneous enjoyment or need satisfaction. Nevertheless, behaviors stemmed from identification are expected to be better maintained and to be associated with higher commitment and performance (Deci & Ryan, 2000).

Finally, *integrated regulation* is the most autonomous form of extrinsic motivation. Integration takes place when regulations are fully integrated with other aspects of the self, for instance, endorsed values, goals, and innate needs (Deci & Ryan, 2000; Ryan & Deci, 2002). In this sense, this type of extrinsic motivation shares a number of qualities with intrinsic motivation. Yet, similar to regulation through identification, integrated regulation remains extrinsic because the related behaviors that are motivated are still performed to attain separable outcomes or instrumental values rather than for their inherent interest and enjoyment, although they are well transformed and internalized.

With the explication of extrinsic motivation, it is critical to note that the continuum is not a developmental one where people must experience every single form of motivation and progress through each type of regulation (Ryan & Deci, 2000; Ryan & Deci, 2002). Instead, people may internalize any regulation at any point, should they have sufficient prior experience and a

supportive environment (Ryan, 1995). An individual might engage in an activity due to an external regulation (e.g., a tangible reward), and the engagement might expose the person to some intrinsically interesting features of the activity, leading to a shift of regulatory style and motivation type. Similarly, a person who has a strong identification with an activity might reverse into external regulation if the activity becomes incongruent with the person's values and interest. Consequently, while the reasons for the movement between regulatory styles and forms of motivation can be theoretically predicted by OIT, the movement does not follow certain order or sequence. Nevertheless, there are two general principles concerning the internalization of regulatory processes: (a) growing cognitive and ego capacities can facilitate the assimilation of behaviors and values into the self; and (b) people's regulatory styles, overall, are likely to become increasingly internalized over time, which is consistent with OIT's proposition that it is human's natural tendency to integrate behaviors and experiences toward autonomy and self-regulation (Deci & Ryan, 2002; Ryan, 1995).

The Role of Extrinsic Motivation in Esports Consumption

As to the current research context, it is tenable to argue that in addition to the satisfaction of basic psychological needs, and the subsequent enhancement of intrinsic motivation, people's engagement in esports consumption activities is also influenced by different forms of extrinsic motivation. It seems useful at this point to provide a more detailed description of some of the factors and practices that are reflective of the regulatory processes in esports consumption.

First, albeit still preliminary, virtual rewards have been increasingly adopted by esports game publishers to ensure their fan base is rewarded for tuning in to professional esports competitions. Virtual items, or in-game decorative items, are unique products of esports consumption that provide exclusive aesthetic value, a sense of rarity, and personalization. It is

important to note that the primary source of revenue of most popular esports titles is virtual goods sales. This practice is commonly seen in esports games built upon the free-to-play model (e.g., DOTA 2, LOL) that allows players to play the game without committing a penny while encouraging them to purchase premium virtual items. Consistent with this business model, many esports publishers, stream platforms, and event organizers utilize virtual reward campaigns to motivate active players who are not passionate viewers to follow the competitive esports scene, and likewise, incentivize viewers to play more games with the rewarded in-game items (Murray, 2018). For example, Overwatch rewards tokens that are awarded for watching the Overwatch League (OWL) can be used to buy virtual items in-game. Online spectators who connect their Overwatch account with their Twitch account have a chance to get rewarded with free giveaways.

On the surface, the free-to-play model along with virtual item rewards represent one of the most dynamic features of the esports industry, as they are expected to not only maximize the number of esports fans but also foster a sustainable ecosystem. Yet according to OIT, initially intrinsically motivated behavior may become controlled and restricted by external and introjected regulations. A meta-analysis study conducted by Deci et al. (1999) suggested that when behaviors are done to attain extrinsic rewards they are generally not autonomously motivated, given that people tend to feel controlled by the expected rewards and move from a more internal locus of causality to a more external one, thereby undermining intrinsic motivation. In other words, offering people seductive rewards for doing intrinsically interesting activities weakens intrinsic motivation and behavioral persistence, as those who are interested in reward contingencies are motivated so long as they feel able to carry out the activities they feel seduced into doing (Deci & Ryan, 2000). Despite humans' inherent tendencies toward

competence, autonomy, and relatedness, these natural propensities are not the sole determinants of behavior, and the innate need satisfaction can also be strengthened or subverted by various regulations including contingent tangible rewards and other social and contextual factors. Therefore, as opposed to the emerging industry practice that attempts to implement virtual rewards in esports online spectatorship as a feasible means to attain and retain esports consumers, the current study argues that introducing virtual rewards to esports consumers as an incentive for esports online spectatorship and relevant esports consumption activities may negatively influence basic need orientations and behavioral outcomes.

As discussed earlier, multiple regulatory processes may take place simultaneously and different social contextual conditions may exert influence on internalization, intrinsic motivation, and behavioral quality (Ryan, 1995). Because extrinsically motivated activities may not be inherently interesting or autonomous, such as the ones driven by extrinsic rewards, the primary reason people are willing to do these activities is because the behaviors are endorsed, supported, or valued by significant others to whom they are emotionally or psychologically attached or related (Ryan & Deci, 2000). Hence, internally consistent regulatory procedures such as regulation through identification and integrated regulation may also occur in controlling situations. This bespeaks that regulations associated with identification and integration might enhance relatedness, the need to achieve a sense of communion and belongingness. For example, esports fans watch esports because they see players, streamers, commentators, or events relevant to their own identity, appreciate their works and services, and believe they are valuable pursuits that are important to their life. Thus, according to OIT, it is reasonable to argue that the effect of the orientation on behavioral outcomes will be enhanced when ambient supports for the feeling of relatedness are present. Likewise, competence need orientation can also be reinforced by the

relative internalization of extrinsically motivated activities or conditions. People are more likely to adopt and carry out activities because of the values and benefits of being associated with relevant social groups (Ryan & Deci, 2000). As is the case in esports online spectatorship, when esports fans consider professional players, streamers, commentators, or events to be important factors for watching esports, it is assumed that they would feel more competent and effective and thus are more likely to commit to consumption behaviors. Finally, the integration of regulation can also support perceived autonomy if the regulation is autonomously supportive. To integrate an autonomous regulation, people must grasp its meaning and synthesize that meaning with respect to their other goals and values. Such regulation is characterized by a strong sense of choice and volition. In this sense, it is posited that highly autonomous regulation allows individuals to actively transform values into their own and as a result, positively affecting its effect on behavioral outcomes.

In summary, the extent to which people are able to actively synthesize social, cultural, and contextual factors as well as their pertinent regulations, and to assimilate them into the self, will influence the degree to which fulfillment of the innate psychological needs and the effect of need orientations on behavioral outcomes. Following the theoretical rationale for the current research, the author proceeds to discuss the concept and the measures for esports consumption behaviors in the ensuing section.

Esports Consumption Variables

Commitment

Commitment has been regarded as a central construct in relationship marketing, organizational behavior, and buyer behavior literature (Ahluwalia, Burnkrant, & Unnava, 2000; Moorman, Zaltman, & Deshpande, 1992; Palmatier, Dant, Grewal, & Evans, 2006; Pritchard,

Havitz, & Howard, 1999). It is defined as a reflection of attitude strength, a psychological attachment to a relationship, and a resistance to change (Ahluwalia et al., 2000; Fullerton, 2003; Pritchard et al., 1999). In other words, commitment represents an enduring desire to maintain a valued relationship (Moorman, Deshpande, & Zaltman, 1993).

Among all the variations of commitment that have been investigated by a myriad of disciplines, organizational commitment is perhaps among the oldest and most studied (Morgan & Hunt, 1994). Some marketing scholars have borrowed from the discipline of organizational behavior, introducing Allen and Meyer's (1990) and O'Reilly and Chatman's (1986) organizational commitment models to service and consumer relationship marketing areas. In the field of sport psychology, commitment is defined as a psychological construct representing the desire and resolve to continue involvement in physical activities (Scanlan, Carpenter, Simons, Schmidt, & Keeler, 1993). Scanlan and colleagues (1993) proposed that sport commitment is a function of sport enjoyment, involvement alternatives, personal investments, social constraints, and involvement opportunities and developed the Sport Commitment Model to include these variables. It has been found that commitment can influence customer retentions and consumption behaviors in the context of sport and leisure industry (Alexandris, Zahariadis, Tsorbatzoudis, & Grouios, 2002). For instance, in the marketing literature, there is wide consensus on the pivotal role of commitment as a key relational construct, as it has been shown to increase patronage, purchase intention and self-report purchase behavior (Inoue, Funk, & McDonald, 2017; Lacey & Kennett-Hensel, 2010; Verhoef, Franses, & Hoekstra, 2002). Likewise, past research has supported the positive relationship between commitment and word-of-mouth (WOM) communications, one of the most important post-purchase behaviors (De Wulf, Schillewaert, Muylle, & Rangarajan, 2006; Harrison-Walker, 2001; Parsa & Cobanoglu, 2011).

More recently, researchers began to examine the relationship between motivation and commitment (Gagné et al., 2008; Garcia-Mas et al., 2010; Meyer, Becker, & Vandenberghe, 2004; Meyer & Herscovitch, 2001). As a result, SDT emerged to be an important theory in explaining the impact of need satisfaction and different regulation styles on people's commitment. Research showed that intrinsic motivation and highly internalized extrinsic motivation would be a basis through which commitment develops (Bono & Judge, 2003; Millette & Gagné, 2008; Vallerand, Fortier, & Guay, 1997). Even so, most of the studies using SDT to understand the motivation-commitment relationship are still within organizational behavior settings. Few attempts have been made from a marketing perspective to assimilate the SDT variables and commitment into an integrated model; to demonstrate how the concepts are related; or to test how intrinsic motivation, extrinsic motivation, and commitment combine to influence actual consumption behavior.

In this study, commitment is a dependent variable in the models proposed. Commitment to an esports game is considered crucial given the relatively high turnover rate of esports games and the importance of interpersonal influence among esports fans. This is supported by a report on esports online spectatorship revealing that less than 50 percent of the most watched esports games in January 2017 still ranked top ten in January 2018, indicating a high turnover rate in title-specific spectatorship (Trowbridge, 2018).

WOM Intentions

From a firm perspective, attempts to promote a product or service are often accompanied by feelings of ineffectiveness, as consumers are becoming increasingly inpatient and insensitive to firms' marketing efforts. Although firms have diversified their approaches, their ability to achieve sustained attention and patronage from a single source remains limited. As a result,

customer-to-customer communication through WOM has been increasingly recognized by organizations as a more effective means of communication. Prior marketing studies defined WOM as informal communications between a perceived non-commercial communicator and a receiver concerning the ownership, usage, or characteristics of a brand, a product, or a service (Matos & Rossi, 2008; Westbrook, 1987). WOM is powerful and has high credibility due to the idea that it occurs between consumers who are not considered being associated with a vested interest in a product (unbiased) and are more likely to present the information of the product in a more trustworthy and meaningful manner, leading to favorable product evaluation and judgment (Anderson, 1998; Herr, Kardes, & Kim, 1991; Murray, 1991; Zeithaml, 2000).

WOM intentions can be an indication of one's perception that the basic psychological needs are being met. In the current context, esports fans share knowledge and expertise about a game and seek other people who might be interested in it. This knowledge sharing comes from a sense of competence as prior research revealed that the need for self-effectiveness motives an individual to forge a good image through social interaction where the person could be positively or favorably recognized (Angelis, Bonezzi, Peluso, Rucker, & Costabile, 2012). In consistent with SDT, people who are confident in their ability, volitional in their decision, and overall intrinsically motivated would be more willing to express their individuality and share their opinions (Gagné, 2009). Similarly, the need for relatedness is also associated with WOM intentions. These include having a sense of belonging and a sense of involvement with a group (Cheung & Lee, 2012). For instance, if one is highly identified with a certain social group, the person would have a strong sense of belonging and be more likely to act on behalf of the group, especially through positive WOM (Cheung & Lee, 2012). Hence, when esports fans are satisfied in terms of competence, autonomy, and relatedness, they are intrinsically motivated to engage in

honest and non-controlling WOM communication activities that are perceived to have an internal locus of causality.

Behavioral Responses

A number of actual consumption variables have been commonly tested and reported in gaming, esports, and streaming research. These actual consumption variables include watching hours, playing hours, spending on watching, and spending on playing as they pertain to the core interests and concerns of esports publishers, event organizers, professional teams, players, and streamers (Hamari & Sjöblom, 2017; Przybylski et al., 2010; Ryan et al., 2006; Sjöblom & Hamari, 2017; Sjöblom, Törhönen, Hamari, & Macey, 2017). Prior work of Przybylski et al (2010) has showed that need satisfaction would account for game enjoyment and preference for future play. Likewise, it is expected that need orientations would also explain esports consumers' actual consumption behaviors.

Proposed Structural Models

Because Qian, Wang, et al.'s (2018) work represents a rigorous empirical approach to assessing esports fans' motives to engage in esports online spectatorship, this dissertation will include three studies in which SDT is utilized to reconstruct the MSES factors and aid in understanding the "why" of esports consumer behavior. The structural models and the hypotheses proposed in Studies 1, 2, and 3 can be viewed in Figures 2, 3, and 4, respectively.

Specifically, Study 1 evaluates the basic need orientation model (competence, autonomy, and relatedness) derived from SDT in order to develop a parsimonious understanding of esports consumer motivation. The basic need model is subsequently estimated with a series of outcome variables in Study 2 which examines how basic need orientations would influence esports

consumers' game commitment, WOM intentions, and behavioral responses. It is thus hypothesized:

H1: The competence need orientation will be positively associated with esports consumers' (a) game commitment, (b) WOM intentions, and (c) behavioral responses.

H2: The autonomy need orientation will be positively associated with esports consumers' (a) game commitment, (b) WOM intentions, and (c) behavioral responses.

H3: The relatedness need orientation will be positively associated with esports consumers' (a) game commitment, (b) WOM intentions, and (c) behavioral responses.

Finally, Study 3 examines the effect of different forms of extrinsic motivation on need orientations and behavioral outcomes as well as the relationship between basic need orientations and esports consumption behaviors. In line with prior discussion, it is hypothesized:

H4: External regulation (higher expectation for virtual rewards) will negatively influence (a) competence need orientation, (b) autonomy need orientation, and (c) relatedness need orientation.

H5: External regulation (higher expectation for virtual rewards) will negatively influence (a) commitment, (b) WOM intentions, and (c) behavioral responses.

H6: Regulation through identification and integrated regulation (higher expectations for events) will positively influence (a) competence need orientation, (b) autonomy need orientation, and (c) relatedness need orientation.

H7: Regulation through identification and integrated regulation (higher expectations for events) will positively influence (a) commitment, (b) WOM intentions, and (c) behavioral responses.

H8: External regulation (higher expectation for virtual rewards) will negatively influence the effects of (a) competence need orientation, (b) autonomy need orientation, and (c) relatedness need orientation on consumption behaviors such that a stronger expectation for virtual rewards will lead to weaker positive effects of need orientations on behavioral outcomes.

H9: Regulation through identification and integrated regulation (higher expectations for events) will positively influence the effects of (a) competence need orientation, (b) autonomy need orientation, and (c) relatedness need orientation on consumption behaviors such that stronger expectations for commentators, players, and events will lead to stronger positive effects of need orientations on behavioral outcomes.

CHAPTER 3

METHODS, RESULTS, AND DISCUSSIONS

Study 1

Method

Study 1 utilized a quantitative approach to examine the motives identified in the MSES (Qian, Wang, et al., 2019) guided by SDT and its subtheory CET. The ten motivational factors were then regrouped to reflect three second-order need orientations. A confirmatory factor analysis (CFA) using procedures in Mplus 8.0 tested the psychometric properties of the constructs in the proposed conceptual model.

The literature review along with findings obtained from the study conducted by Qian, Wang, et al. (2019) identified 10 motives associated with esports online spectatorship. Items in the initial item pool measuring those motivational factors were all developed from insight-stimulating incidents and examples procured from semi-structure interviews with and open-ended surveys on esports spectators in the qualitative study conducted by Qian, Wang, et al. (2019). Given the lack of empirical research examining esports spectatorship, this approach was deemed appropriate to provide statements with striking features that capture the domains with little or no reference (Churchill, 1979).

In accordance with the scale development procedure to develop sound measures as recommended by Hulland et al. (2018), pretesting is critical for researchers who cannot use

established scales and have to develop their own. According to Lawshe (1975), content validity is utilized to ensure that the items manifest all facets of the defined construct. In addition, per Netemeyer, Bearden, and Sharma (2003), developing content validity for an instrument is contingent on the generation of a comprehensive item pool and subsequent assessments made by expert raters or judges regarding whether the items are reflective of the domain and facets of the construct.

Thus, the current study implemented a two-stage pretest method to ascertain the content validity of the MSES. First, a focus group of 4 esports spectators was given the definitions of the motives and asked to review the initial 147 items based on the criteria of relevance, representativeness, and clarity. The primary purpose of this stage was to winnow the items that incurred comprehension problems, obtained ambiguous meanings, and contained complex syntax (MacKenzie & Podsakoff, 2012). The procedure resulted in a total of 81 items retained for further examination. Next, the refined items were thoroughly scrutinized by an expert panel consisting of professors in sport management and quantitative research methodology. The purposes of this stage were to reduce redundant items, identify potential omissions, and ensure the set of items tapped each of the dimensions of the construct at issue. Following an 80% consensus among panelist, the final item pool consisted of 54 items measuring proposed motives including skill improvement (6 items), competition excitement (4 items), skill appreciation (6 items), competitive nature (5 items), friends bonding (5 items), vicarious sensation (6 items), entertaining nature (5 items), dramatic nature (6 items), game knowledge (5 items), and

socialization opportunity (6 items). Specific format and wording of the items can be found in Table 3.

Measurement

The preliminary items of MSES were phrased into statements where participants were asked to rate on a 7-point Likert-type scale. The MSES items were preceded by the following statement: "I like watching esports because… Rating scale: (1) strongly disagree to (7) strongly agree." Besides the MSES items, the survey also included 18 sociodemographic and esports background variables. Sociodemographic variables included 7 items documenting participants' gender, age, ethnicity, marital status, household income, education level, and occupation. Esports background variables included 11 items collecting information regarding years of being an esports fan, whether or not they still played esports on a weekly basis, what genres of esports games they usually played, which genre of esports game they played most frequently, which esports game they played most frequently, whether or not they still watched esports on a weekly basis, what genres of esports games they usually watched, which genre of esports game they watched most frequently, which esports game they watched most frequently, and on which platform they usually watched esports.

It is worth noting that this study did not use mixed-scale points, i.e., 5-point and 7-point Likert-type scales; instead, only 7-point Likert-type scales were utilized for measurement. Common scale properties shared by the measures of the predictor and criterion variables would potentially cause method bias (Podsakoff, MacKenzie, & Podsakoff, 2012). However, empirical evidence has suggested that a 7-point Likert-type scale is superior to a 5-point Likert-type scale

in terms of measure validity (Andrews, 1984). In addition, the current study physically separated the predictor and outcome measures and arranged items randomly within the survey (Hulland et al., 2018). These practices are conducive to controlling systematic error and limiting the detrimental effects of common method variance (CMV).

Procedures

Data were collected via surveys using the online research platform Qualtrics, which is particularly efficient when the researcher needs to manage multiple survey links that collect data from a variety of sources. As stated in the prior section, esports consists of five major genres, and each genre subsumes a myriad of different games. Due to time and financial restrictions, it was challenging to sample every single game under each of the genres given the scope of the current study. Alternatively, data collection focused on the most popular esports titles from the five major genres in an effort to best represent the esports spectator population. Thus, a list of 21 most watched and played esports games was generated for sampling purpose according to reports from Newzoo, Business Insider, and ESPN (Erzberger, 2016; Meola, 2017; Newzoo, 2018). Specifically, CS: GO (FPS), COD (FPS), Fortnite (FPS), Overwatch (FPS), PUBG (FPS), Tom Clancy's Rainbow Six (FPS), DOTA 2 (MOBA), Heroes of the Storm (MOBA), LoL (MOBA), SMITE (MOBA), StarCraft (RTS), StarCraft 2 (RTS), Warcraft 3 (RTS), Street Fighter (Fighting Games), Super Smash Bros. (Fighting Games), Tekken (Fighting Games), Injustice (Fighting Games), 2K (SVGs), Madden NFL (SVGs), FIFA (SVGs), and Rocket League (SVGs) were incorporated into the sampling frame to epitomize the five principal esports genres as a result of

their popularity among esports fans and total hours watched on video sharing and live streaming sites.

reddit, the primary online venue for data collection, is characterized by high levels of interaction among members, and each of the sampled subreddits has between 7,114 and 1,363,188 subscribers. The online open-ended survey was made available to visitors of the subreddits dedicated to the esports games selected for the study, and was open from April 24 to April 26, 2018. In order to attenuate common method bias in survey studies, the researcher adopted a number of approaches to enhance participants' attention, motivate participants to exert sufficient cognitive effort, and increase the thoroughness and accuracy of information retrieved (MacKenzie & Podsakoff, 2012). For instance, when the researcher posted the survey link to a particular esports game subreddit, the posting always came with a message tailored to the specific esports game, and was accompanied by instructions that stressed the importance of conscientious and accurate responses given the relevance of the study to the community. The instruction was followed by a short story of the researcher's experience playing and watching the game in an attempt to elicit conversation, foster a sense of conviviality, and build trust between the researcher and the potential participants. In this way, some of the method bias issues associated with survey design, such as low personal relevance, low self-efficacy, low need for self-expression, and low need for cognition, could be somewhat mitigated (MacKenzie & Podsakoff, 2012). The researcher also responded to comments, suggestions, and questions provided by the involved esports communities, as this provided an important method to facilitate interactions among people and attract them to participate in the survey.

Participants

The convenience sample consisted of 1622 participants. Participation in the survey was voluntary. In order to be qualified for the study, an individual had to be at least 18 years old and pass two screening questions. First, a participant must indicate the years of being an esports fan. Should the participant select the option "I don't know what esports is", he/she would be automatically dropped out of the survey. Second, after the first screening question, a participant had to report whether or not he/she still watched esports at least once per week. If the answer was "No", then the participant was removed from the survey. As a result, 313 participants failed to meet the requirements and were subsequently removed from the study. These sampling criteria ensured that participants were familiar with esports and actively engaged in esports spectatorship.

Data Analyses

In order to achieve scale stability, the total sample of 1309 was randomly split into two halves with approximately equal sample sizes (Anderson & Gerbing, 1988). The first dataset (n = 671) was used for the EFA to identify underlying constructs, while the second dataset (n = 638) was employed for the CFA to evaluate and purify these dimensions.

In terms of the sample size requirement, Hair, Black, Babin, Anderson, and Tatham (2010) suggested that at least 5 participants are desirable for each measured variable. The current study employed both the EFA and the CFA to examine the underlying structure of the MSES with a total of 54 observed variables. It was recommended that the researcher obtain a minimum number of 270 valid participants. Consequently, the sample sizes for the EFA and CFA were

considered sufficient. Procedures in the SPSS 24 were carried out to calculate descriptive statistics for sociodemographic, esports background, MSES, and dependent variables, execute the EFA, and compute reliability coefficients.

The primary purposes of the EFA were to identify a valid, reliable, and generalizable factor structure and minimize redundancy in the data such that a parsimonious scale could be constructed. Following an EFA, the internal consistency of extracted factors was evaluated using Cronbach's alpha. Data was subjected to principal-components analysis with direct-oblique rotations as the MSES factors were considered correlated. Three criteria were employed to determine the retention of the factors and their items: (a) a factor had an eigenvalue equal to or greater than 1.0, (b) an item had a factor loading equal to or greater than .50, and (c) an identified factor, and retained items had to be interpretable in the theoretical context (Hair et al., 2010; Kaiser, 1974). The scree plot chart was also utilized to assist decision making on the number of extracted factors.

Mplus 8.0 was utilized to perform the CFA with MLR estimation for the retained MSES factors that were resolved from the EFA. Considering the data appeared to be non-normal (Table 4), robust maximum likelihood estimation (MLR) was adopted to generate maximum likelihood parameter estimates and standard errors robust to non-normality (Bentler & Yuan, 1999). According to Hair et al. (2010), a four-stage process was usually assumed for a CFA: (a) defining individual constructs, (b) developing the overall measurement model, (c) testing the measurement model, and (d) assessing measurement model validity. Following the guidelines proposed by Hair et al. (2010), four goodness of fit (GOF) measures that compare the similarity

of the observed and estimated covariance matrices among the indicator items were adopted to assess the measurement models. Generally, they could be classified into three general groups: absolute measures, incremental measures, and parsimony fit measures. To ensure a thorough evaluation of GOF, the GOF indices used in the current study came from two of the three groups, which included normed chi-square ($\chi 2$ /*df*), comparative fit index (CFI), root mean square error of approximation (RMSEA), and standardized root mean square residual (SRMR). Bollen (1989) and Hair et al. (2010) suggested that the ratio of $\chi 2$ to the degree of freedom on the order of 3:1 or less are associated with reasonably fitting models, unless a large sample size is assumed ($n >$ 750). The CFI is one of the most widely used incremental fit indices that assess the improvement in fit of the proposed model compared to the null model where all observed variables are assumed uncorrelated (Hair et al., 2010). A rule of thumb is that CFI values larger than .90 indicate an acceptable fit, and values greater than .95 suggest a close fit. RMSEA provides a better estimate of how well a model fits a population by considering model complexity and sample size (Hu & Bentler, 1999), and is most suited to use in confirmatory models as samples become larger ($n >$ 500). For a model with sample size greater than 250 and number of observed variables more than 30, it is advisable that an RMSEA of .08 or lower with a CFI of .90 or higher is evidence of good model fit (Hair et al., 2010). Similarly, when SRMR is lower than .08, a model is considered to demonstrate reasonable fit.

In addition to GOF indices, construct reliability (CR) and average variance extracted (AVE) values were evaluated to ensure individual item reliability, convergent validity, and discriminant validity of the MSES. Convergent validity was assessed by composite reliability

with a recommended cut-off value of .70 (Fornell & Larcker, 1981; Nunnally & Bernstein, 1978). Hair et al. (2010) also suggested that reliability estimates between .60 and .70 could be acceptable if other indicators of a model's construct validity are good.

Two metrics were examined to establish discriminant validity: (a) the absolute AVE value, and (b) a comparison of the square roots of the AVE values for any two constructs with the correlation estimates between these two constructs (Hair et al., 2010). Fornell and Larcker (1981) suggested the use of average variance extracted (AVE), which should be greater than the variance shared between a construct and its measures and other constructs in the model. A good rule of thumb is that an AVE should be equal to or greater than .50, as suggested by Bagozzi and Yi (1988). Furthermore, a correlation table that compared correlations between different constructs and the square roots of the AVE values for each of the constructs was utilized for the examination of discriminant validity. A diagonal value (the square roots of the AVE value) should exceed all of the off-diagonal values in the same row and column in order to demonstrate discriminant validity (Hulland, 1999). Individual item reliability was assessed using SPSS 24. CR and AVE values were calculated using the procedures outlined by Fornell and Larcker (1981).

Finally, model comparisons were conducted by assessing the Akaike Information Criterion (AIC) and the Bayesian Information Criterion (BIC) (Akaike, 1974; Schwarz, 1978). AIC and BIC are measures of the goodness of fit of an estimated model and can be used as tools for selecting a more parsimonious model. Both BIC and AIC were introduced to resolve overfitting by adding a penalty term for the number of parameters in the model (Akaike, 1974;

Schwarz, 1978); the penalty term is larger in BIC than in AIC. However, for both AIC and BIC, lower values indicated an improvement in model fit (Fassnacht & Koese, 2006; Schermelleh-Engel, Moosbrugger, & Müller, 2003; Yoshida & James, 2011).

Results

Overall, most of the participants were 18-30 year-old (*n* = 1,160, 88.6%), and 95.5% were male (*n* = 1,250). In line with the age distribution, most of the participants were students (*n* = 590, 45.1%), followed by professional (*n* = 190, 14.5%) and technical (*n* = 181, 13.8%). Among all the participants, 52.8% had been an esports fan for more than 3 years. 87.9% watched esports less than 13 hours per week. Interestingly, 209 participants indicated that they did not play the esports game they watched on a weekly basis, and 57.2% of the participants played esports less than 13 hours weekly. In terms of the most watched esports genres, as shown in Table 2, 42.8% of the participants reported watching FPS games most frequently, followed by RTS games (19.6%), MOBAs (18.9%), fighting games (12.8%), and SVGs (5.8%). The genre distribution among participants was similar to the ranking of popular esports genres (Erzberger, 2016; Newzoo, 2018).

Next, the data were randomly split into two halves with approximately equal sizes by employing the procedures in the SPSS 24. Descriptive statistics were also calculated using SPSS 24 (Table 4). The study used the first data set (*n* = 651) for the EFA and the second (*n* = 658) for the CFA and SEM analyses. Similarly, procedures in the SPSS 24 were carried out to calculate descriptive statistics, execute the EFA with principal-component extraction and direct oblimin rotation, and compute reliability coefficients. The study adopted four indices for the retention of

the factors and their items: (a) factors had an eigenvalue equal to or greater than 1.0, (b) items' factor loadings should be equal to or greater than .50, (c) communalities should be greater than .50, and (d) identified factors and retained items should be interpretable in the theoretical context (Hair et al., 2010; Kaiser, 1974). Of the 54 items, 50 had a mean score greater than 4.0, indicating most variables were considered important for esports online spectatorship. The principal-component analysis was performed with a direct oblimin method considering certain correlations exist among the motives. The Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy (MSA) value was .936, suggesting that the degree of common variance was acceptable (Hair et al., 2010). Bartlett's Test of Sphericity (BTS) was 21,962.806 ($p < .001$), providing evidence that there were significant correlations among variables in the correlation matrix. Based on the retention indices, 3 items with low factor loadings and 6 items with cross-loadings were eliminated. As such, 10 factors emerged with 45 items explaining a total of 75.01% variance among the variables. Communalities of the variables were all greater than .50. Eigenvalues of the retained factors ranged from 13.979 (competitive nature) to 1.11 (vicarious sensation). Variance Explained ranged from 31.06% to 2.47%.

Mplus 8.0 was utilized to perform the CFA with MLR estimation for the second data set ($n = 658$). Study 1 was designed to verify the basic need orientation model (competence, autonomy, and relatedness) according to SDT in an attempt to develop a parsimonious model of esports consumer motivation. First, the measurement properties of the MSES, the baseline model, were assessed through an initial CFA. GOF measures suggested that the MSES fit the data reasonably well ($\chi2 = 1652.05$, $df = 990$, $p < .001$, $\chi2/df = 1.84$, CFI = .95, RMSEA = .036,

SRMR = .049). Subsequently, the basic need orientation model was evaluated through another CFA. Although the CFA model had a good fit ($\chi 2 = 1846.22$, $df = 932$, $p < .001$, $\chi 2/df = 1.98$, CFI = .942, RMSEA = .04, SRMR = .07), it was found that the correlation between competence need orientation and autonomy need orientation was 0.88. Even so, CET has argued that people must not only experience competence, but must also experience a sense of autonomy in order to enhance intrinsic motivation (Ryan & Deci, 2000). Therefore, the two constructs were combined as competence-autonomy need orientation (Sweeney et al., 2014). The resulting CFA model showed good fit as well ($\chi 2 = 1849.79$, $df = 934$, $p < .001$, $\chi 2/df = 1.98$, CFI = .944, RMSEA = .04, SRMR = .07). The correlation between competence-autonomy need orientation and relatedness need orientation was 0.54. Specifically, items' factor loadings were all greater than .50 and AVE values were all greater than 0.50, indicating sufficient convergent validity (Fornell & Larcker, 1981). Table 6 showed that the diagonal value (the square root of the AVE value) exceeded all of the off-diagonal values in the same row and column, suggesting adequate discriminant validity (Hulland, 1999). CR values ranged from .82 to .95, which were all greater than the .70 cutoff value (Table 5).

Past research has commonly estimated a second-order overall motivation that reflects a variety of motives identified. Similarly, the current study also assessed a second-order motivation model (Funk et al., 2012; Lee et al., 2013) and compared the model to the SDT model. The results of the CFA showed the second-order motivation model fit the data well ($\chi 2 = 1953.30$, $df = 935$, $p < .001$, $\chi 2/df = 2.09$, CFI = .938, RMSEA = .041, 90% CI = .039 - .044, SRMR = .082). The loadings of first-order factors on a second-order factor were all significant.

The fit of the SDT model to the data was also satisfactory ($\chi 2 = 1849.79$, $df = 934$, $p < .001$, $\chi 2/df = 1.98$, CFI = .943, RMSEA = .039, 90% CI = .037 - .042, SRMR = .068) with significant loadings of the first-order motives on second-order SDT need orientations. Given both models displayed favorable fit, a comparison of AIC and BIC values was subsequently performed to determine whether the SDT model is statistically superior to the second-order overall motivation model. An inspection of AIC and BIC values suggested that the hypothesized SDT model (AIC = 81499.16, BIC = 82148.92) is more parsimonious than the overall motivation model (AIC = 81625.08, BIC = 82270.39). The results indicated the SDT model is statistically better than the more general overall motivation model in terms of fit indices and thus selected further analysis.

Discussion

The vast majority of sport consumer motivation research has generally adopted an empirics-driven approach, and has failed to utilize a broader theoretical framework of motivation to better understand behavior (Bernthal, Koesters, Ballouli, & Brown, 2015; Funk et al., 2001; Funk et al., 2003; James & Ridinger, 2002; Kim, Byon, Yu, Zhang, & Kim, 2013; Lee et al., 2013; Seo & Green, 2008; Stavros, Meng, Westberg, & Farrelly, 2014; Wann, Schrader, & Wilson, 1999; Zhang et al., 2001). Study 1 integrated the MSES with SDT to develop a more parsimonious understanding of esports consumer motivation. Esports consumer motivation was conceptualized as a competence/autonomy orientation and a relatedness orientation that energizes a desire to engage in esports consumption.

The CFA revealed that the SDT model showed statistically better fit than a commonly adopted overall motivation model. Specifically, competence/autonomy orientation was reflected

by skill improvement, vicarious sensation, skill appreciation, competition excitement, competitive nature, entertaining nature, dramatic nature, and game knowledge that satisfied important individual needs such as mastering a task, improving skills, managing various challenges, and fulfilling interest and core values. On the other hand, relatedness orientation was a reflection of socialization opportunity and friends bonding as a means for fostering interpersonal, intimate, and social relationships.

Study 1 indicated that the 10 MSES motivational factors were conceptually distinct but converged theoretically on two higher order second-order latent SDT constructs. In line with SDT's perspective of need orientations, this conceptualization incorporated both individual and socio-contextual considerations to explicate motivation (Ryan & Deci, 2002). Hence, the SDT model was hypothesized to predict cognitive and behavioral outcomes (see Figure 2 and Figure 3 for an illustration of proposed measurement and structural model). A series of structural tests were next conducted to examine the conceptual structure of the SDT model.

Study 2

Method

Study 2 employed an SEM analysis following the procedures in Mplus 8.0 and SmartPLS 3.2.8 to verify the hypotheses that posited the relationship between need orientations and attitundinal, conative, and behavioral outcomes.

Measurement

Two attitutinal constructs were included to test the sturctual model proposed in Figure 3. Four items measuring commitment and 3 items assessing WOM intentions were adapted from Fullerton (2003) and Tseng, Huang, and Teng (2015) in the services marketing context to measure esports game commitment and word of mouth intention. These items were preceded with the following statement: "With respect to your favorite esports game, please rate each of the following items that assesses your esports related behaviors. Please rate the following statements from (1) strongly disagree to (7) strongly agree." Moreover, with respect to behavioral variables, participants were asked to report how much time and money they spent on playing and watching their favorite esports games, as well as the number of streamers they followed. Hours spent watching and playing were measured by a single item developed by the authors, "On average, how many hours do you watch/play esports per week?" Spending was also measured by a single item developed by the authors, "How much have you spent for watching/playing your favorite esports game (subscriptions, donations, or digital tickets; skins, decorations, clothes, currencies, or additional content; in U.S. dollars)?" In order to construct a parsimonious structural model,

this study formulated a higher-order formative behavioral outcome construct (behavioral response) consisting of the four behavioral measures.

Data Analyses

The second data set (n = 638) used for the CFA was again utilized for the SEM analysis. Thereafter, an SEM analysis was performed to determine the antecedents and relationships among the constructs in the theoretical model. According to Hair et al. (2010), cross-validation (also called split-sample validation) was suggested in data analyses, including scale development. For a large sample, randomly splitting the sample could serve as an alternative way of cross-validation, which has been adopted in a large number of scale development studies (e.g., Braunstein, Zhang, Trail, & Gibson, 2005; Byon, Zhang, & Connaughton, 2010; Kim, Jun, Walker, & Drane, 2015; Kim & Walker, 2012).

Due to identification issues, a covariance-based structural equation modelling (CB-SEM) program (e.g., Mplus) cannot effectively analyze a theoretical model that includes both reflective and formative constructs (Hair, Ringle, & Sarstedt, 2011). Therefore, the hypothesized SDT structural model was analyzed with partial least squares structural equation modelling (PLS-SEM) using SmartPLS 3.2.8 (Ringle, Wende, & Becker, 2015). With respect to the measurement validity in PLS-SEM, reflective constructs and formative constructs should be assessed using different criteria. In contrast to the measurement indices of reflective constructs such as standardized loading, CR, and AVE, which are primarily based on observed correlations among indicators, measures of formative constructs can also have positive, negative, or no correlation with one another, implying that indicators' association with a construct may not be meaningful

(Bollen & Lennox, 1991; Hulland, 1999). In this sense, it is suggested that the validity of the formative construct (in the current context, behavioral response) could be assessed by (a) an examination of the significance of the parameter estimates for each indicator by performing a nonparametric bootstrapping procedure (5000 subsamples) and (b) the degree of multicollinearity among each indicator (variance inflation factor (VIF) < 5) (Hair et al., 2011; Hair, Ringle, & Sarstedt, 2013).

Results

GOF measures were estimated using Mplus (using the four behavioral measures independently) to ensure the basic model fit of the proposed structural models. The results suggested that the SDT SEM model fit the data reasonably well ($\chi2 = 2783.755$, $df = 1450$, $p < .001$, $\chi2/df = 1.92$, CFI = .933, RMSEA = .038, 90% CI = .036 - .040, SRMR = .067). Again, similar to study 1, study 2 also assessed an alternative structural model, namely, a second-order overall motivation SEM model and used AIC and BIC to assess whether the SDT model demonstrates better fit than the one overall motivation model. The second-order overall motivation SEM model showed acceptable fit to the data ($\chi2 = 3014.726$, $df = 1457$, $p < .001$, $\chi2/df = 2.07$, CFI = .922, RMSEA = .041, 90% CI = .039 - .043, SRMR = .083). However, when comparing AIC and BIC values, the SDT SEM model (AIC = 105385.705, BIC = 106284.700) revealed better fit than the alternative model (AIC = 105639.393, BIC = 106507.235). Consequently, the SDT SEM model was considered more parsimonious and selected for hypothesis testing.

Measures for game commitment (CR = .87, AVE = .63) and WOM intentions (CR = .86, AVE = .67) demonstrated good factor reliability and validity. This suggested that competence/autonomy need orientation had a positive and direct effect on commitment (β = .211, p < .001) and WOM intentions (β = .240, p < .001), yet it did not exert a significant direct impact on behavioral responses (β = -.095, p = .273). Additionally, although relatedness need orientation was not significantly associated with behavioral responses (β = .129, p = .101), it was found to have a positive and direct effect on commitment (β = .538, p < .001); interestingly, however, relatedness need orientation had a negative and direct effect on WOM intentions (β = -.257, p < .001) (Figure 5).

With respect to hypothesis testing, the results partially supported H1/2 and H3 (Table 7 and Figure 5). It is worth noting that commitment played a vital mediating role in the relationship between need orientations and WOM intentions as well as between need orientations and behavioral responses (Preacher & Hayes, 2008). In particular, the negative direct effect of relatedness need orientation on WOM intentions (β = -.257, p < .001) was reversed by the indirect effect of relatedness need orientation on WOM intentions through commitment (β = .360, p < .001), resulting in a positive total effect (β = .100, p = .042) (Table 8 and Table 9). Also, despite the insignificant direct effect of relatedness need orientation on behavioral responses, it was found that the total effect of the relatedness on behavioral responses was significant and positive (β = .234, p < .001). Lastly, although it was not hypothesized, both competence/autonomy need (β = .042, p = .042) and relatedness need (β = .105, p = .010)

orientations had a significant indirect effect on behavioral responses through the path of commitment.

Discussion

The predictive ability of the SDT model explaining the direct and indirect effects of the need orientations illustrated the usefulness of adopting a macro-theory of human motivation to conceptually and empirically understand esports consumer motivation. The results underpinned the relevance and applicability of utilizing the SDT to better understand the "why" of esports consumer behavior and corroborated the SDT in explaining the three critical cognitive and behavioral outcomes associated with esports consumption (commitment, WOM intentions, and behavioral responses).

In general, the satisfaction of the three basic psychological needs of competence, autonomy, and relatedness would enhance commitment, WOM intentions, and behavioral responses. While most of the findings were consistent with that of a number of previous studies (e.g., Gagné & Deci, 2005; Przybylski et al., 2010; Sweeney et al., 2014), the finding that relatedness need orientation would have a negative direct impact on WOM intentions is new. Despite this, relatedness need orientation still exerted a positive effect on WOM intentions through commitment. Given the central mediating role of commitment, the particularly strong positive link between commitment and relatedness need orientation is noticeable. While commitment was a partial mediator of the effect of relatedness need orientation on WOM intentions and the effect of competence/autonomy need orientation on WOM intentions, it was a

full mediator of the relationships between competence/autonomy need orientation and behavioral responses as well as relatedness need orientation and behavioral responses, albeit minimal.

The findings from the present study suggested that the fulfillment of esports fans' needs for competence and autonomy might enhance WOM intentions. Most importantly, the effect could be stronger and even reverse a negative direct effect (autonomy) if people develop strong commitment to esports games. Likewise, the results indicated that the satisfaction of competence, autonomy, and relatedness would contribute to commitment, which in turn translated into a higher level of behavioral responses. The findings added to the accumulating evidence regarding the positive mediating effect of commitment in promoting people's WOM intentions and behavioral responses (Biscaia, Correia, Rosado, Ross, & Maroco, 2013; Brown, Barry, Dacin, & Gunst, 2005; Inoue et al., 2017; Iwasaki & Havitz, 2004) and extends previous work by identifying the SDT antecedents of commitment in an esports context (Gagné & Deci, 2005; Sweeney et al., 2014).

Study 3

Method

Study 3 made use of an SEM analysis following the procedures in SmartPLS 3.2.8 to verify the effects of extrinsic motivation on outcome variables, and identify potential mediating and moderating effects.

Measurement

Two types of extrinsic motivation (forms of regulation) were selected: (a) virtual rewards and (b) event attractiveness, which represented controlling extrinsic motivation and autonomous extrinsic motivation, respectively. The preliminary items measuring these two constructs were adopted from Scale for Esports Spectator Demand (SESD) (Qian, Zhang, et al., 2019).

Data Analyses

Again, PLS regression analysis was employed to analyze the hypothesized model. Significance of the parameter estimates (5000 subsamples) and the VIF values were examined to assess the formative constructs (Hair et al., 2011; Hair et al., 2013). PLS regression was used to test the direct effects of virtual rewards/event attractiveness on competence/autonomy need orientation and relatedness need orientation, commitment, WOM intentions, and behavioral responses, as well as to examine the mediating role of commitment on the relationship between virtual rewards/event attractiveness and outcome variables.

Results

Measures for virtual rewards (CR = .79, AVE = .56) and event attractiveness (CR = .83, AVE = .66) demonstrated good factor reliability and validity. Assessment of the formative model indicated that multicollinearity was not an issue, as VIF scores were all below 5 (Hair et al., 2011). With respect to hypothesis testing, results can be viewed in Table 7. Antithetical to the hypothesis, data analysis suggested that virtual rewards had a positive effect on relatedness need orientation (β = .333, p < .001) and commitment (β = .115, p = .011). No significant relationships were observed between virtual rewards and competence/autonomy need orientation (β = -.067, p = .147), WOM intentions (β = -.040, p = .376), and behavioral responses (β = -.051, p = .534), although the effects of virtual rewards were all negative. As such, H4 and H5 were rejected (Table 8 and Figure 5). On the other hand, event attractiveness was found to have a positive impact on competence/autonomy need orientation (β = .477, p < .001), relatedness need orientation (β = .318, p < .001), and commitment (β = .161, p < .001), but it was not found to have a significant influence on WOM intentions (β = -.031, p = .622) and behavioral responses (β = -.050, p = .468). Therefore, H6 was supported while H7 was partially supported (Table 8 and Figure 5).

Furthermore, the moderating effects of virtual rewards and event attractiveness were explored by following procedures suggested by previous studies (Hair et al., 2011; Hair et al., 2013). However, with respect to H8 and H9, both virtual rewards (competence/autonomy: β = -.070, p = .359; relatedness: β = .102, p = .138) and event attractiveness (competence/autonomy: β = .137, p = .127; relatedness: β = -.094, p = .340) were not found to moderate the links between need orientations and behavioral responses. Hence, H8 and H9 were rejected (Table 8).

Discussion

While the effect of event attractiveness was primarily consistent with the hypothesis, the current study revealed some intriguing results that were antithetical to the hypothesis. Specifically, virtual rewards were found to have a positive impact on relatedness need orientation and commitment. This identified positive effect could be explained by considering the nature of virtual rewards. CET postulates that the psychological needs for competence, autonomy, and relatedness all contributed to the underlying intrinsic motivation (Ryan & Deci, 2000). The effects of external rewards depend on how they affect perceived competence, autonomy, and relatedness as they can be perceived by recipients as either controllers of their behavior or, alternatively, as enhancers of their needs (Deci et al., 1999). Consequently, rewards that facilitate need orientations and are need-supportive tend to foster intrinsic motivation, whereas those that hinder need orientation tend to result in a more external perceived locus of causality and undermine intrinsic motivation (De Charms, 1968; Ryan & Deci, 2000).

In the current context, virtual rewards refer to in-game items and awards as well as customized emotes associated with particular esports games, events, or streamers that can be used in online platforms for communication purposes. From the SDT perspective, the effects of rewards can be considered in terms of the functional significance that the recipients are likely to assign to the rewards (Deci, 1971). Virtual rewards in esports may have the need-supportive potential, and therefore be interpreted by recipients as informational, enjoyable, entertaining, interactive, and rewarding (Hamari, 2015; Mekler, Brühlmann, Tuch, & Opwis, 2017). They may also readily afford feelings of competence, autonomy, and relatedness, and thus boost intrinsic motivation and promote favorable consumption outcomes. In some situations, rewards

may have conflicting effects. Reward receipts might perceive them as controlling while at the same time as autonomous. In such situations, these two processes work against each other. As such, additional considerations must be taken into account in the determination of the likely effect of such rewards (for instance, reward contingencies) (Deci et al., 1999). This might provide an explanation for the insignificant effect of virtual rewards on competence/autonomy need orientation, WOM intentions, and behavioral responses.

As demonstrated by the positive impact of event attractiveness on competence/autonomy need orientation, relatedness need orientation, and commitment, study 3 also confirmed the autonomous form of extrinsic motivation could enhance basic need satisfaction and lead to positive consumption outcomes. The results indicated that the more autonomous and integrated the extrinsic motivation is, the more qualities it shares with intrinsic motivation. Yet, it is important to note that event attractiveness is still an extrinsic motivational factor because it is characterized by the instrumental value that is separate from the behavior, even though it is volitional and valued by the self (Ryan & Deci, 2000).

CHAPTER 4

GENERAL DISCUSSION AND CONCLUSION

The three studies illustrated an empirical application of Self-Determination Theory (SDT) (Ryan & Deci, 2000b), a macrotheory of human motivation used to decipher human psychological process, well-being, functioning, and performance, to esports, a fast-growing form of human recreation. Given that the esports industry is a creative, quickly evolving, and widely variable area, it has been argued that past research on motivation in the field of sport management might be hampered by the lack of valid and reliable domain-specific measures of need satisfaction, and that the most practical motivational models (from an applied standpoint) might be enhanced through the integration of fundamental psychological and motivational dynamics (Funk et al., 2012; Van den Broeck et al., 2010). Conceptually, the satisfaction of autonomy, competence, and relatedness needs would contribute to intrinsic motivation. Jointly, they provided a good explanation of behaviors related to esports consumption. The SDT model explained 43.8% of the variance in commitment and 43.3% of WOM intention. Studies 1 and 2 augmented recent efforts to use motivational constructs and basic need orientations to explain behavior (Funk et al., 2012; Przybylski et al., 2010; Ryan et al., 2006). Qian, Wang, et al.'s (2019) one overall motivation model explained 28% of commitment and 37% of WOM intentions using the MSES. However, by adopting the SDT approach to understand esports motivation, a more robust understanding of esports consumption was demonstrated.

Empirical evidence derived from the three studies suggested that the broad appeal of esports is based on the basic psychological need satisfaction, namely, competence, autonomy, and relatedness. Results largely supported that the conceptualized need orientations are robust predictors for esports related attitudinal and behavioral outcomes. Unlike intrinsic motivation, results suggested that extrinsic motivation had varying effects on esports consumption. Although literature suggested that external rewards would have a detrimental effect on the satisfaction of basic human needs (Deci et al., 1999; Ryan & Deci, 2000; Ryan & Deci, 2000), study 3 showed that virtual rewards in esports positively influence people's relatedness need orientation and commitment. The significant effect of virtual rewards on relatedness might be attributable to the interpersonal and social functions of the rewards and the social ambience (online platform) where the rewards are administered. CET posits that the effects of external rewards on intrinsic motivation for interesting activities are dependent on the interpersonal style of reward administration (Deci et al., 1999; Deci, 1971). For example, when the rewards are administered in a relatively controlling manner (task contingent, namely, perform or complete certain task), said rewards tend to be perceived as more pressuring and controlling, thereby leading to diminished intrinsic motivation. In contrast, when rewards are distributed in a relatively non-controlling manner, they tend to be experienced as an affirmation of basic needs, thereby leading to less attenuation or possible enhancement of intrinsic motivation for interesting activities (Deci et al., 1999; Deci, 1971; Ryan, Mims, & Koestner, 1983).

These findings not only confirmed the effectiveness and the value of virtual rewards, but also illustrated how external rewards in esports consumption could yield distinct effects on

intrinsic motivation and behavioral outcomes. Accordingly, despite current results showing that virtual rewards did not influence competence or autonomy need orientations, it is argued that properly designed virtual rewards and promotional activities with focus on competence, autonomy, and relatedness might enhance intrinsic motivation for interesting activities.

In addition, study 3 presented evidence that esports events could serve as a key extrinsic motivational factor contributed to basic needs satisfaction and esports consumption. Events in esports consumption are associated with more autonomous regulation and integration as they provide a venue for self-interested activities consistent with people's identity and personal pursuit. Nevertheless, the moderating effect of virtual rewards and event attractiveness was not significant for behavioral responses, implying that need orientations had no linear effect on involved consumer behaviors.

Studies 1 and 2 tested the SDT model of esports consumer motivation, with perceived competence, autonomy, and relatedness need orientations being theorized to contribute to intrinsic motivation, and in turn being hypothesized to promote esports consumers' attitudinal, cognitive, and behavioral outcomes. Analyses revealed that the measurement model and structural model fit the data reasonably well, indicating that the proposed need orientation constructs were meaningful in capturing the previously identified motives associated with esports consumption (Qian, Wang, et al., 2019), and that the structural model was successful in offering a parsimonious explanation of esports consumer behavior as opposed to the commonly utilized one motivation model. Most importantly, it provided additional support for the applicability of the SDT in esports (Deci & Ryan, 1985). The competence/autonomy and

relatedness need orientations were positively associated with commitment, and commitment in turn positively associated with WOM intentions and behavioral responses. Thus, by demonstrating that satisfying these needs enhance esports consumers' commitment and engagement, the results of the two studies were consistent with the sub-theories within SDT, CET and BPNT, that these needs are universal and the satisfaction of these needs would result in optimal functioning and performance (Deci & Ryan, 1985; Deci & Ryan, 2008; Deci et al., 2001; Przybylski et al., 2010; Ryan et al., 2006).

With respect to competence and autonomy needs, the data analyses revealed that competence/autonomy need orientations would have a positive direct influence on commitment and WOM intentions. Indeed, individuals pursue esport consumption activities as a means for gaining satisfaction from doing them (Csikszentmihlyi, 1975; Deci & Ryan, 2000; Ryan & Deci, 2000). CET suggests that intrinsic motivation would be associated with felt competency, volition, and affirmation of personal interest and importance. For instance, people could experience the enjoyment of the gaming experience and use of skills, development of personal skills, and knowledge accumulation through vicarious sensation, skill improvement, and game knowledge, respectively. These benefits are reflective of competence need satisfaction. Similarly, autonomy need orientation subsumes benefits of emotional release, entertainment values, and a sense of competitiveness. Individuals engage in esport consumption for the atmospheric conditions, emotional release, and the pleasure of appreciating esports skills and movements. These benefits are the reflection of the nature of the esport consumption experience as an end in itself, i.e., intrinsically rewarding. Consequently, when people participate in

activities that satisfy competence and autonomy needs, they would have an experience that they don't normally get in everyday life (Csikszentmihlyi, 1975). Both needs motivate esports consumers, due to intrinsic rewards than extrinsic ones.

Interestingly, the data revealed a negative direct effect of relatedness need orientation on WOM intentions, suggesting that when esports consumers possess a higher level of perceived relatedness, they are less willing to engage in WOM behaviors. This identified negative effect might seem counterintuitive and contradict previous research claims that consumers with higher level of perceived relatedness, namely, closer ties with friends and family members, were more likely to share information and seek advice than consumers with weaker ties in social networks (Wang et al., 2016; Wirtz & Chew, 2002). Even so, it is important to note that while esports provides a unique platform for fans to socialize both virtually and in reality, it is still considered a relatively niche or fringe hobby, if not marginalized (Funk et al., 2018; Hamari & Sjöblom, 2017). In esports consumption, the core of relatedness centers on chatting and interacting with people who have similar interests in the online community (e.g., Twitch chat, reddit, Discord) (Qian, Wang, et al., 2019; Qian, Zhang, et al., 2019). The kernel of relatedness in esports is distinct from the one in the literature that has focused on socialization in physical settings (Deci et al., 2001; Gagné & Deci, 2005; Van den Broeck et al., 2010). Indeed, majority of esports fans tend to hang out with others online, particularly among online spectators who usually prioritize a sense of exclusivity and possess a strong sense of membership in an esports game community (Qian, Zhang, et al., 2019; Seo, 2015; Seo & Jung, 2016). As such, disseminating esports-related information and introducing this unorthodox form of "sport" to people who have little

knowledge about it might be risky, thus rendering esports fans unwilling to perform WOM behaviors.

These findings informed esports organizations of the need to change their perspectives about engaging and utilizing the current esports fans in an effort to promote business opportunities. As shown in study 2, the creation of highly relatedness need oriented consumers was unlikely to directly help the organizations attract and retain other consumers by engaging in positive word of mouth communication. Rather, the benefits these consumers would bring to the organization should be understood from a long-term perspective; that is, relatedness-oriented consumers are more committed and more likely to engage in actual consumption behaviors. However, the results also showed a significant indirect effect of relatedness on WOM via the path of commitment, leading to a positive total effect. This finding suggested that relatedness alone does not provide incentive for esports consumers to engage in WOM activities. On the contrary, considering the level of relatedness and WOM intentions were not synchronized, it is suggested that WOM behaviors are more likely to occur when in-group relatedness and the attitude concerning the strength of fans' relationship with the esports game are both taken into consideration. In other words, only focusing on in-group relatedness need satisfaction will not directly transform consumers into an active advocate. Only when consumers have a strong desire to maintain a close connection with the esports game as a result of robust in-group camaraderie, would esports fans engage in WOM activities.

While certain forms of extrinsic motivation have been found to thwart intrinsic motivation in various domains (Deci & Ryan, 2000; Ryan & Deci, 2000; Ryan & Deci, 2000),

study 3 did not find that virtual rewards invariably undermine people's intrinsic motivation. According to CET, the effects of external rewards on intrinsic motivation are swayed by the perception of rewards as autonomous or controlling, which in turn determines the extent to which the rewards influence the innate psychological needs for competence, autonomy, and relatedness (Deci et al., 1999; Deci & Ryan, 2000). Competence denotes the perceived extent of actions as the cause of desired consequences in the environment (Ryan & Deci, 2000). However, as suggested by the literature and empirical data, perceived competence does not increase intrinsic motivation unless it is accompanied by a sense of autonomy; that is, people must perceive their behaviors as self-determined rather than controlled by some outside source. Esports is prone to providing an inviting and welcoming environment where everybody could compete, cooperate, and have fun in a safe, fair, and pleasurable manner (Heere, 2018). Virtual rewards allow esports consumers to actively and creatively interact with others while giving them a sense of uniqueness and exclusiveness. Similarly, some of the most popular esports tournaments, such as the League of Legends World Championship and DOTA 2 TI, feature highly professionalized and sportified productions enabling loyal fan base to build around the brands and culture of esports teams, players, and events. Indeed, the strength of esports is its community spirit. The synergy between interactivity and community is evident in game developers' efforts in delivering virtual rewards to viewers, particularly around esports tournaments, such as the use of the Twitch platform. It won't be long to see virtual rewards shifting from a viewer incentive to a community expectation.

Another key contribution of this research was to show that commitment operated as a critical mediator for the relationship between need orientations and outcome constructs. Past literature has found that competence, autonomy, and relatedness have a direct impact on WOM intentions and behavioral responses (Przybylski et al., 2010; Sweeney et al., 2014). The selection of commitment as a central mediator was consistent with the means-end chain model (Gutman, 1982; Inoue et al., 2017). The SDT framework explained how basic human needs might influence people's attitude and behavior. With a focus on the impact of personal values on behavior, the means-end model posits that people might consume a product as a means to achieve their desired ends, or "valued states of being" (Gutman, 1982, p. 60). Specifically, the perception of basic need orientations (intrinsic motivation) represented by distinct esports consumer motives provided functional benefits for a cause (e.g., improving one's skill, getting to know more about the game, and interacting with fans with similar interests and identity) could lead to desired ends for esports consumers, i.e., a sense of effectiveness, affirmation of personal values and interests, and enhanced interpersonal relationships (Deci & Ryan, 2000). As a result, achieving the desired ends elevated esports consumers' positive attitude, enhanced their willingness to perform WOM behaviors, and in turn increased the consumers' likelihood of consumption.

Yet, the current study extends the theoretical underpinning of the SDT model in an esports context by incorporating an important mediator—commitment—and by providing empirical evidence for the salient indirect effect of need orientations on WOM intentions and behavioral responses through commitment. Notably, the results of study 2 indicated that the

effects of need orientations on behavioral responses are fully mediated by commitment. Study 2 also provided evidence highlighting the key mediating role of commitment strengthening the application of the SDT model to better understand how esports consumers behave through competence, autonomy, and relatedness. This finding informed academics and practitioners of the perspectives about the business benefits of developing highly committed esports consumers, and reconsidering the roles that these consumers played in engendering higher levels of positive WOM intentions and actual consumption behaviors. Additionally, as shown in study 2, both competence/autonomy need and relatedness need oriented fans were unlikely to contribute to immediate increases in esports consumption. Rather, the benefits these customers bring should be interpreted from a relational perspective. Esports organizations should satisfy consumers' needs for competence, autonomy, and relatedness as a *means* to develop and maintain commitment to the game.

In study 2, relatedness need orientation was found to have the strongest influence (β = .538, $p < .001$) on commitment, highlighting the fact that social facets were immensely important for esports consumption. The finding showed that feeling a sense of community and companionship in the watching experience not only increased commitment to the game, but perhaps more importantly, was also the strongest contributor to actual consumption behaviors (total effect β = .244, $p < .001$). It has been shown that individuals continue following esports for reasons other than those that drew them to the game in the first place (Qian, Zhang, et al., 2019). Martončik (2015) found that esports satisfies the need for belongingness by fostering relationships through membership in an esports online community. These findings were

consistent with Qian, Wang, et al.'s work (2019), which argued that esports consumption originated from love for the game but was maintained by the social values and benefits associated with the experience, highlighting the importance of socialization in esports consumption. While the needs for competence and autonomy might be what attracts people to consume esports in the first place, the interactive experience (chat, streamers, and virtual items) offered by competitive gaming has transcended the gaming practice itself. Presumably, most people start following esports as active players who enjoy the game, but once the gaming element attenuates, the social identification and group membership associated with the game begins to change people's attitude and behaviors. People watch esports for shared moments, something to enjoy with like-minded people. This resembles sports fans who gather at a bar or a friend's living room to watch a game. How people interact with content, streamers, and other viewers builds a live, shared, and interactive experience. In other words, esports could be considered a multiplayer entertainment created by the shared interactions of millions. Therefore, it seems conducive to game publishers, streaming platforms, and streamers to increase the degree to which the fans experience communality and a sense of belonging. These relevant stakeholders should utilize extrinsic motivational tools and campaigns to cultivate highly dedicated fans that can be later converted into revenue-generating players, viewers, and subscribers. This demonstrates how the need to further integrate tools and services for social interaction into the core activities of esports consumption. While the social aspects of esports streaming services are mainly enforced through chat functionalities, following and subscribing streamers and channels, many streamers have also utilized ancillary services such as social media and private discussion

groups (e.g., Discord) to maintain their community. To be succinct, that is what today's audiences crave: the ability to interact with, and even influence, what they watch.

The three studies provided evidence in support of the SDT model of esports consumer motivation. More specifically, the results suggested that the study of basic psychological needs might be relevant across quite divergent esports genres. On the other hand, the data also suggested the importance of attending to differences in needs (competence/autonomy vs. relatedness) that might exert distinct influences on consumer consumption. Overall, study 1 presented results that corroborated the psychometric properties of the SDT model in esports consumption. It is hoped that this measure may assist scholars who seek to study consumer need satisfaction. The use of a validated need satisfaction measure would allow for more consistent cross-study comparisons and contributes to a more unified development of consumer motivation scholarship. From an empirical perspective, results obtained in studies 2 and 3 indicated that basic psychological need orientations and need-supportive extrinsic motivational factors yield implications for esports consumption. Consumers should evaluate and seek out need supportive features that nourish their motivational energy and stimulate optimal experience. Likewise, need orientations should be a point of interest for esports organizations as well, as it may help them to assess the motivational impact of technological and environmental aspects such as chat room and stream quality (Qian, Zhang, et al., 2019). Paying attention to consumers' need satisfaction might furthermore help the industry better understand esports media products and services, select the most applicable need orientations, initiate appropriate marketing campaigns, and develop tailored promotional messages that better accommodate consumer needs, wants, and preferences. With a

balanced, valid, and reliable measurement of esports consumer need orientations and motivation, it is expected that more work will be conducted to examine esports consumer behavior and to study the role of need satisfaction in the context of sport management.

Table 1. Empirical Studies Examining Motives for Sport Consumers, Gamers, and Esports Consumers.

Author(s)	Year	Context	Theoretical perspective	Scale developed	Motives identified
Malone	1981	Digital gaming consumption	Intrinsic motivation theories	N. A.	Three motivational categories: challenge (variable difficulty level, multiple level goals, hidden information, and randomness); fantasy (intrinsic and extrinsic); curiosity (sensory and cognitive)
Wigand, Borstelmann, & Boster	1985	Digital gaming consumption	N.A.	N.A.	Excitement, satisfaction of doing well, and tension-reduction
Myers	1990	Digital gaming consumption	N.A.	N.A.	Fantasy, curiosity (novelty), challenge, and interactivity
Bartle	1996; 2004	Digital gaming consumption	N.A.	N.A.	Four types of players: killers, achievers, socializers, and explorers
Sherry & Lucas	2006	Digital gaming consumption	Uses and Gratification Theory	N. A.	Competition, challenge, social interaction, diversion, fantasy, and arousal
Yee	2006	Digital gaming consumption	N.A.	N.A.	Relationship, manipulation, immersion, escapism, and achievement

Yee	2006	Digital gaming consumption	Bartle's player types	Model of Player Motivations in Online Games	Three motivational categories: achievement (advancement, mechanics, competition); social (socializing, relationship, teamwork); immersion (discovery, role-playing, customization, escapism)
Ryan	2006	Digital gaming consumption	Self-determination theory (SDT)	Player Experience of Need Satisfaction (PENS)	Competence, autonomy, relatedness, presence, and intuitive controls
Boyle, & Hainey	2007	Digital gaming consumption	N.A.	N.A.	Pleasure, relaxation, leisure and challenge
Hainey, Connolly, Stansfield, & Boyle	2011	Digital gaming consumption	Malone and Lepper's (1987) framework of intrinsic motivation	N.A.	Individual factors (challenge, fantasy, curiosity, and control) and interpersonal factors (cooperation, competition, and recognition)
Yee, Ducheneaut, & Nelson	2012	Digital gaming consumption	N.A.	Online Gaming Motivation Scale	Achievement, social, and immersion
Kahn, Shen, Lu, Ratan, Coary, Hou, Meng, Osborn, & Williams	2015	Digital gaming consumption	N.A.	The Trojan Player Typology	Six types of player motivations: socializer, completionist, competitor, escapist, story-driven, and smarty-pants
Sjöblom & Hamari	2016	Digital gaming consumption	Uses and gratification theory	N.A.	Five distinct types of motivations: cognitive (information seeking about game products, learning about game strategies), affective (enjoyment), social integrative

					(companionship, shared emotional connection), tension release (escape, distraction, and relaxation), and personal integrative (recognition)
Markland & Hardy	1993	Sport participation	Self-determination theory (SDT)	Exercise Motivation Inventory (EMI)	Stress management, weight management, recreation, social recognition, enjoyment, appearance, personal development, affiliation, ill-health avoidance, competition, and fitness and health pressures
Markland & Ingledew	1997	Sport participation	Self-determination theory (SDT)	Exercise Motivation Inventory-2 (EMI-2)	Stress management, revitalization, enjoyment, challenge, social recognition, affiliation, competition, health pressures, ill-health avoidance, positive health, weight management, appearance, strength, and nimbleness
Wann; Wann, Schrader, & Wilson	1995; 1999	Sport fans consumption	Sport sociology theories	Sports Fan Motivation Scale (SFMS)	Eustress, self-esteem, escape, entertainment, economic, aesthetic, group affiliation, and family needs
Pease & Zhang;	2001	Sport spectatorship	Sloan's categorization of fan psychology theories	Spectator Motivation Scale (SMS)	Fan identification, team image, salubrious attraction, and entertainment value
Zhang, Pease, Lam, Bellerive, Pham, Williamson, & Lee	2001	Sport spectatorship	Sloan's categorization of fan psychology theories	Scale of Attendance Motivation (SAM)	Achievement seeking, catharsis & Aggression, community image, stress & entertainment, and salubrious effects
Trail & James	2001	Sport spectatorship	Sport sociology theories	Motivation Scale for Sport Consumption (MSSC)	Achievement, acquisition of knowledge, aesthetics, drama, escape, family, physical

					attraction, physical skill, and social interaction
McDonald, Milne, & Hong	2002	Sport spectatorship and participation	Sloan's categorization of fan psychology theories; Maslow's human needs hierarchy	N.A.	Physical fitness, risk taking, stress reduction, aggression, affiliation, social facilitation, self-esteem, competition, achievement, skill mastery, aesthetics, value development, self-actualization
Funk, Mahony, Nakazawa, & Hirakawa; Funk, Mahony, & Ridinger; Funk & Ridinger	2001; 2002; 2003	Sport spectatorship	N.A.	Sport Interest Inventory (SII)	Interest in sport, interest in players, bonding with friends, drama, bonding with family, aesthetics, customer service, excitement, entertainment value, sport knowledge, vicarious achievement, escape, wholesome environment, socialization, interest in team, community pride, support women's opportunity, national pride and role models
Zhang, Lam, & Connaughton	2003	Sport consumer consumption	N.A.	N.A.	Game attractiveness, marketing promotion, and economic consideration
James & Ross	2004	Sport spectatorship	N.A.	Adapted MSSC	Empathy, social interaction, family, team effort, team affiliation, achievement, entertainment, skill, drama, escape
Ko & Valacich	2007	Sport online consumption	Hygiene-motivator theory	Scale of Motivation for Online Sport Consumption (SMOS)	Convenience, information, diversion, socialization, and economic
Farquhar & Meeds	2007	Fantasy sports participation	Uses and gratification theory	N.A.	Entertainment, escape, social interaction, surveillance, and arousal

Kim, Greenwell, Andrew, Lee, & Mahony	2008	Sport spectatorship	N.A.	N.A.	Sport interest, drama, violence, adoration, vicarious achievement, escape, economic factor, aesthetics, national pride, and socializing
Seo & Green	2008	Sport online consumption	Uses and gratification theory	The Motivation Scale for Sport Online Consumption (MSSOC)	Technical knowledge, interpersonal communication, information, fanship, entertainment, economic, pass time, escape, team support, and fan expression
Spinda & Haridakis	2008	Fantasy sport participation	Uses and gratification theory	Fantasy Sports Motives Scale (FSMS)	Ownership, achievement/ self-esteem, escape/pass time, socialization, bragging rights, and amusement
Kim, Zhang, & Ko	2009	Sport consumer consumption	N.A.	Scale of Market Demand Associated with Taekwondo School (SMD-TKD)	Personal benefits, school operation, instruction quality, program offering, locker room, and cultural learning
Funk, Filo, Beaton, & Pritchard	2009	Sport spectatorship	N.A.	SPEED Scale	Socialization, performance, excitement, esteem, and diversion
Wang, Zhang, & Tsuji	2011	Sport spectatorship	N.A.	Adapted SII	Interest in team, interest in baseball, socialization, aesthetics, friends bonding, vicarious achievement, role model, interest in player, escape, customer service, drama, wholesome environment, support Taiwanese baseball, excitement, entertainment value, sport knowledge, sport image, and family bonding

Suh, Lim, Kwak, & Pedersen	2010	Fantasy sports participation	Uses and gratification theory	N.A.	Economic, social interaction, escape, fantasy, achievement, knowledge, and pass time
Dwyer & Kim	2011	Fantasy sports participation	Uses and gratification theory	Motivational Scale for Fantasy Football Participation (MSFFP)	Entertainment/escape, competition, and social interaction
Funk, Beaton, & Alexandris	2012	Sport consumer consumption	SDT	Sport Consumer Motivation Scale (SCMS)	Two subdomains: control orientation (diversion, socialization) and autonomy orientation (esteem, excitement, and performance)
Witkemper, Lim, & Waldburger	2012	Sport social media consumption	Relationship marketing theory	Sport Twitter Consumption Scale	Information motivation, entertainment motivation, pass-time motivation, fanship motivation
Lee, Seo, & Green	2013	Fantasy sports participation	N.A.	Fantasy Sport Motivation Inventory (FanSMI)	Game interest, becoming a general manager/head/coach, love for the sport, prize, competition, entertainment value, bonding with friends/family, social interaction with other participants, knowledge application, hedonic experience, escape, and substitute for a losing team
Kim, Byon, Yu, Zhang, & Kim	2013	Sport spectatorship	Sloan's categorization of fan psychology theories	Adapted SMS	Entertainment, achievement seeking, catharsis, and salubrious effects
Stavros, Meng, Westberg, & Farrelly	2014	Sport social media consumption	Netnographic approach	N.A.	Four types of motivation: passion (love, tribalism, encouragement, and praise), hope (ambition, expectation, and anticipation), esteem (venting, expertise, and sharing), and

					camaraderie (socialization, belonging, defense, and problem-solving)
Bernthal, Koesters, Ballouli, & Brown	2015	Sport spectatorship	N.A.	Adapted MSSC with an addition of family/social	Aesthetics, athlete skill, acquisition of knowledge, vicarious achievement, favorite sport, drama/eustress, escape, role model, and family/social interaction
Larkin	2015	Fantasy sports participation	Cognitive evaluation theory	Fantasy Sport Motivation Inventory (FanSMI)	Implicit motives (bonding with friends or family, entertainment value, social interaction, love for sport, and escape) and explicit motives (game interest, becoming a general manager/head coach, knowledge application, competition, prize, and substitute for a losing team)
Jansz & Martens	2005	esports consumption	Uses and gratification theory	N.A.	Competition, sociality, interest, and relaxation
Kim & Ross	2006	Sport video game consumption	Uses and gratification theory	Sport Video Game Motivation Scale (SVGMS)	Competition, social interaction, diversion, entertainment, fantasy, knowledge application, identification with sport
Cianfrone, Zhang, & Ko	2011	Sport video game consumption	Sloan's categorization of fan psychology theories	Modified SVGMS	Competition, diversion, entertainment, fantasy, social, sport knowledge application, and team Identification
Cheung & Huang	2011	esports spectatorship	Naturalistic perspective	N.A.	Spectacle of battles and graphics, appreciation of tactics, emotions evoked, and information asymmetry

Weiss & Schiele,	2013	esports consumption	Uses and gratification theory	N.A.	Competition, challenge, and escapism
Hamari, & Sjöblom	2017	esports media consumption	N.A.	Adapted MSSC	Aesthetics, escape, acquisition of knowledge, novelty, enjoyment of aggression

Table 2. Descriptive Statistics for the Sociodemographic and Esports Background Variables.

Variables	Category	Frequency (%)	Cumulative (%)
Gender	Male	1250 (95.5)	95.5
	Female	59 (4.5)	100
Age	18-21	574 (43.9)	43.9
	22-30	586 (44.8)	88.6
	31-40	137 (10.5)	99.1
	41-50	11 (0.8)	99.9
	51-60	0	99.9
	61 and older	1 (0.1)	100
Ethnicity	Asian	143 (10.9)	10.9
	Africa American	22 (1.7)	12.6
	Caucasian	906 (69.2)	81.8
	Hispanic/Latino	73 (5.6)	87.4
	Pacific Islander	4 (0.3)	87.7
	Native American	8 (0.6)	88.3
	Multiracial	64 (4.9)	93.2
	Others	89 (6.8)	100
Marital Status	Single	1118 (85.4)	85.4
	Married	177 (13.5)	98.9
	Separated/Divorced	8 (0.6)	99.5
	Widowed	6 (0.5)	100
Annual Household Income	Below $20,000	398 (30.4)	30.4
	$20,000-39,999	277 (21.2)	51.6
	$40,000-59,999	196 (15.0)	66.5
	$60,000-79,999	128 (9.8)	76.3

	$80,000-99,999	100 (7.6)	84.0
	$100,000-149,999	141 (10.8)	94.7
	$150,000 or above	69 (5.3)	100
Education	College Graduate	314 (24.0)	24.0
	High School Graduate	357 (27.3)	51.3
	Advanced Degree	92 (7.0)	58.3
	College Student	424 (32.4)	90.7
	Graduate Student	122 (9.3)	100
Occupation	Professional	190 (14.5)	14.5
	Management	66 (5.0)	19.6
	Technical	181 (13.8)	33.4
	Sales	51 (3.9)	37.3
	Education	38 (2.9)	40.2
	Skilled/Non-Skilled Worker	43 (3.3)	4.5
	Clerical	15 (1.1)	44.6
	Student	590 (45.1)	89.7
	Others	135 (10.3)	100
Most Watched esports Genre	MOBA	247 (18.9)	18.9
	FPS	560 (42.8)	61.7
	Fighting Games	167 (12.8)	74.4
	RTS	256 (19.6)	94.0
	SVGs	76 (5.8)	99.8
	Others	3 (0.2)	100

Table 3. Individual Scale Items Measuring Intrinsic Motivational Factors, Extrinsic Motivational Factors, and Outcome Variables.

Construct	Variable	Item
Skill Improvement	SKI 1	Watching my favorite esports game helps me become a better player
	SKI 2	I get to learn something new from some of the best players
	SKI 3	It would give me a better idea on how to win the game if I play
	SKI 4	I can improve my game by looking at techniques and strategies used by the experts
	SKI 5	Watching my favorite esports game gives me a deeper understanding of what's possible when I play
	SKI 6	Watching my favorite esports game improves my own play by getting ideas from professional players
Competition Excitement	EXC 1	I like the excitement associated with watching my favorite esports game
	EXC 2	I find watching my favorite esports game very exciting
	EXC 3	I enjoy the thrill and excitement when I watch my favorite esports game
	EXC 4	I feel hyped and excited when I watch my favorite esports game
Skill Appreciation	SKA 1	I like watching how others can do things in the game that I could never imagine
	SKA 2	I want to watch players go to their limits and show strategies or moves that people could not typically think of
	SKA 3	I like to see new moves, tricks, or techniques during a game
	SKA 4	I enjoy high micro/macro skills that only the best can play during a game
	SKA 5	I appreciate plays that display high skill level
	SKA 6	I enjoy watching strategy and mechanical skills presented in a game
Competitive Nature	COM 1	I enjoy the competitive gameplay of my favorite esports game
	COM 2	I like the competitive nature of esports competition
	COM 3	It is great to see somebody do really well against other people who are competing just as hard
	COM 4	I like to watch people taking it serious against one another

	COM 5	I want to see high-level competition among players
Friends bonding	BF 1	Watching an esports game gives me a chance to bond with my friends
	BF 2	I enjoy sharing the experience of watching my favorite esports game with friends
	BF 3	I can have a good time with friends while watching my favorite esports game
	BF 4	Watching esports creates bonding moments that people can carry with them
	BF 5	I enjoy watching esports with friends in a social setting
Vicarious Sensation	VS 1	Watching an esports game gives me a feeling as if I am playing the game
	VS 2	I can have the same feelings as someone who is actually playing an esports game
	VS 3	I feel like I am in the game when the game is close or coming down to the final moments
	VS 4	I can enjoy the game by watching without actually playing it
	VS 5	I can experience how professionals play a game without actually investing the hours into it
	VS 6	I can get a feeling of playing an esports game at a high level without actually being good at it
Entertaining Nature	ENT 1	I watch my favorite esports game because it is fun to watch
	ENT 2	I watch my favorite esports game because I want to have fun
	ENT 3	I watch my favorite esports game because it is enjoyable to watch
	ENT 4	It is a lot of fun to watch my favorite esports game
	ENT 5	Watching my favorite esports game is something fun to pass time
Dramatic Nature	DRA 1	I prefer watching a close game rather than a one-sided game
	DRA 2	I enjoy a game where the outcome is uncertain
	DRA 3	I like a close game as it is more enjoyable than a blowout
	DRA 4	I enjoy the moment in a game when people make a strong comeback
	DRA 5	I enjoy watching underdogs make big breaks and upset the better ones
	DRA 6	I like the fact that a game can be turned around in the very last minute
Game Knowledge	KNW 1	Knowing the esports game helps me enjoy watching it

	KNW 2	I feel my understanding of the esports game adds to my enjoyment of watching it
	KNW 3	I like watching my favorite esports game because I understand the intricacies and strategies
	KNW 4	The reason why I watch my favorite esports game is because I understand what is going on in the game
	KNW 5	I like watching my favorite esports game because I know the ins and outs of it
Socialization Opportunity	SOL 1	I enjoy interacting with other fans online when watching my favorite esports game
	SOL 2	Watching my favorite esports game gives me a chance to meet other people online with similar interests to mine
	SOL 3	It provides an online social outlet when watching my favorite esports game
	SOL 4	I can connect with other esports fans and be part of the online community when watching my favorite esports game
	SOL 5	I enjoy interacting with streamers online and getting to know them when watching my favorite esports game
	SOL 6	I can interact with other spectators online and get a sense of camaraderie when watching my favorite esports game
Event Attractiveness	EVT 1	League system (i.e., regular season and playoff)
	EVT 3	History of the league/event/tournament
	EVT 4	Reputation of the league/event/tournament
Virtual Rewards	SF 8	In-game award when watching esports
	SF 9	Customized emotes for esports games/streamers
Commitment	AC 1	I feel like part of a family as a fan of my favorite esports game
	AC 2	I feel emotionally attached to my favorite esports game
	AC 3	My favorite esports game has a great deal of personal meaning for me
	AC 4	I feel a strong sense of identification with my favorite esports game
WOM intentions	ADV 1	I would say positive things about my esports game to other people

ADV 2	I would recommend my favorite esports game to someone who might be interested in esports
ADV 3	I would encourage friends to play/watch my favorite esports game

Table 4. Descriptive Statistics for Intrinsic Motivational Factors, Extrinsic Motivational Factors, and Outcome Variables.

Construct	Variable	M	SD	Skewness	Kurtosis
Skill Improvement	SKI 1	5.74	1.368	-1.290	1.643
	SKI 2	6.06	1.308	-1.800	3.451
	SKI 3	5.60	1.476	-1.137	1.036
	SKI 4	5.92	1.340	-1.494	2.233
	SKI 5	5.99	1.315	-1.674	3.010
	SKI 6	5.82	1.339	-1.305	1.754
Competition Excitement	EXC 1	6.14	1.217	-1.818	3.817
	EXC 2	6.05	1.251	-1.645	3.048
	EXC 3	6	1.280	-1.559	2.632
	EXC 4	5.87	1.379	-1.319	1.470
Skill Appreciation	SKA 1	5.66	1.532	-1.186	.847
	SKA 2	6.09	1.222	-1.691	3.147
	SKA 3	6.21	1.141	-1.932	4.592
	SKA 4	5.98	1.385	-1.667	2.708
	SKA 5	6.46	.998	-2.834	1.419
	SKA 6	6.35	1.024	-2.254	6.663
Competitive Nature	COM 1	6.26	1.130	-2.026	4.795
	COM 2	6.08	1.271	-1.651	2.788
	COM 3	6.06	1.256	-1.495	2.206
	COM 4	5.83	1.424	-1.291	1.287
	COM 5	6.22	1.203	-2.046	4.899
Friends Bonding	FB 1	4	1.915	.018	-1.051
	FB 2	4.45	1.905	-.287	-.982
	FB 3	4.46	1.918	-.319	-.956

	FB 4	4.39	1.841	-.243	-.892
	FB 5	4.12	1.995	-.100	-1.179
Vicarious Sensation	VS 1	3.65	1.971	.183	-1.148
	VS 2	3.73	1.995	.119	-1.184
	VS 3	3.96	2.055	-.033	-1.279
	VS 4	5.76	1.509	-1.401	1.554
	VS 5	4.45	1.900	-.307	-.966
	VS 6	4.16	1.977	-.121	-1.143
Entertaining Nature	ENT 1	6.21	1.111	-1.786	3.949
	ENT 2	5.75	1.324	-1.101	1.082
	ENT 3	6.22	1.055	-1.837	4.880
	ENT 4	5.95	1.224	-1.253	1.694
	ENT 5	6.02	1.179	-1.545	2.953
Dramatic Nature	DRA 1	6.07	1.353	-1.551	2.133
	DRA 2	6.28	1.137	-1.992	4.723
	DRA 3	6.1	1.326	-1.617	2.374
	DRA 4	6.38	.989	-2.213	6.749
	DRA 5	6.09	1.245	-1.574	2.586
	DRA 6	6.09	1.264	-1.66	2.879
Game Knowledge	KNW 1	6.35	1.061	-2.401	7.509
	KNW 2	6.42	.982	-2.508	8.694
	KNW 3	6.16	1.129	-1.779	4.100
	KNW 4	5.84	1.409	-1.345	1.506
	KNW 5	5.88	1.278	-1.296	1.779
Socialization Opportunity	SOL 1	4.12	2.100	-.105	-1.288
	SOL 2	3.98	2.054	-.010	-1.249
	SOL 3	4.02	2.060	-.031	-1.240
	SOL 4	4.13	2.044	-.124	-1.210

	SOL 5	4.3	2.052	-.266	-1.195
	SOL 6	4.04	2.079	-.065	-1.253
Virtual Rewards	SF 8	3.66	2.194	.161	-1.352
	SF 9	3.24	2.175	.451	-1.192
Event Attractiveness	EVT 1	4.97	1.900	-.775	-.396
	EVT 3	4.90	1.793	-.694	-.325
	EVT 4	5.09	1.783	-.846	-.121
Commitment	AC 1	3.80	2.011	.039	-1.168
	AC 2	4.75	1.897	-.610	-.642
	AC 3	4.29	2.123	-.246	-1.267
	AC 4	4.68	1.920	-.498	-.795
WOM Intention	ADV 1	5.91	1.327	-1.506	2.584
	ADV 2	5.98	1.314	-1.560	2.665
	ADV 3	5.74	1.538	-1.288	1.141

Table 5. Standardized Factor Loadings, Cronbach's Alpha, CR, and AVE Values for Intrinsic Motivational Factors, Extrinsic Motivational Factors, and Outcome Variables.

Need Orientation/Regulation	Construct	Variable	λ	α	CR	AVE
Competence/ Autonomy	Skill Improvement (6 items)			.925	.926	.677
		SKI 6	.852*			
		SKI 5	.774*			
		SKI 4	.868*			
		SKI 3	.765*			
		SKI 2	.835*			
		SKI 1	.836*			
Relatedness	Socialization Opportunity (5 items)			.942	.944	.773
		SOL 1	.826*			
		SOL 2	.924*			
		SOL 3	.949*			
		SOL 4	.935*			
		SOL 5	.746*			
Competence/ Autonomy	Entertaining Nature (5 items)			.894	.898	.639
		ENT 1	.807*			
		ENT 2	.716*			
		ENT 3	.868*			
		ENT 4	.838*			
		ENT 5	.757*			
Relatedness	Friends Bonding (5 items)			.930	.931	.729
		FB 5	.811*			
		FB 4	.778*			
		FB 3	.898*			

		FB 2	.910*			
		FB 1	.865*			
Competence/ Autonomy	Competitive Nature (4 items)			.845	.849	.584
		COM 1	.775*			
		COM 2	.788*			
		COM 3	.736*			
		COM 4	.756*			
Competence/ Autonomy	Skill Appreciation (4 items)			.804	.820	.536
		SKA 4	.643*			
		SKA 3	.721*			
		SKA 2	.860*			
		SKA 1	.687*			
Competence/ Autonomy	Dramatic Nature (3 items)			.865	.869	.689
		DRA 1	.844*			
		DRA 2	.797*			
		DRA 3	.849*			
Competence/ Autonomy	Competition Excitement (4 items)			.948	.950	.825
		EXC 4	.895*			
		EXC 3	.948*			
		EXC 2	.934*			
		EXC 1	.854*			
Competence/ Autonomy	Vicarious Sensation (3 items)			.889	.889	.728
		VS 1	.865*			
		VS 2	.858*			
		VS 3	.836*			
Competence/ Autonomy	Game Knowledge (3 items)			.848	.853	.660
		KNW 3	.813*			
		KNW 4	.758*			
		KNW 5	.863*			
Autonomous Regulation	Event Attractiveness (3 items)			.768	.793	.570

		EVT 4	.780*			
		EVT 3	.890*			
		EVT 1	.555*			
External Regulation	Virtual Awards (2 items)			.746	.759	.616
		SF 9	.881*			
		SF 8	.675*			
	Commitment (4 items)			.787	.869	.625
		AC 1	.819*			
		AC 2	.806*			
		AC 3	.678*			
		AC 4	.848*			
	WOM Intention (3 items)			.817	.858	.668
		ADV 1	.825*			
		ADV 2	.822*			
		ADV 3	.805*			

Note. *$p < .01$

Table 6. Correlations between the Intrinsic Motivational Factors, Extrinsic Motivational Factors, Outcome Variables, and the Square Roots of the Respective AVE Values.

	COM	COMMIT	DRA	ENT	EVT	EXC	FB	KNW	SKA	SKI	SOL	VR	VS	WOM
COM	.763													
COMMIT	.380	.791												
DRA	.554	.266	.789											
ENT	.623	.404	.521	.799										
EVT	.404	.481	.327	.312	.745									
EXC	.589	.414	.388	.672	.305	.907								
FB	.347	.474	.261	.342	.360	.362	.851							
KNW	.606	.319	.590	.484	.363	.369	.285	.791						
SKA	.680	.256	.509	.493	.311	.432	.262	.505	.723					
SKI	.466	.206	.395	.288	.238	.312	.271	.521	.461	.820				
SOL	.295	.620	.292	.331	.426	.343	.570	.239	.223	.194	.882			
VR	.051	.402	.148	.035	.408	.053	.308	.101	.026	.145	.478	.812		
VS	.279	.475	.337	.363	.391	.261	.357	.155	.379	.159	.496	.383	.695	
WOM	.326	.611	.275	.358	.281	.248	.304	.369	.340	.266	.198	.143	.239	.817

Note. KNW = Game Knowledge; VS = Vicarious Sensation; EXC = Competition Excitement; DRA = Dramatic Nature; SKA = Skill Appreciation; COM = Competitive Nature; FB = Friends Bonding; ENT = Entertaining Nature; SOL = Socialization Opportunity; SKI = Skill Improvement; VR = Virtual Rewards; EVT = Event Attractiveness; WOM = WOM intentions; COMMIT = Commitment. Diagonal values are square roots of the AVE values.

Table 7. Hypothesis Testing.

Hypothesis	Result	Parameter	Standardized Coefficient	t-value
H1/2a	Supported	AUTOCOM -> COMMIT	.211**	4.542
H1/2b	Supported	AUTOCOM -> WOM	.240**	3.917
H1/2c	Not supported	AUTOCOM -> BR	-.095^{ns}	1.097
H3a	Supported	RELATE -> COMMIT	.538**	12.968
H3b	Not supported	RELATE -> WOM	-.257**	4.684
H3c	Not supported	RELATE -> BR	.129^{ns}	1.642
H4a/b	Not supported	VR -> AUTOCOM	-.067^{ns}	1.451
H4c	Not supported	VR -> RELATE	.333**	6.996
H5a	Not supported	VR -> COMMIT	.115*	2.541
H5b	Not supported	VR -> WOM	-.038^{ns}	.885
H5c	Not supported	VR -> BR	-.051^{ns}	.622
H6a/b	Supported	EVT -> AUTOCOM	.477**	10.256
H6c	Supported	EVT -> RELATE	.318**	6.881
H7a	Supported	EVT -> COMMIT	.161**	2.937
H7b	Not supported	EVT -> WOM	-.031^{ns}	.493
H7c	Not supported	EVT -> BR	-.050^{ns}	.725
H8a/b	Not supported	VR x AUTOCOM -> BR	-.070^{ns}	.918
H8c	Not supported	VR x RELATE -> BR	.102^{ns}	1.487
H9a/b	Not supported	EVT x AUTOCOM -> BR	.137^{ns}	1.529
H9c	Not supported	EVT x RELATE -> BR	-.094^{ns}	.955

Note. **$p < .01$; *$p < .05$, ns refers to non-significant effect; AUTOCOM = Competence/autonomy Need Orientation; RELATE = Relatedness Need Orientation; VR = Virtual Rewards; EVT = Event Attractiveness; COMMIT = Commitment; WOM = WOM intentions; BR = Behavioral Responses.

Table 8. Total Effects of SDT Need Orientations and Extrinsic Motivation on Outcome Variables.

Parameter	Standardized Coefficient	t-value
AUTOCOM -> COMMIT	.173**	3.720
AUTOCOM -> WOM	.361**	4.878
AUTOCOM -> BR	-.043^{ns}	.520
RELATE -> COMMIT	.429**	9.018
RELATE -> WOM	.052^{ns}	1.000
RELATE -> BR	.244**	3.444
VR -> COMMIT	.246**	4.988
VR -> WOM	.034^{ns}	.682
VR -> BR	.057^{ns}	.703
EVT -> COMMIT	.381**	7.221
EVT -> WOM	.268**	4.679
EVT -> BR	.041^{ns}	.548
COMMIT -> WOM	.684**	11.292
COMMIT -> BR	.212**	2.651

Note. **$p < .01$; *$p < .05$, ns refers to non-significant effect; AUTOCOM = Competence/autonomy Need Orientation; RELATE = Relatedness Need Orientation; VR = Virtual Rewards; EVT = Event Attractiveness; COMMIT = Commitment; WOM = WOM intentions; BR = Behavioral Responses.

Table 9. Indirect Effects of SDT Need Orientations and Extrinsic Motivation on Outcome Variables.

Parameter	Standardized Coefficient	t-value
AUTOCOM -> COMMIT -> BR	.038*	1.946
RELATE -> COMMIT -> BR	.091*	2.555
AUTOCOM -> COMMIT -> WOM	.120**	3.716
RELATE -> COMMIT -> WOM	.293**	6.911
VR -> AUTOCOM -> BR	.005^{ns}	.714
VR -> AUTOCOM -> COMMIT -> BR	-.002^{ns}	1.097
VR -> RELATE -> COMMIT -> BR	.030*	2.377
VR -> COMMIT -> BR	.024^{ns}	1.823
VR -> RELATE -> BR	.051^{ns}	1.794
VR -> AUTOCOM -> COMMIT	-.011^{ns}	1.362
VR -> RELATE -> COMMIT	.143^{ns}	5.596
VR -> AUTOCOM -> WOM	-.016^{ns}	1.357
VR -> AUTOCOM -> COMMIT -> WOM	-.008^{ns}	1.351
VR -> RELATE -> COMMIT -> WOM	.098**	4.952
VR -> COMMIT -> WOM	.078*	2.459
VR -> RELATE -> WOM	-.081**	3.617
EVT -> AUTOCOM -> BR	-.040^{ns}	.886
EVT -> AUTOCOM -> COMMIT -> BR	.018^{ns}	1.826
EVT -> COMMIT -> BR	.034*	1.936
EVT -> RELATE -> COMMIT -> BR	.029*	2.346
EVT -> RELATE -> BR	.049^{ns}	1.805
EVT -> AUTOCOM -> COMMIT	.084**	3.363
EVT -> RELATE -> COMMIT	.136**	5.478
EVT -> AUTOCOM -> WOM	.116**	3.150
EVT -> AUTOCOM -> COMMIT -> WOM	.057**	3.395
EVT -> COMMIT -> WOM	.110**	2.805
EVT -> RELATE -> COMMIT -> WOM	.093**	4.833
EVT -> RELATE -> WOM	-.077**	3.625

Note. **$p < .01$; *$p < .05$, ns refers to non-significant effect; AUTOCOM = Competence/autonomy Need Orientation; RELATE = Relatedness Need Orientation; VR = Virtual Rewards; EVT = Event Attractiveness; COMMIT = Commitment; WOM = WOM intentions; BR = Behavioral Responses.

Figure 1. The Self-Determination Continuum Showing Types of Motivation with Their Regulatory Styles, Loci of Causality, and Corresponding Processes (Ryan & Deci, 2000).

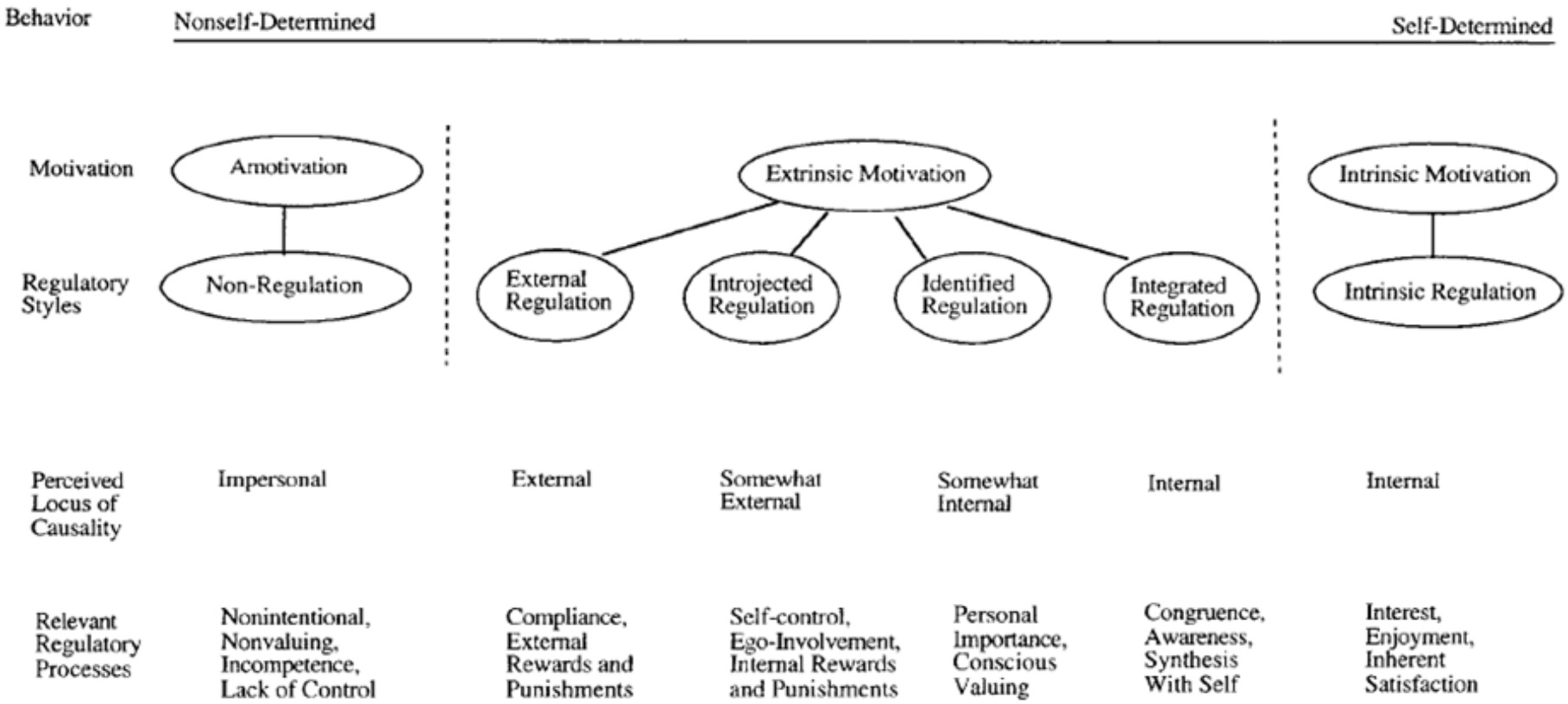


Figure 2. Proposed Model 1.

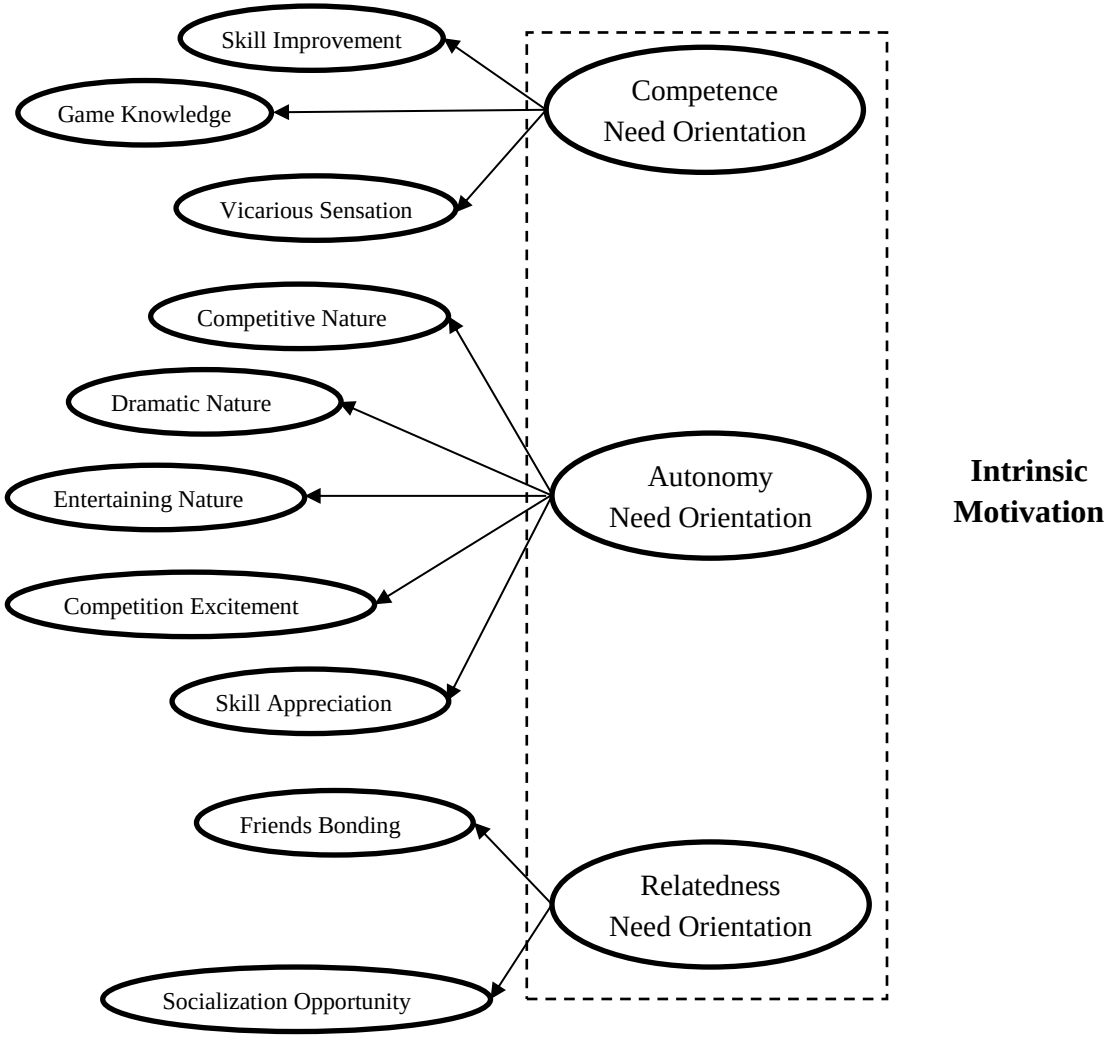


Figure 3. Proposed Model 2.

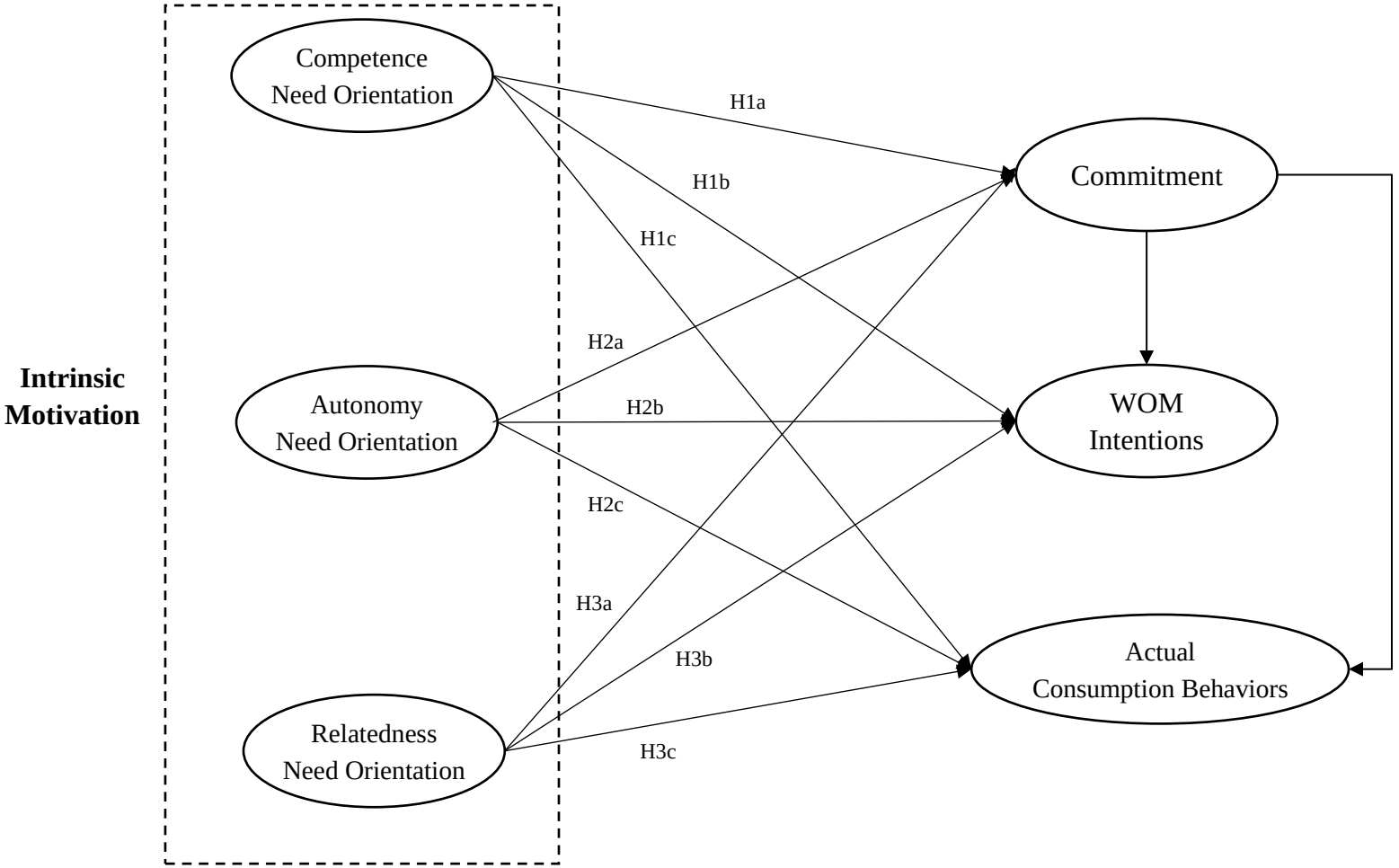


Figure 4. Proposed Model 3.

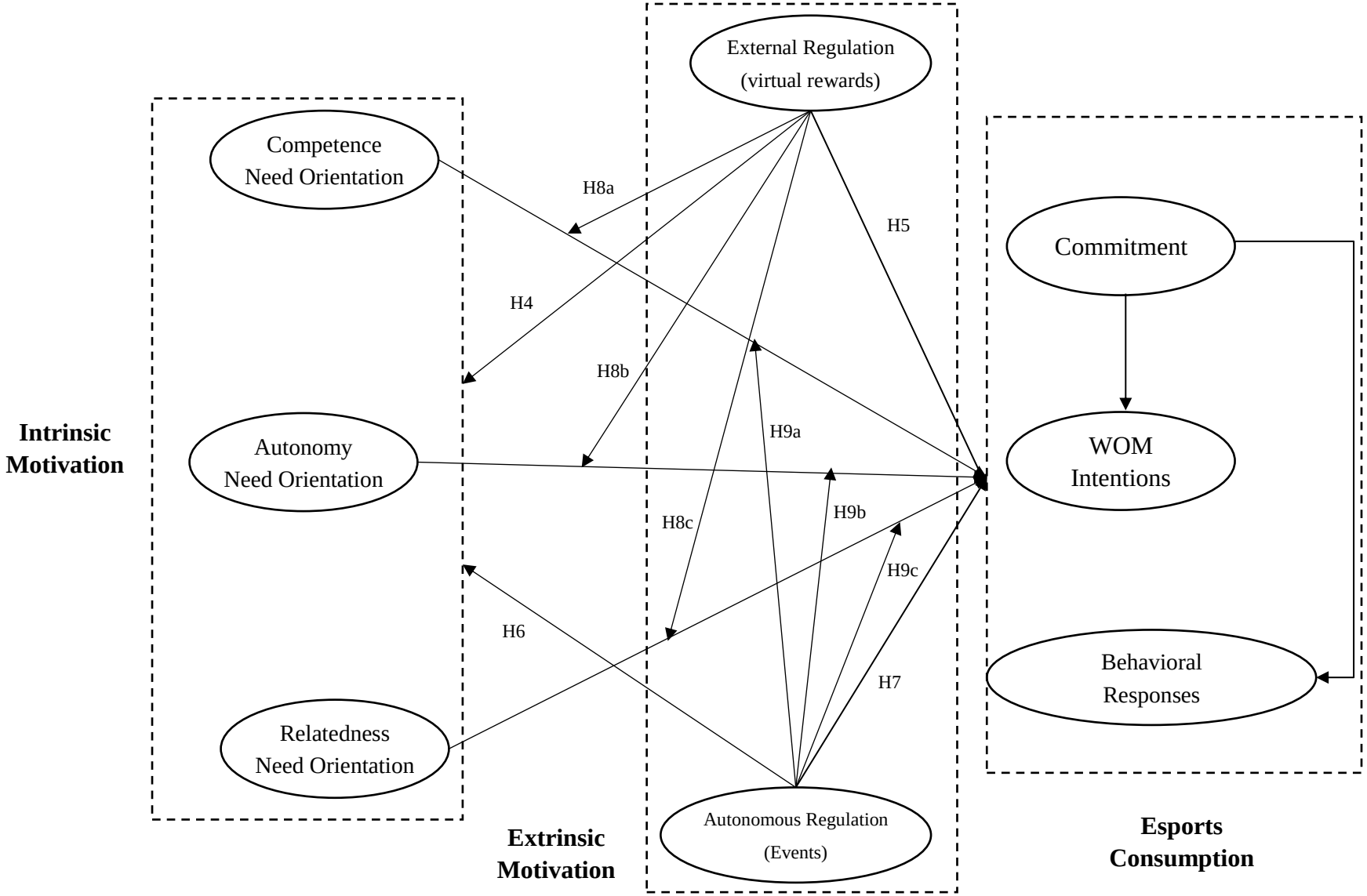
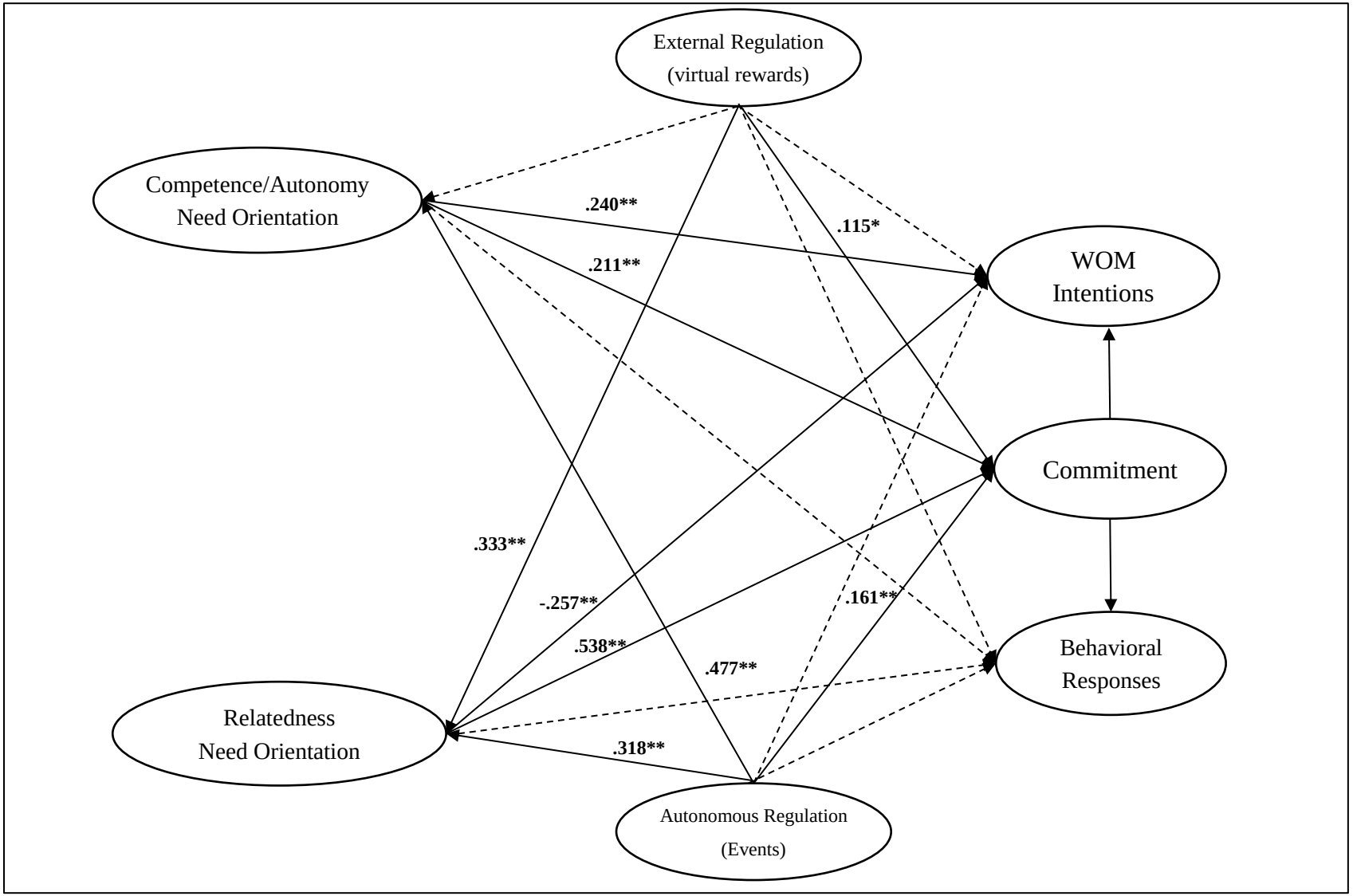


Figure 5. SDT Structural Model (PLS-SEM).



Note. **$p < .01$; *$p < .05$; dotted lines indicate insignificant paths.

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