

# **Development of Leadership through eSports**

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## **Author's Declaration**

I hereby declare that I am the sole author of this dissertation and that, to the best of my knowledge and belief, it contains no material previously published or written by another person except that which appears in the citations and acknowledgements. Neither does it contain a substantial amount of material that I have submitted for the qualification for any other degree of another university or other institution of higher learning. This is a true copy of the dissertation, including any required final revisions, as accepted by my examiners. I understand that my dissertation may be made electronically available to the public.



## **Abstract**

This study seeks to identify the influences of gameplay on leadership behaviors, and to establish how online games can be utilized as didactic tools for leadership development. Leadership is a concept that has been extensively evaluated and examined in Western literature. However, the applicability and effectiveness of implementing these leadership skills in the Southeast Asian region remains a question to be answered. An examination of this question can naturally be extended into the virtual realm, given globalization in the Internet age. The advancement of modern communication technology has enabled interaction and cooperation among individuals worldwide. This interaction is observable in virtual teaming, which also exists in the professional gameplay known as eSports. In contrast to face-to-face teaming, eSports has overcome the limitations of geographical location and national boundaries by binding all players to the same set of rules and goals when using the Internet platform. This study used the eSports environment of the multiplayer online battle arena (MOBA) as a platform to examine real-world leadership.

The theoretical framework of this study is based on behavioral and contingency theories of leadership. Just as real-world leaders can be characterized by different leadership styles, eSports players also exercise diverse game roles. The same situational control scenarios restrict both real-world leaders and game players. For instance, laws and regulations parallel the game rules and in-game restrictions, and organizational objectives are comparative to goals in games. These commonalities connect the two worlds, and enable game players to experience real-world leadership aspects through gameplay. According to situational priming and social learning theories, the development of leadership is possible through the process whereby game players adopt shared leadership behaviors during gameplay. As a player practices a game role, he/she is primed with the leadership characteristics that are applicable to that role. Success or failure of the role utilization allows for social learning, thereby teaching a lesson about effective leadership behaviors. This theoretical framework is tested in three phrases, namely the applicability of leadership behaviors, the relationship between real and virtual worlds, and the development of leadership behaviors through gameplay.

The applicability of leadership behaviors in the real world and eSports was first explored using an exploratory research design. The leadership behaviors, based on Lewin, Lippitt, and White's leadership style framework and gameplay behaviors (1938; 1939), were examined using a self-report questionnaire distributed to game players in Thailand. The questionnaire explored respondents' real-world leadership orientations and game roles. The collected data were analyzed quantitatively using principle component analysis (PCA). The results of the PCA reported that Thai respondents could be distinguished as having three leadership styles (autocratic, democratic, and laissez-faire), and the three game roles (carry, support, and ganker). This result revealed key leadership behaviors exhibited in real- and virtual-world scenarios, and led to the conclusion that the concepts of leadership in both worlds are applicable to Thailand.

Secondly, a relationship between leadership behaviors exhibited in MOBA environments and real-world scenarios was explored quantitatively using multinomial logistic regression (mlogit). The mlogit result revealed positive correlations between roles in MOBA games and leadership styles. In addition, internationally recognized professional eSports players from Thailand were studied qualitatively to complement the quantitative analysis. Through in-depth observations of eSports tournament video replays, the professional players' gameplay behaviors were identified in relation to their real-world leadership orientations observable through interviews. The quantitative and qualitative analyses analogously discovered that game players who identified with the carry or ganker roles were more likely to have an autocratic leadership style. Those who played the support role were more likely to possess a democratic leadership style. The laissez-faire leadership style is negatively correlated with all game roles. These relationships hint at potential benefits that gameplay may have on individuals' leadership behaviors.

The first two analyses have established the foundations of behavioral and contingency leadership theories in real-world and MOBA game environments. The influences of game role utilization on leadership behaviors can then be investigated. The theoretical framework that explains this causal relationship was based on the situational prime and social learning theories. The effects of gameplay on leadership behaviors were estimated using propensity score matching (PSM) and doubly robust estimation. Outcomes of the PSM analyses reveal that game players who predominantly use the carry role exhibit stronger autocratic leadership behaviors.

Game players who predominantly used the support role in games exhibited stronger democratic leadership behaviors. Respondents who predominantly used the ganker role exhibited stronger autocratic and democratic leadership behaviors. All game roles impede laissez-faire leadership behaviors. Thus, this study concludes that the continuous practice of game roles in MOBA scenarios facilitates the development of real-world leadership skills. Future video game development based on this study's framework can aid in the improvement of its players' leadership capabilities.

**Keywords:** gamification, eSports, online games, multiplayer online battle arena, MOBA, Defense of the Ancients, DotA, Dota 2, Heroes of Newerth, HoN, game role, virtual team, leadership style, behavior



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- v. a research article entitled "The influences of online gaming on leadership development" published in the special issue on Cyberworlds 2014 conference of Springer's Transactions on Computational Science (TCS) journal.

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## List of Abbreviations

$\alpha$	Cronbach's alpha
AoE	Area of Effect
AR	Augmented Reality
ARTS	Action Real-time Strategy
ASEAN	Association of Southeast Asian
BBH	Baby Build House
CEO	Chief Executive Officer
CIO	Chief Information Officer
Coef.	Coefficient
CS:GO	Counter-Strike: Global Offensive
DotA	Defense of the Ancients
ECL	eSports Champions League
ESGN	eSports Global Network
ESGN TV	eSports Global Network Television
ESPN	Entertainment and Sports Programming Network
eSports	Electronic Sports
e-Sports	Ibid.
ESRB	Entertainment Software Rating Board
ESWC	Electronic Sports World Cup
F2P	Free to Play
fMRI	Functional Magnetic Resonance Imaging
FPS	First-person Shooter
GEST	Gigabyte E-Sport Tournament
GSAPS	Graduate School of Asia-Pacific Studies
HoN	Heroes of Newerth
HP	Hit Points
HTC	High Tech Computer Corporation
IBM	International Business Machines Corporation
IDC	International DotA Cup

ISG	Information Solutions Group
ITS	International Telecommunications Society
jD	JoinDOTA
KMO	Kaiser-Meyer-Olkin
LoL	League of Legends
LPC	Least-preferred Coworker
M	Mean
MiTH	Made in Thailand
mlogit	Multinomial Logistic Regression
MMORPG	Massively Multiplayer Online Role-playing Game
MOBA	Multiplayer Online Battle Arena
MP	Magic Points
MR	Mixed Reality
n	Sample size (sub sample)
N	Sample size (full sample)
NBA	National Basketball Association
NeoES	Neolution E-Sport
NWC	Nintendo World Championships
NYU	New York University
OHP	Open House Party
OS	Online Station
p	p value
PC	Personal Computer
PCA	Principal component analysis
PCG	PlayCyberGames
Pokémon	Pocket Monsters
PSM	Propensity Score Matching
RGN	Rapture Gaming Network
RPG	Role-playing Game
RTS	Real-time Strategy
SILS	School of International Liberal Studies

SPSS	Statistical Package for the Social Sciences
STATA	Statistics and Data
t	t-value, t-statistic
TCG	ThaiCyberGames
TeSL	Taiwan eSports League
THB	Thai Baht
TI	The International
TRY	The Romance Tragedy
US	United States
USD	United States Dollars
UX	User Experience
VR	Virtual Reality
WCG	World Cyber Gamer
WDC	World DotA Championship
WoW	World of Warcraft



# Chapter 1

## Introduction

Leadership has long been an important behavioral quality in business, and in every aspect of society. A group's productivity and its abilities to accomplish its objectives depend strongly on the qualities of its leader and members. How one should spot potential leaders and how one can develop particular leadership qualities are questions that remain unanswered. These questions are particularly interesting in the modern world, in which the online world has become a breeding ground for a new generation of leaders.

Many notable real-world leaders claimed that they honed their leadership qualities and become better leaders by practicing their leadership skills in online games. Elliot Noss, the chief executive officer of the notable domain provider Tucows, said that he became a better leader by practicing his leadership skills in online games (Noss, as cited in Chiang, 2010). Stephen Gillett, who was the chief information officer for Starbucks, built his leadership qualities through online gameplay (Gillett, as cited in Chiang, 2010). In the case of Thailand, Aitthipat Kulapongvanich — the CEO of the famed fried seaweed snack company, Tao Kae Noi — achieved his success via video gameplay and has won video games competitions. Although he is a college dropout, he said that he learned sales and trading skills through playing online games (Adulyanon, 2013; Kulapongvanich, n.d.). These are few examples of highly successful leaders who learned their skills via video games. Thus, the subject of online games as a component of leadership development has become relevant.

The online media, particularly the video game industry, has gradually extended its influence beyond its immediate environment. It has fostered technological advancement (Harris, 2014), economic growth (Dyer-Witthford & de Peuter, 2009), and even social revolutions (Juul, 2010; Provenzo Jr., 1991). Young adults today play online games for more hours than ever before (Gentile, Saleem, & Anderson, 2007). Although some studies claim that online games have a negative influence on game players (C. A. Anderson, Gentile, & Buckley, 2007; Fischer, Greitemeyer, Kastenmüller, Vogrincic, & Sauer, 2011; Hull, Draghici, & Sargent, 2012), there is a growing movement that proposes the opposite.

Online games unite a variety of people on a single platform. It exposes these players to a range of in-game environments that were modeled to reflect real-world circumstances. In fact, previous literature has discovered that the interactions that occur in these virtual communities resemble real-world phenomena. For instance, in terms of outward attractiveness and social status, "... game characters wearing the elaborate clothes and accessories displayed higher interpersonal attraction than those wearing more basic items" (S.-K. Lo, 2008, p. 1955). Another example is a study of the incident in which the outbreak of the "Corrupted Blood" — a virtual infectious disease that intended its effects to occur within a single combat — escalated into an uncontrolled, game-wide epidemic (Ward, 2005). This epidemic was caused by game players teleporting back into a crowded city soon after the combat, while still being infected with the Corrupted Blood. The disease quickly infected other game players' and their pets, both of which became contagious carriers. This incident mimicked the reality of an epidemic in that a living organism acts as disease carriers that travel quickly via modern transportation (Lofgren & Fefferman, 2007). These instances shed light on how game players may be able to connect in-game characteristics to the real world through online gameplay, particularly with regard to leadership qualities.

This study aims to establish and theorize the link between real-world leadership and video gameplay. It hopes to address how online gameplay can contribute to leadership development. To achieve this goal, this dissertation will conduct three key studies, along with the development of a theoretical framework for leadership development through online gaming. Players' behaviors in multiplayer online battle arena (MOBA) games and their real-world leadership behaviors will be examined using the observational data obtained from self-report questionnaires. The first study will address the applicability of predominantly Western leadership theories in the real and virtual worlds of non-Western game players, particularly in Thailand. The second study aims at defining the relationship between the leadership behaviors exhibited in real and virtual worlds using both quantitative and qualitative approaches. Finally, the third study tests the causality between online gameplay and leadership development in a non-experimental setting.

## 1.1 Research Questions

The primary question in this study is whether video games can be used as a didactic tool for leadership development. Video games in the modern era enable players to interact with other players across the globe via the Internet. Game players no longer compete against non-player characters (NPCs), but play cooperatively and/or competitively with other human players. This advancement in online games has raised the question of how multiplayer video games might influence behavioral development and, more specifically, leadership behaviors. The specific research questions that this study aims to answer are as follows:

- RQ<sub>1</sub>: Are behaviors associated with leadership applicable across cultures and platforms?
  - RQ<sub>1.1</sub>: Do leadership styles recognized by Westerners apply to MOBA game players in Thailand?
  - RQ<sub>1.2</sub>: Do MOBA game roles recognized by Western game players apply to MOBA game players in Thailand?
- RQ<sub>2</sub>: What is the relationship between leadership styles (autocratic, democratic, and laissez-faire) and MOBA game roles (carry, support, and ganker) among Thai game players with no work experience?
  - RQ<sub>2.1</sub>: Which leadership styles are carriers most likely to possess?
  - RQ<sub>2.2</sub>: Which leadership styles are supporters most likely to possess?
  - RQ<sub>2.3</sub>: Which leadership styles are gankers most likely to possess?
- RQ<sub>3</sub>: Can the use of MOBA game roles (carry, support, and ganker) strengthen the leadership behaviors (autocratic, democratic, and laissez-faire) of Thai game players with no work experience?
  - RQ<sub>3.1</sub>: Do predominant carriers exhibit autocratic leadership behaviors more strongly than underperforming game players do?
  - RQ<sub>3.2</sub>: Do predominant supporters exhibit democratic leadership behaviors more strongly than underperforming game players do?
  - RQ<sub>3.3</sub>: Do predominant gankers exhibit autocratic leadership behaviors more strongly than underperforming game players do?

RQ<sub>3.4</sub>: Do predominant gankers exhibit democratic leadership behaviors more strongly than underperforming game players do?

RQ<sub>3.5</sub>: Do predominant role users exhibit laissez-faire leadership behaviors less strongly than underperforming game players do?

This study approaches the aforementioned research questions using samples obtained in Thailand. Thailand was selected because the extreme popularity of MOBA games in the country. Accordingly, the applicability of implementing leadership models that originated in studies from Western cultures must be established. Does the concept of leadership parallel that in other cultures? Do Thai game players use game roles in the same way as do players from the Western culture? Are behaviors associated with leadership in both real and virtual worlds universal and equally applicable to Western and Eastern cultures? These are the initial questions that this study will address in Chapter 5, *Applicability of Leadership Behaviors in Real-world and Virtual Environments*.

Following the confirmation that leadership behaviors are universal, a study of the relationship between real-world leadership and roles in games can be conducted. Prior to identifying the effect of gameplay on leadership development, this study first examines the connection between leadership behaviors in the real world and how individuals play games. Specifically, what is the relationship between leadership styles and game roles? This question will be addressed in Chapter 6, *Relationship between Game Roles and Leadership Styles*.

The established relationship between leadership styles and game roles allows for an extensive study of how gameplay influences leadership behaviors. Does video gameplay influence the development of leadership? Most importantly, whether leadership practices in video games impact on real-world leadership development remains the final question. This discussion will be addressed in Chapter 7, *Gameplay Effects on Leadership Behaviors*.

## **1.2 Research Importance and Objectives**

The mainstream academic research has placed overwhelming emphasis upon the deleterious effects of gameplay on an individual's development. However, the focus of game research should not be on gameplay's potential harm. The influence of video games will continue to grow, as research shows that the age at which children start to play games continues to decrease,

and because Internet usage among children is becoming more prevalent (Gentile et al., 2007). The issue of harm caused by video games does not cease to exist simply because of the amount of research condemning it. Instead, studies should focus on the potential benefits that can be gained from video games, thereby allowing these positive aspects to be improved within newly developing games. Video games could be enhanced for social skills learning and maximizing its potential benefits.

The prevalence of online games is evidenced by the fact that individuals across the world spend approximately three billion hours per week playing online games (McGonigal, 2010a, 2011). Furthermore, children born in recent generations can gain access to online games effortlessly through daily electronic devices such as computers, tablets, PCs, and smartphones, starting from a very young age (Tao & Yu, 2012). These children are the first generation of individuals subjected to the influence of technology and the Internet from the earliest stages of childhood development. Compounded by the fact that the advancement of computer technology is increasing rapidly, games have become highly sophisticated to the point of being analogous to reality. How do the two worlds of video games and reality combine to impact on human lives? Do different cultures react and behave differently with regard to the impact of the virtual platform? How does having two parallel worlds affect the development of an individual's characteristics? The urge to discover such profound relationships that are changing our lives today is the motivation behind this research.

Despite the accusation of video games being associated with crime and violence, the economic growth and the social impact of video games cannot be ignored. Therefore, research should be aimed at improving the video games available to individuals instead of emphasizing their negative effects in a way that is not constructive. This dissertation thus seeks to explore the positive aspects of gameplay in an effort to expand the academic trend. This study is designed to gain a better understanding of the importance of game content — how it influences our characteristics — and to potentially derive games' merits for social advancement.

This study aims to examine the causality between character roles in games and leadership styles in everyday life. It will explain how the roles in games and leadership styles are connected, and how they influence each other. The games that will be part of this study are called Defense of the Ancients (DotA) and Heroes of Newerth (HoN). These games are

categorized under the multiplayer online battle arena (MOBA) genre, a new category of games that has rarely been discussed by academia. MOBA games are suitable for leadership analysis due to their unique situational control environment, which allows Fiedler's contingency leadership theory to be applied.

Due to the multidisciplinary nature thereof, this study will contribute to an existing body of gamification and sociological knowledge. Its findings will provide a better understanding of how leadership is developed within an individual, and how gameplay contributes to this development. The findings will reveal that gameplay's impact can be applied across cultures and has the potential to develop leadership behaviors. Most importantly, the findings will provide answers regarding how this contribution to leadership development can be realized. This study will pinpoint the beneficial features of video games, and will shed light on how video game design can be tailored to leadership development. Overall, the research aims at overcoming the negative social outlook that stereotypes gameplay. This study hopes to encourage academics to investigate the positive aspects in more depth. Moreover, the findings will establish significant concepts for future game designs. This study hopes to serve as an inspiration for game developers to produce games that will be beneficial for individuals' character development. Game developers can use the theoretical framework of this study as a way to improve video game content and to maximize the benefits that can be obtained via gameplay. The goal is to show that video gameplay is not just unproductive entertainment, but is a noteworthy instrument for the development of individuals' characters, thus elevating video games' status to that of an enhancement to people's lives.

### **1.3 Leadership in Thailand**

The ability to collaborate virtually has become increasingly significant, particularly for a developing country in the modern age. However, an insufficient number of studies on the topics of leadership and video gameplay has been conducted in Thailand for this concept to be applied successfully, especially when compared to East Asian countries (such as China, Taiwan, Japan, and Korea) or to western countries (for example, the United States, the United Kingdom, Canada, and the Russian Federation). This study seeks to contribute to the leadership development and video game study dialogues by taking and analyzing a sample from a country that has rarely been discussed with reference to eSports. Thailand was chosen firstly because

of its outstanding economic performance (Kakwani & Pernia, 2000). In order to maintain its growth rate, it is foreseeable that Thailand will have a demand for personnel equipped with strong leadership capabilities. The future workforce will be required to work not only with the local people, but also with people in the Association of Southeast Asian (ASEAN), of which Thailand is a founding member. Accordingly, the effectiveness of cross-cultural cooperation relies on the implementation of appropriate leadership strategies (Fiedler, 1964, 1967, 2006; Vroom & Jago, 1995; Vroom & Yetton, 1973). It is therefore crucial for multinational members to have the same understanding of leadership concepts. The existing literature provides evidence indicating that behaviors associated with leadership styles derived from Western concepts, such as decision-making processes, task-relationship orientation, trust, and responsibility, are applicable to Thai working environments despite cultural differences (Yukongdi, 2010). This study, therefore, examines these behaviors using Lewin, Lippitt, and White's (1938; 1939) leadership theory as a representation of leadership styles derived from the West. The core behaviors of autocratic, democratic, and laissez-faire leadership styles are examined for applicability in Thailand.

#### **1.4 Growth of the Video Game Industry in Thailand**

The Asia-Pacific region has dominated Internet usage by having the highest and fastest growing number of online users (Internet World Stats, 2014; The World Bank, 2014). Thailand is particularly suited for research on virtual-world leadership, as it has become the regional center for the information and communications technology (ICT) business and for the development of the ASEAN (PR Newswire, 2014). Thailand has achieved rapid development in telecommunications, high-speed Internet, and broadband (Gray & Sanzogni, 2004), subsequently facilitating the tremendous number of video game consumers and gaming industry revenue (Hause, 2013). Within the Southeast Asian region, Indonesia, Thailand, and Vietnam are the largest and most significant video game markets (Gaudiosi, 2015a; Hause, 2013). However, although Indonesia is showing rapid revenue growth, the country still falls behind regarding Internet penetration and speed (Cosseboom, 2015). Therefore, Indonesia is not as suitable as Thailand for global eSports studies. Vietnam is achieving faster growth in the number of online game players (Warman, 2015), but it is a communist regime with many restrictions on Internet usage and gameplay; thus, Vietnam's political policies may distort the

samples to be studied (Hause, 2013; Reporters Without Borders, 2011). Moreover, Vietnamese game players are prone to having a more basic understanding of the English language, which is the main language used in games and global competitions (Gaudiosi, 2015a). On the other hand, Thailand has consistently outperformed Indonesia and Vietnam in terms of revenue despite its much smaller population (The World Bank, 2011). It was estimated that the value of Thailand's entertainment and media market will reach approximately 14.8 billion US dollars by the year 2017, the biggest share in Southeast Asia (Bangkok Post, 2013; PricewaterhouseCoopers, 2013; Warman, 2015). Figure 1.1 shows the comparison of video game revenues achieved by Southeast Asian countries — Indonesia, Malaysia, the Philippines, Singapore, Thailand, Vietnam, and the rest of SEA — and the revenue growth forecast until 2017 (Warman, 2015). Thailand's highest, yet increasing revenue, suggests that it has a much more comprehensive and diverse population of potential samples for this study.

Thailand is unquestionably spearheading the Southeast Asian video game market (Gaudiosi, 2015a; Geller, 2014; Hause, 2013). Regardless of the nationwide high piracy rate (Gopal & Sanders, 2000; Hill, 2007; Kini, Ramakrishna, & Vijayaraman, 2004), Thailand has strong local online game service providers. Some key providers in Thailand are AsiaSoft, TRUE, and Ini3. AsiaSoft has the largest market share of approximately 35% – 40%. The company delivers video games such as Point Blank and Dragon Nest. TRUE is the country's second largest provider, with approximately 25% – 30% of the market share, and offers Special Force and FIFA Online 2 games. Ini3 provides FlyFF and BOOMz games. It has a market share of approximately 5% – 10% (Hause, 2013).

According to the market research on video games in Thailand conducted by Newzoo in 2014, Thailand has the largest revenue from video games. The country had a population of approximately 67.2 million people, 21.1 million of whom (approximately 31% of the population) have an Internet connection. There 8.1 million active game players were estimated in 2012 (Hause, 2013). In 2014, this number jumped to 14.7 million people (approximately 22% of the population), with more than half (8.3 million people or approximately 56% of the active game players) being those who spent real money on video games. Annual spending per paying game player was estimated at approximately 27.76 US dollars. Thailand earned over 230 million US dollars, excluding tax, from video game revenue in 2014. As mentioned

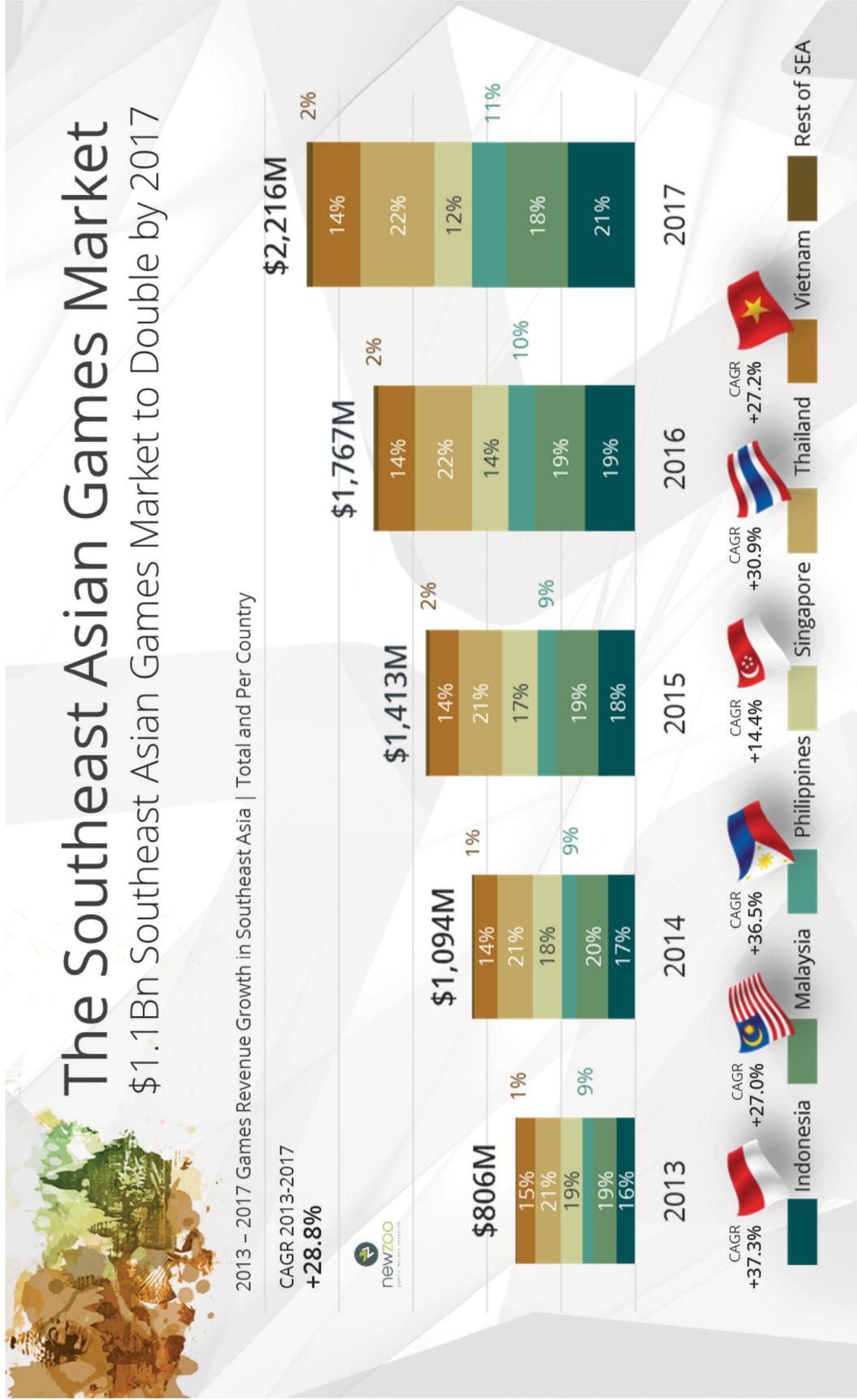
previously, this number is expected to double by the year 2017 (Casual Games Association, 2015; Warman, 2015). The growth of Thailand's video game industry presents a valuable opportunity for Thai people to utilize eSports to become familiar with virtual teams and to practice leadership skills.

With regard to the eSports scene in Thailand, the MOBA game genre has been remarkably popular. Games such as DotA, HoN, and LoL have been played extensively in the country for more than half a decade. Such popularity has led to the installation of the games in almost all the Internet cafés in Bangkok. Many of these Internet cafés operate 24 hours a day and offer their services at a very affordable price (Engel, 2013). This mirrors how PC games have become an important part of the Thai gaming industry, with significant social impact on the Thai game-playing population. The high amount of spending on video games reflects Thai game players' high engagement in gameplay. Therefore, these games should be studied further with reference to their effects on society. Thailand is highly appropriate for this study because there is a massive population of Thai individuals actively playing MOBA games. Furthermore, Thai society has a traditionally negative mainstream view of online games in general. Almost no research on the positive influences of gameplay has been conducted in Thailand. This social sentiment in Thailand corresponds with the views of many other countries, and findings from Thailand may thus have the potential to reflect other countries' social situations.

### **1.5 Background to Gamification**

The concept of gameplay traces its roots back to the dawn of human civilization. Different cultures have invented various types of games to satisfy their need for entertainment. In modern society, games have been introduced to us in dynamic forms such as sports, pencil-and-paper games, board games, and video games. It used to be that games would require all players involved to be physically present in one location. However, this has changed since the emergence of online video games. Online games allow game players around the world to interact with each other on one single platform, enjoying the games together without geographical limitations. Subsequently, online games have begun to gain immense momentum as an important aspect of our social culture, as well as becoming more advanced and sophisticated to the point of creating a simulated reality for the game players of today.

Figure 1.1 Thailand is the Biggest Player in the Southeast Asian Video Games Market



Source: Introduction to the Southeast Asian games market by Newzoo (Warman, 2015)

Interaction with online games has become an irreplaceable and dominant force throughout an individual's childhood development. The gaming industry has developed into one of the largest entertainment industries worldwide. The impact of the video game industry has attracted academic attention, sparked new academic debates dedicated to the study of video games in association with the real world, and has now become a main topic of studies in itself. For example, one of the leading academic institutions, New York University (NYU), has established the NYU Game Center, offering students the chance to minor in game design as undergraduate students, or to enroll in a Master of Fine Arts graduate degree program dedicated to the study of games (2014). Chongqing Energy College in China offers a course on DotA which aims at developing cooperation, decision-making skills and unity (Lawrence, 2014). Chung-Ang University in Korea considered eSports to be distinct sport. Thus, eSports players can apply for the university's Department of Sports Science as talented athletes (Ashcraft, 2014). In Thailand, Rangsit University is the nation's first institution to offer a Computer Game Multimedia curriculum. Since 2004, the curriculum has fostered quality Game Developers, Engine Game Specialists, Game Programmers, Game Designers, and Computer Graphic Designers (Rangsit University, 2013a, 2013b). It is not only universities that offer courses in eSports, as Garnes High School in Bergen, Norway, has scheduled eSports and gaming on its timetable as traditional sports class (Garnes Vidaregåande Skule, 2016). Students will learn to play Dota 2, League of Legends, Counter-Strike: Global Offensive, and StarCraft II at competition level. The program will not simply allow the students to play video games, but will teach gaming tactics, communication, cooperation, reflex training, nutrition advice, and game study (Bright, 2016).

The term "gamification" was subsequently introduced. From a service marketing perspective, gamification is defined as "a process of enhancing a service with affordances for gameful experiences in order to support user's overall value creation" (Huotari & Hamari, 2012, p. 20). From an academic perspective, some scholars have defined gamification as "an informal umbrella term for the use of video game elements in non-gaming systems to improve user experience (UX) and user engagement" (Deterding, Sicart, Nacke, O'Hara, & Dixon, 2011, p. 2425). Simply put, it is "the use of game design elements in non-game contexts" (Deterding, Dixon, Khaled, & Nacke, 2011, p. 9). Gamification involves the utilization of video gameplay

and its mechanics to solve real-world problems (Zichermann & Cunningham, 2011). The potential of video games has become more promising since the introduction of World Wide Web. Millions of people around the globe have come online and have become connected via the virtual environment of online games. This virtual environment not only delivers entertainment, but also mirrors the phenomena that occur in the real world. In 2007, an analysis conducted by Lofgren and Fefferman highlighted a new way to examine the epidemiological patterns of virus outbreak through an incident in the role-playing game World of Warcraft (WoW). The analysis pointed out that behavioral reactions in the simulated game environment mimicked the actions observable in reality. This conclusion implies that it is possible to use a simulated environment for the in-depth study and prediction of real-world situations, such as the case of virus outbreaks (Lofgren & Fefferman, 2007). Moreover, the implication also extended beyond epidemics into terrorism. WoW involves real people making real decisions in a virtual environment. Some players purposely exploited actions that mirrored real-world terrorism. Terror tactics such as infecting oneself with extremely contagious in-game diseases and executing suicide bombings to infect other players in major cities has proven highly effective. These tactical decision-making processes help scientists to gain insight into how terrorists weigh their decisions and enable them to derive implications for counterterrorism. “The game could be an invaluable tool not only for counterterrorists and epidemiologists but also sociologists and economists” (Thier, 2008, para. 4).

The scope of game-related academic studies, or gamification, continues to grow, and sub-categories are beginning to be observed within the field of game studies. Nonetheless, the variety of news items that correlate crime and violence with video games tend to have a strong influence on the critical opinions, which allows mainstream academic studies on the negative influences of games to thrive. Such academic studies include how video games glorify violence (C. A. Anderson & Bushman, 2001), and are linked to increased aggression (Sherry, 2001), decreased social behavior (C. A. Anderson, 2003), social anxiety (S.-K. Lo, Wang, & Fang, 2005), and physical health issues (Soranaastaporn, 2015), In addition to a variety of other deleterious claims. In this regard, a study on the addictive potential of video gameplay found that approximately 12% of the game-player sample fell under the diagnostic criteria for addiction. The study also discovered an association between aggression and excessive video

gameplay (Grüsser, Thalemann, & Griffiths, 2007), but the supporting evidence was weak. Later, in 2008, the European Psychiatry Association conducted similar research, which concluded that online game addiction causes aggression, narcissistic personality traits and loss of self-control (Kim, Namkoong, Ku, & Kim, 2008). On the other hand, the Harvard Medical School Center for Mental Health and the British Medical Journal have both tried to draw conclusions concerning whether video games actually cause violent behavioral issues. Both organizations, along with many other studies on the topic, have found inconclusive or mixed results (Kutner & Olson, 2008; Williams & Skoric, 2005).

In 2011, the Information Solutions Group (ISG) conducted research that deepened the understanding of links between games and human behavior. The study tested cheating behavior during gameplay and its correlation with cheating in everyday life. ISG drew the conclusion that those who cheated during gameplay also had the tendency to participate in cheating in real circumstances, such as cheating on tests, taxes, and in relationships (Information Solutions Group, 2011).

A small and limited amount of research is dedicated to finding positive effects of gameplay on individual development. In 2009, the North Carolina State University published findings of video games boosting collaborative and decision-making skills in young adults (Clark & Ernst, 2009). With regard to studies directly related to the topic of the relationship between leadership and online games, the Department of Communication at Stanford University has discovered interesting findings that reveal game players have indeed gained leadership skills from games that were not intended to foster leadership development at all (Yee, 2006b). Later, in 2011, the findings in the British Journal of Educational Technology concluded that opportunities to experience leadership in games enhance leadership in everyday life (Jang & Ryu, 2011). Unfortunately, the amount of literature on the correlation between leadership and online games remains very limited. It is evident from the aforementioned studies of this correlation that there is indeed a positive link between gameplay and leadership.

### **1.5.1 Electronic Sports (eSports)**

Video games' popularity has thrived over the last few decades. As a result of the connection to the Internet, video games are now networked and are accessible globally. Online games attract

people worldwide to enjoy engaging in competition on a common platform. The first multiplayer video game competition was Stanford University's Intergalactic Spacewar Olympics held in 1972 (Good, 2012). In 1990, the first Nintendo<sup>1</sup> World Championships (NWC) took place in Dallas, Texas (Cifaldi, 2015). The NWC still continues to this day, and the latest took place in Los Angeles, California, in 2015 (Nintendo, 2015). The virtual competition aspect of video games has quickly evolved into a competitive sport that involves players who compete professionally in multiplayer video game competitions. These competitions are widely recognized today as electronic sports, or eSports (M. G. Wagner, 2006). The video game genres commonly included in eSports are real-time strategy (RTS), fighting games, first-person shooter (FPS), and multiplayer online battle arena (MOBA).

Although video games were first introduced in the 1970s (C. A. Anderson & Bushman, 2001; C. A. Anderson & Dill, 2000), video gameplay only gained acceptance as a sport in 2012 (Tassi, 2012). The US government then recognized eSports players as professional athletes (Tassi, 2013). A year later, eSports was broadcast live for the first time on the Entertainment and Sports Programming Network (ESPN), a television channel dedicated exclusively to (physical) sports (Conditt, 2015b; Schwartz, 2014). "When people watch football on TV or meet in pubs, they cheer for the players and teams. eSports is not any different," said the CEO of Clauf, Jong Hwan Lee (Lee, as cited in Lockley, 2014, para. 13). Lee is the man behind the pioneering eSports platforms eSports Global Network (ESGN) and ESGN TV. Currently, eSports video content viewing time exceeds that of the National Football League (NFL). Moreover, eSports-related revenue is estimated to outgrow that of the NFL by the year 2017 (Gaudiosi, 2015b). eSports' success has drawn sponsorship from multinational corporations such as Coca-Cola, American Express, Duracell, HTC, NVidia, and BenQ. Even a former NBA star, Rick Fox of the LA Lakers, was reported to have bought "Gravity" — an eSport team for League of Legends. Fox described the eSports industry as "something massive" (Fox, as cited in Fingas, 2015, para. 1).

As of 2015, the combined prize for the top 50 eSports has exceeded 170 million US dollars. The MOBA game genre alone has a total prize pool of almost 90 million US dollars. Dota 2 is

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<sup>1</sup> Nintendo Co., Ltd is a multinational consumer electronics and software company that was founded in Japan. It is one of the largest video game companies in the world by revenue (Schutte, 2015).

at the top of these rankings with a total prize pool of nearly 55 million US dollars (“Top 50 games awarding prize money,” n.d.). MOBA is thus undoubtedly the biggest eSports genre of the decade (Sinclair, 2015). The top 100 professional eSports players of all time have a combined earning of over 55 million US dollars (“Highest overall earnings,” n.d.), and the top 100 players under 18 years of age have a combined total of over 13 million US dollars (“Top 100 highest earnings under 18 years old,” n.d.). These numbers are growing rapidly each year as more challengers enter the competition, making a greater impact than ever before. Accordingly, the eSports industry ought not to be overlooked.

Video games and eSports are often viewed as a young industry that lacks awareness of social responsibility or social value (Conditt, 2015a). However, the trend is changing, as evidenced by universities in China (Lawrence, 2014), Korea (Ashcraft, 2014), and Thailand (Rangsit University, 2013a, 2013b), which are starting to offer academic courses dedicated to the study of eSports. The advancement of the video game industry can have significant implications for driving social change and influencing how people integrate into the thriving virtual world.

### **1.5.2 Video Game Controversies**

As with other types of media, there are both good and bad video games. Game content that seems potentially harmful has raised concerns regarding its effects and has sparked various video game controversies, many of which have led to the legitimate banning of such games. For example, *Fallout 3* is a post-apocalyptic action role-playing video game that was banned in Australia because the main character encouraged drug use. *Witcher 2* is an action role-playing game that emphasizes realistic combat, and was banned in Australia for promoting sex as a reward. In Thailand, an open-world<sup>2</sup> action-adventure game, *Grand Theft Auto 4*, was banned because it was associated with murder. Similarly, *Manhunt 2* is a psychological horror video game that was banned in many countries because of its depiction of a violent manhunt. *Battlefield 3* is a first-person shooter game that was banned in Iran for inciting international terror (Reed, 2014). These video games endorse realistic experience of drug use, sexual content, violence, and warfare; thus, it is not surprising that they raised social concerns.

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<sup>2</sup> Video games where players can navigate freely through the virtual environment and have freedom in approaches taken regarding the game tasks (GamesRadar Staff, 2015a, 2015b).

With regard to game-play frustration, Flappy Bird was one of the video games that caused controversy and attracted heavy criticism. Flappy Bird was a mobile game categorized under the arcade genre, in which players fly a bird endlessly while avoiding contact with obstacles. In addition to the pirating the art and design of Super Mario games, the Flappy Bird game play was maddeningly difficult. The unreasonable difficulties of the mobile game provoked players' anger and frustration rather than joy (Totilo, 2014). The game was consequently removed from both Apple's App Store and Google Play<sup>3</sup> on February 8, 2014 (BBC News, 2014). Flappy Bird is an example of a game that is not intellectually challenging, yet is unreasonably difficult. However, even video games that are too easy can also lead to a buildup of frustration (Koster, 2013). Some developers have accordingly argued that frustration is an essential part of video game design (Stuart, 2013).

With regard to more competitive video gameplay, virtual gambling with real currency is another booming industry connected to the rise of eSports (Gaudiosi, 2015c; Tarantola, 2015; K. Wagner, 2015). An endless list of online gambling service providers, such as DraftKing (Tarantola, 2015), Pinnacle Sports (2014), and Unikrn (2015) allow users to bet on the outcome of professional eSports competitions using real money. The popular competitions for gambling include, but are not limited to, Dota 2, League of Legends, and Counter-Strike. Although gambling is considered an illegal activity in many countries, these online gambling platforms have made it easier than ever to access it globally (Richmond, 2015), potentially by the youth.

## **1.6 Multiplayer Online Battle Arena (MOBA)**

Previous studies on online games and leadership have emphasized the MMORPG genre. The current study utilizes games that fall under the MOBA genre, Defense of the Ancients (DotA) and Heroes of Newerth (HoN), to observe leadership behaviors in the virtual environment. The significance of MOBA games is evidenced by their rapid increase in popularity. As of 2015, MOBA games have dominated the video game industry, and have become the most played personal computer (PC) games (Dimaranan, 2015). They are frequently included in eSports leagues, and Dota 2 — the immediate successor to DotA — was the first video game competition broadcast live on ESPN (Schwartz, 2014). The popularity of MOBA games,

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<sup>3</sup> Platforms for digital distribution of mobile applications.

together with the advancement of the Internet, has made MOBA a universal virtual infrastructure accessible across national borders by anyone, despite having distinct cultures and demographic backgrounds. Teamwork in video games is equivalent to virtual team participation, thereby enabling leadership scenarios.

In MOBA games, an effective team strategy consists not only of gameplay skills, but also of the strategic delegation of tasks that are deemed suitable according to the skills (“Defense of the Ancients,” 2012, “Defense of the Ancients,” 2015; PlayDotA.com, 2009c). MOBA games incorporate straightforward goals and missions that are equivalent to the task structure in situational control scenarios (Fiedler, 1978). MOBA games are highly teamwork focused; thus, they are prosocial (Greitemeyer & Osswald, 2010; Yoon & Vargas, 2014), and provide meaningful exposure to leadership environments. In comparison with MMORPGs, MOBA games have a much more defined leadership environment and a higher level of situational control, which exposes players to opportunities for learning leadership skills. Each MOBA match resets to its original settings after the match is over. Players’ levels and in-game achievements are not cumulative or transferable to subsequent matches. Therefore, all players are provided with fair and equal opportunities in each competition.

### **1.6.1 Popular MOBA Games**

This study focuses on two games, Defense of the Ancients (DotA) or Dota 2, and Heroes of Newerth (HoN). Originally, the games were categorized as a sub-genre of the real-time strategy (RTS) genre, and they were previously recognized as belonging to action real-time strategy (ARTS) genre. The ARTS genre originated from Aeon of Strife’s custom map, which was made by game players (Tok, 2006; Walbridge, 2008). The map was launched within the RTS game of StarCraft. It was followed by the development of DotA. The growing popularity of DotA led to the development of further custom maps, as well as to full stand-alone games such as HoN, League of Legends (LoL), Heroes of the Storm, and Smite (“IceFrog,” 2015, “Multiplayer online battle arena,” 2015) Stand-alone games refer to entirely independent game software that is not a part of any other games and does not require another game to function. The stand-alone games preceding DotA were initially referred to as DotA-style, DotA-esque, DotA-based or DotA-inspired (Dean, 2011; Nguyen, n.d.; Welsh, 2011). HoN is a full stand-alone DotA-style game (IGN, 2010). Later, in October 2009, Riot Games’ LoL attempted to break away from the

genre known as DotA by coining its own marketing term, “Multiplayer Online Battle Arena” (MOBA). This officially marked MOBA’s birth as a new and unique game genre (Perez, 2009).

The term Multiplayer Online Battle Arena or MOBA will be used to refer to the aforementioned game genre within this research because it describes the features of the genre accurately. By using the term MOBA, there can also be a clear differentiation from the RTS genre, since these two genres are often confused. The term MOBA is synonymous with the terms ARTS genre, DotA-style, DotA-esque, DotA-based, and DotA-inspired.

**Defense of the Ancients (DotA) and Dota 2.** DotA was a custom scenario for one of the most popular games, Warcraft III: Reign of Chaos and its expansion, Warcraft III: The Frozen Throne (“WarCraft III,” 2015). The DotA scenario was developed using the Warcraft III World Editor available in the aforementioned games. Warcraft III World Editor is a tool that allows game players to create and customize their own maps with a high degree of detail and flexibility (Boxer, Anderiesz, & Howson, 2002; Cottee, 2003). Using the tool, DotA Allstars was created and improved on by several designers whose aliases were Pendragon (Pendragon, 2009), Eul, and Guinsoo (Walbridge, 2008). Although there have been many variations on the original concept since its initial development, the most popular version is still DotA Allstars. Later, the name DotA Allstars was simplified to DotA. This specific DotA scenario has since been developed and maintained by an anonymous developer known as IceFrog (Banks, 2007; Sales, 2012; Walbridge, 2008).

The popularity of DotA had influenced the development of full stand-alone games based on DotA’s framework. The main developer, IceFrog, was hired by the Valve Corporation in 2009 and was employed as the lead game developer (IceFrog, 2009) working on the next generation of DotA as a stand-alone game — Dota 2 (Biessener, 2010). Guinsoo was recruited by Riot Games. Using various mechanics and knowledge gained from the development of DotA, Guinsoo has since begun developing a game known as League of Legends (LoL) (Biessener, 2010; Perez, 2009). Another popular stand-alone game, Heroes of Newerth (HoN), is acknowledged as being almost identical to DotA and was developed by the company S2 Games (Ng, 2009; Nguyen, n.d.).

The excitement created by DotA has attracted players around the world, from including Southeast Asian countries such as Indonesia, Malaysia, the Philippines, Singapore, Vietnam, and Thailand (“Top countries for Dota 2,” 2015). Today, many important gaming competitions include DotA, and these competitions are often sponsored by world-leading leading corporations. Examples of recent DotA competitions are Gigabyte DotA Cup 2012 (Dexter, 2012) and The International 2011. The International was first established in 2011, and the competition continues to date. It had been noted as one of the biggest competitions of all time, with a total prize pool of 1.6 million US dollars (“The International 2011,” 2015; Valve Corporation, 2013), and the total price pool rises rapidly every year (“The International 2012,” 2015, “The International 2013,” 2015, “The International 2014,” 2015; Valve Corporation, 2013). The total price pool for The International 2015 was recorded as being more than 18.4 million US dollars, and was the highest prize pool in the history of eSports at that time (Savage, 2015; “The International 2015,” 2015; Valve Corporation, 2015b).

**Heroes of Newerth (HoN).** Heroes of Newerth (HoN) is a MOBA game that is heavily inspired by DotA (IGN, 2010; Nguyen, n.d.; Wedel, 2010). HoN was developed as a stand-alone game; therefore, it does not require another game’s software to function. This aspect is different from DotA, since DotA only functions as a map in Warcraft III. S2 Games officially released HoN on May 12, 2010. There were more than 350,000 player accounts registered during the test period before the official release (Rainier, 2010). On December 13, 2010, S2 Games released Heroes of Newerth 2.0 (Pavlacka, 2010).

In Thailand, HoN was officially introduced to Thai game players in October 2011. As of May 2012, there were roughly 900,000 – 1,000,000 HoN players in Thailand alone. About 60% of the HoN game players resided in Bangkok, another 25% resided in Bangkok’s suburbs, and the remaining 15% of players lived in Thailand’s other provinces. The wide popularity of HoN is mainly due to the overwhelming number of existing DotA players in Thailand, who would then play both DotA and HoN games (Patanapongchai, 2012). It has been said that HoN is the most frequently played video game in Thailand (RGN, 2010; B. [PineappleCake] Tan, 2015, ll. 39-40).

Although the game mechanics and game roles in HoN were based heavily on DotA, major differences between DotA and HoN emerged after HoN changed to become a free-to-play game (Biessener, 2011). Paid accounts before the free-to-play release retained access to all content and updates, but accounts that were registered after it changed to free-to-play only had 15 free-rotating heroes to choose from, and the 15 heroes rotated weekly. These free accounts only had access to the “All Pick” game mode. Additional payment is required to gain full access to all game content (Fielding, 2011; Sullivan, 2011).

Other aspects that differentiate HoN from DotA are mainly features independent from gameplay. Examples are tracking of individual gameplay statistics, in-game voice communication, GUI-streamlined hero selection, game reconnection, match-making, player black-lists, penalties for quitting during gameplay and chat features (Frostburn Studios, 2013; G4 Media, 2009). Several features added via updates from HoN’s developers included a Hero Compendium (a list of the heroes in the game, together with detailed statistics), the ability to set a “following” trait on a friend, an in-game ladder system, and a map editor. The game uses S2 Games' proprietary K2 Engine and a client-server model similar to those used in many modern multiplayer games (Blue’s News, 2010).

### **1.6.2 MOBA Game Mechanics**

MOBA games are easy to learn, but very difficult to master. The two MOBA games in this study share almost the same game structure, content, and gameplay style. The gameplay and strategies employed in both games are identical.

MOBA games involve two opposing teams of up to five players each — a maximum of 10 players per match (Mayer, 2012). Fewer players on each team are also possible, but ideally, there should be an equal number of human players on both sides. Each player selects and controls one game character from over one hundred distinct varieties (Frostburn Studios, 2013; “Heroes,” 2015). These human-controlled characters are referred to as heroes<sup>4</sup>. There are numerous heroes, each endowed with distinct abilities and advantages. This allows the game players to combine different heroes to form the team’s overall strategy. In DotA, each player may choose one of the 108 heroes available (“Heroes,” 2015), or one of the 107 heroes in HoN

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<sup>4</sup> Heroes are referred to as champions in LoL.

(Frostburn Studios, 2013; “Heroes,” 2013). The heroes are each endowed with different abilities and tactical advantages to compensate for any shortcomings of other heroes. All heroes have four upgradable abilities. The abilities start at the level of zero. As the game player attains higher levels, he/she is allowed a choice of acquiring one of the four abilities at each level. Following this, the game player may choose between upgrading the current abilities and obtaining another ability after leveling up once again.

These four innate abilities can be either passive or active abilities. Passive abilities usually embody physical attributes — agility, strength or intelligence. Active abilities include aggressive tactics that have effects on the other heroes, such as preventing the opponent’s actions. Other active abilities induce effects on the game player’s own hero, including the ability to become immune to magical spells. Before utilizing the aggressive tactics of the active abilities, there is a waiting time that requires the game player to regenerate the skill for a specific amount of time referred to as the cooldown<sup>5</sup>. Passive abilities do not require such a cooldown (“Abilities,” 2015, “Cooldown,” 2015; PlayDotA.com, 2009a).

MOBA gameplay revolves around strengthening the heroes. The heroes earn experience points by destroying computer-controlled creeps<sup>6</sup> and towers<sup>7</sup>. Creeps are periodically summoned at each base, or reside inside the jungle<sup>8</sup>. They are programmed to attack the enemies and to defend the main paths (“Creeps,” 2015; PlayDotA.com, 2009c), which are known as lanes. The standard map is composed of three lanes — top, middle, and bottom (“Lane,” 2015). They are connected and lead from one base to another. Experience points are earned for the successful assassination of hostile units. If there are other ally heroes within range, the experience points are shared among the allies. Accordingly, all heroes involved in the assassination are rewarded with gold and experience (Innovate Media, 2014; Rodriguez,

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<sup>5</sup> Cooldown is the amount of time that a player must wait after using a spell, ability, or item power before it can be used again (“Abilities,” 2015, “Cooldown,” 2015; PlayDotA.com, 2009a).

<sup>6</sup> Creeps are weak, computer-automated units over which game players have no direct control. There are two types of creeps: lane creeps, which act as an army for both teams, and neutral creeps that are aligned with neither (“Creeps,” 2015; PlayDotA.com, 2009c).

<sup>7</sup> Towers are primary defensive structures for both teams (“Buildings,” 2015; PlayDotA.com, 2009c).

<sup>8</sup> Jungle refers to any area apart from the main lanes and the bases (“Jungling,” 2015b).

2010a), but the hero that performed the final execution — referred to as the last hit<sup>9</sup> — receives the greatest portion of experience and gold (“Glossary,” 2015, “Last hitting,” 2012; J. Lo, 2008; MPasil, 2011). When enough experience points have been accumulated, the hero gains one level. The experience points required for each level increase also rise correspondingly. The maximum level a hero may achieve is 25. Leveling up improves the heroes’ strength, increasing the damage inflicted, and allows for the ability upgrades.

In addition to accumulating experience points, players also manage a single resource — gold. Gold income is generated periodically in small amounts or by destroying hostile units, creeps, towers, and heroes belonging to the enemy (PlayDotA.com, 2009c). On the other hand, game players may strategically terminate their own units when they are close to being eliminated to prevent the opposing team from placing the last hit. This technique, known as denying, is a tactical act that stops the opponent from gaining extra gold and experience points. If a hero dies, it loses part of the accumulated gold. After a certain amount of time, depending on the level and the number of deaths, the hero will respawn<sup>10</sup> at a well-located position in its respective team’s bases (Innovate Media, 2014).

Game players must use their hard-earned gold to buy items from 120 distinctive choices to strengthen their heroes. These items vary in price and usability (Biessener, 2010). Each item has unique features; some may only be used once, some enhance the users attributes, and a few give additional abilities (Frostburn Studios, n.d.; “Items,” 2013, “Items,” 2015; PlayDotA.com, 2009b). The effectiveness of an item is dependent on the heroes utilizing it. Hence, buying items that suit the heroes’ attributes and abilities is an important aspect of the gameplay strategy (PlayDotA.com, 2009b).

The game enforces all players to conform to the same set of rules and provides them with well-defined tasks structured to direct them towards one common goal. The ultimate collective goal is to advance into the opposing team’s base and to destroy the key structures within the base (PlayDotA.com, 2009c; Rioult, Métivier, Helleu, Scelles, & Durand, 2014) which are

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<sup>9</sup> Last hitting is when a player attacks a hostile unit with hit points that are low enough for it to be eliminated with a single blow. The player that has dealt the last hit receives the greatest portion of the gold (“Glossary,” 2015, “Last hitting,” 2012; J. Lo, 2008; MPasil, 2011).

<sup>10</sup> Respawn is akin to being reborn. In video games, respawning is an instance of a character reappearing after having been killed (“respawn,” n.d.).

located at the southwest or northeast corners of the map (refer to Figure 1.2, Mini Map in Dota 2). The bases are heavily guarded by the defensive towers. Victory is achieved and the match ends when one team succeeds in this goal. This game scenario is highly team-oriented, and it is difficult for one single player to lead the team to victory. The average game length ranges from 30 to 60 minutes (Patanapongchai, 2012).

**Dota 2 game screen.** Figure 1.3 presents an example of a Dota 2 gameplay screenshot as seen by a player. [1] is the hero controlled by a player. [2] is the attribute of the hero. [3] is the heroes' abilities. [4] is items that the player has purchased. [5] is the total amount of gold remaining. [6] is a group of ally creeps. The brown creeps are enemies. [7] is the enemy's defensive tower. [8] is the mini map showing the entire area of the game. A detailed version of the mini map is presented in Figure 1.2, Mini Map in Dota 2.

## 1.7 Operational Definitions

For the purpose of this study, some terms have been coined in order to shorten long phrases and to simplify lengthy explanations. These terms should minimize verbosity, thus delivering clearer statements. Relevant operational definitions are provided as follows:

**MOBA** refers to a video game included in the multiplayer online battle arena game genre or MOBA games.

**Carrier** refers to a game player with a carrier role or a user of the carry game role.

**Supporter** refers to a game player with a support role or a user of the support game role.

**Ganker** refers to a game player with a ganker role or a user of the ganker game role.

**Jungler** refers to a game player with a jungler role or a user of the jungler game role.

**Predominant carrier, supporter, ganker, or jungler** refers to game players who use the respective game roles excessively and who are therefore characterized by the game roles. More detailed usage of the terms will be discussed in Section 4.5.1, Predominant Game Role Utilization.

**Non-carrier, supporter, or ganker** refers to game players who have **underperformed** in the respective game role categories. These players exhibit behaviors concerning the corresponding game role that are below average. These terms will be discussed in Section 4.5.1.

**Figure 1.2 Mini Map in Dota 2**



Source: Juke paths and hide spots — 6.82 map (gurkensalat, 2014)

Figure 1.3 MOBA Gameplay



Source: Dota 2: Learning Dota (Valve Corporation, 2015a)

## **1.8 Dissertation Outline**

This dissertation is divided into nine chapters. The present chapter (Chapter 1) has provided background information about Thailand (the target country for this study), relevant leadership theories, and gamification. Chapter 2 discusses essential literature for constructing the theoretical framework of this study. Based on the literature, Chapter 3 proposes a theoretical framework for leadership development through online gameplay. Chapter 4 presents the methodology to test this theoretical framework. Chapter 5, 6, and Chapter 7 are the empirical chapters, in which the methods used for the analysis are based on the methodology presented in Chapter 4. The chapters will test hypotheses and will discuss the findings chapter by chapter. Chapter 8 concludes the main findings and discussions. Finally, Chapter 9 discusses the implications and concludes this dissertation. The detailed roadmap of this dissertation is as follows:

Chapter 1, the Introduction, has presented the scope of the study and has provided background information relevant to the fields. Section 1.3, Leadership in Thailand, presented previous literature about the leadership scenarios in Thailand. As Thailand is the primary focus of this study, the chapter also discussed the rapid growth of the ICT sector that has facilitated the market potential for the video game industry in the nation. In Section 1.4, Growth of the Video Game Industry in Thailand, Thailand's current gaming scene and the influence of the video game industry on the society were discussed. Section 1.5, Background to Gamification, presented a general background to video game studies. It discussed how entertainment video gameplay has evolved to become eSports. Section 1.6, Multiplayer Online Battle Arena (MOBA), introduced the MOBA genre and the games DotA and HoN. These games are the primary subject of this study. Accordingly, the game mechanics will be elaborated upon in detail.

Chapter 2, the Literature Review, discusses previous literature relevant to the field of leadership studies. Section 2.1, Theories of Leadership, provides the background literature about leadership theories and discusses the theories that are necessary for developing this study's theoretical framework. The discussion focuses on the works of renowned leadership theorists such as Kurt Lewin, Ronald Lippitt, and Ralph K. White with regard to behavioral leadership theory; Bernard M. Bass and Ralph M. Stogdill on the universality of leadership,

and Fred E. Fiedler, Victor H. Vroom, Philip W. Yetton and Arthur G. Jago on the contingency leadership theories. This chapter also extends its scope to leadership exhibited in the virtual environment through virtual teaming and eSports. Lastly, the process of connecting leadership behaviors to gameplay will be assessed through literature about situational priming and Albert Bandura's social learning theory. The literature is essential for building the theoretical framework and hypotheses; thus, will be the main topic of discussion.

Chapter 3, the Theoretical Framework, develops a theoretical framework for leadership development through online gameplay. The theoretical framework is divided into three phases. The firstly is the existence of leadership behaviors in both real and virtual scenarios; this phase of the framework proposes that the typology of leadership occurs in the real world as well as in video games. The types of real-world leadership are referred to as leadership styles. Characteristics of each leadership style — autocratic, democratic, and laissez-faire — will be examined. The leadership characteristics in MOBA games are presented as game roles. Characteristics of each game role — carry, support, and ganker — and gameplay strategies will be discussed. A confirmation of the universality of the types of leadership led to the second phase of this framework — the relationship between the leadership behaviors in the two worlds. Based on the similarity of key characteristics of leadership in real-world and MOBA environments, the second phase of this framework proposes the links between leadership styles and game roles. The establishment of this relationship enables the causality proposition that video gameplay influences the development of leadership behaviors. How players exercise roles in MOBA games can reinforce the adaption of prosocial behaviors associated with leadership through the processes of situational priming and social learning. This is the final phase, and completes the theoretical framework for leadership development through online gaming.

Chapter 4, Research Design and Methodology, presents a research methodology designed to test the proposed theoretical framework. This chapter will elaborate on the use of the questionnaire and its design. Other methods for data collection include the scripts of interviews with professional Thai eSports players, their competition replays, and an interview with the marketing director of Thailand's leading online game service provider. This chapter will also describe the method of analysis that will be used to address the collected data. The statistical

models used for analyzing structured data include principle component analysis (PCA), multinomial logistic regression (mlogit), propensity score matching (PSM), doubly robust estimation, and sensitivity analysis. The qualitative method for unstructured data involves direct content analysis.

Chapter 5, *Applicability of Leadership Behaviors in Real-world and Virtual Environments*, initially explores the first phase of the theoretical framework. The existence of leadership in the socio-cultural-environment of Thailand is investigated. Using the concepts of leadership derived from Western literature, the applicability of the leadership behaviors described is tested in both the real- and the virtual-world scenarios. In this chapter, a closed-ended questionnaire was administered to explore game players' leadership behaviors and MOBA gameplay actions in Thailand. The data obtained from this questionnaire will be analyzed using the PCA. This chapter will identify the patterns of behaviors and justify the consistency of the leadership styles and game role typologies as referred to in Western theories.

Chapter 6, *Relationship between Game Roles and Leadership Styles*, will investigate the relationship of real-world leadership and the roles in games. The theoretical framework of this chapter includes the leadership styles and game roles described in the previous chapter, and incorporates the contingency model of leadership into the framework. In order to examine this relationship, this chapter conducted two major quantitative and qualitative analyses. First, Section 6.1, *Correlation between Game Roles and Leadership Styles*, will examine the theoretical relationship between the two worlds quantitatively. This analysis uses mlogit and the estimation of its marginal effects on the previously collected questionnaire data. Second, Section 6.2, *Game Roles Adopted by Professional eSports Players in Relation to their Leadership Behaviors*, aims to provide a qualitative explanation of the relationship established by the quantitative analyses. This section analyzes the interview statements of Thai professional eSports players and their video game competition replays qualitatively. The professional players' real-world behaviors are observed in conjunction with the game roles they adopt in the team. The results of both quantitative and qualitative analyses will be jointly interpreted and discussed.

Chapter 7, *Gameplay Effects on Leadership Behaviors*, is the final phase of the theoretical framework of this study. Based on the theoretical framework of the previous chapter, this

chapter incorporates the situational priming and social learning theories into the framework to describe the process whereby game players learn leadership behaviors through gameplay. This chapter adopts the non-experimental statistical technique of PSM for testing the hypotheses. Moreover, doubly robust estimation and a sensitivity analysis were performed to justify the results and this study's framework.

Chapter 8, Video Games as a Didactic Tool, will summarize the key findings and discuss the research questions. The discussion will be extended to the implications for game players with regard to how games should be played, implications for game developers concerning their social responsibilities, and the implications for researchers regarding the future of the video game industry and its foreseeable, extensive impact on society.

Chapter 9, the Conclusion, complete the dissertation by providing the overall conclusion. This chapter will also address the study's limitations, and will make recommendations for future researches.



## **Chapter 2**

### **Literature Review**

Whilst there is little literature that discusses the topic of video games, most of the small amount there is argues against the potential benefits of video games. The existing literature highlights the negative aspects of games, including antisocial, sexual, violent, and warfare contents. Literature that argues the contrary remains very limited, particularly literature that addresses the prosocial aspects of multiplayer online games, such as teamwork, teambuilding, collaboration, competition, and leadership experiences. This study hopes to contribute to the lack of knowledge about the prosocial aspects, particularly the leadership features of video gameplay. To this end, this chapter will discuss the literature that is necessary for building the theoretical framework of this study. Previous works on real-world leadership will be investigated, together with the concept of virtual teaming. This investigation will generate insight into the leadership aspects that exist in eSports. Moreover, an extensive revision of the situational priming and social learning theories will provide a better understanding of how game players theoretically connect their video game experience to real-world leadership.

#### **2.1 Theories of Leadership**

Early leadership theorists assumed that great leaders are naturally born with exclusive characteristics such as intelligence, confidence, charisma, and social skills. Leadership theories such as the Great Man theory (1840), proposed by Thomas Carlyle (1795 – 1881), and trait theory argue that leadership consists of immutable inbred qualities and cannot be learnt (Galton, 1892; Hackman & Johnson, 2013). By contrast, the behavioral approach to leadership challenged these arguments and shed light on how leadership can be developed. Behavioral theories defined leadership as a set of behaviors that gave rise to styles of leadership. They focused their studies on specific behaviors or skill sets that contribute to making great leaders (Spillane, Halverson, & Diamond, 2004). Accordingly, through the process of learning, training, observation, and experience over time, all individuals should have leadership potential. Learning to be a leader is a life-long activity. Real-world leaders never stop seeking opportunities to acquire new skills (Seijts, 2013).

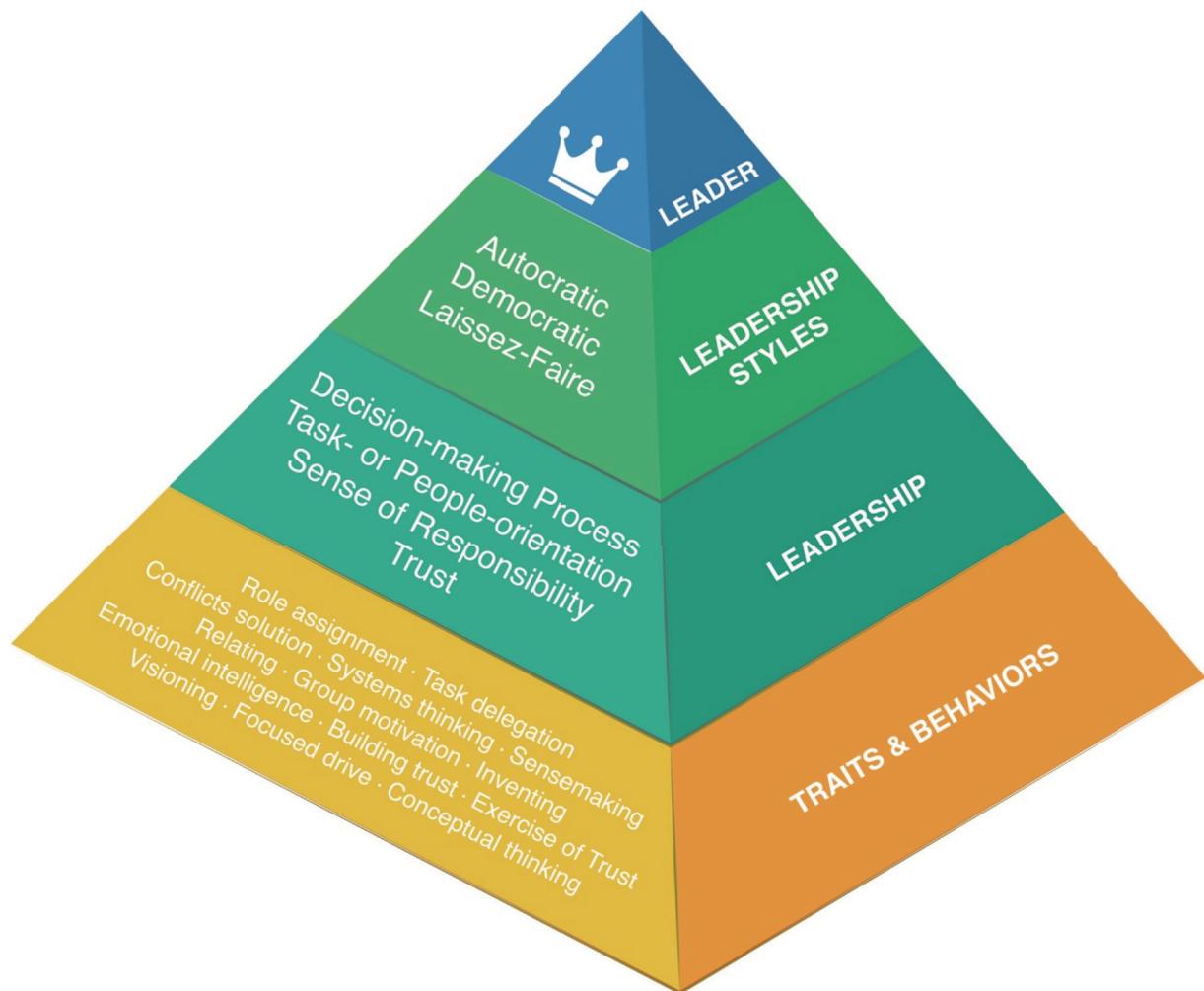
Leaders do not rely on inborn talent, and the phenomenon of leadership is situational. “A person does not become a leader by virtue of the possession of some combination of traits, but the pattern of personal characteristics of the leader must bear some relevant relationship to the characteristics, activities, and goals of the followers” (Bass & Stogdill, 1990, p. 76). The situational and contingency approaches argue that different situations requires leaders with particular leadership characteristics or styles that match the situation (Bass, 2008). Thus, leadership effectiveness is dependent on the circumstances of the situation (Fiedler, 1978, 2006). There is neither an optimal leadership style nor a perfect leader for all situations.

Behavioral theories identified patterns of the behaviors exhibited by leaders and categorized them as leadership styles. The situational theories proposed that each leadership style is optimal in situations that are favorable for a specific style. This study incorporates both the behavioral and the situational theories. It aims to argue that leadership behaviors and skills can be improved upon by continuous practice and commitment. The styles of leadership can be formed accordingly.

### **2.1.1 Behavioral Theories**

Behavioral leadership theories focus on the study of specific traits, behaviors, or the personality of a leader. Leadership influence is dependent on the leader’s behaviors, which in turn define his/her success. Leadership is the exercise of authority and the making of decisions (Dubin, 1951; Newstrom & Davis, 2002). Thus, the personality of a leader or a leadership style is the means through which the authority is exercised, and is the process whereby decisions are made. Leadership styles were identified by the acts of managing or directing a group, planning and its implementation, and the motivation of group members (Newstrom & Davis, 2002). Figure 2.1 illustrates a top-down process of how leaders take action. At the same time, it also depicts a cognitive (bottom-up) model of how leaders are characterized. A different combination of each trait shapes how potential leaders make decisions, prioritize tasks or people, where their sense of responsibility lies, and how they exercise trust. Subsequently, these leadership behaviors characterize the leadership styles of the leaders.

**Figure 2.1 Leadership Development Pyramid**



Source: Designed by the author.

Disregarding the emphasis on the position of power or the authority an individual possesses, this dissertation focuses on the behavioral level (micro-level) of leadership. An individual's traits form his or her leadership behaviors. They initially define the leadership style and perception of an individual as a leader (Hogan & Kaiser, 2005). This study thus explores the micro-level of the three major leadership styles proposed by Lewin (1938; 1939) under the situational control scenarios of the contingency model of leadership effectiveness proposed by Fiedler (1964, 1978, 2006). This study will not address the ability of an individual to become a real-world leader, but will focus on the development of the fundamental traits and behaviors necessary to become one.

**Kurt Lewin (1890 – 1947) leadership style framework.** Lewin is a noteworthy scholar in the field of leadership and organization management studies. After earning his doctoral degree at the University of Berlin in 1916, Lewin later moved to the United States where he held teaching positions at Stanford, and subsequently at the University of Iowa. In 1944, Lewin established the Research Center for Group Dynamics at the respected Massachusetts Institute of Technology (Smith, 2001).

Amongst many of the experiments concerning group dynamics, Lewin and Lippitt most notably performed leadership decision-making experiments on young children in 1938 – 1939. In the research article entitled “An experimental approach to the study of autocracy and democracy: A preliminary note”, Lewin and Lippitt (1938) described two different styles of leadership based on their observations of children’s group interaction behaviors — autocratic and democratic leadership styles. In the following year, another experiment concerning the pattern of aggressive behaviors in experimentally created social climates was conducted. Through this experiment, Lewin, Lippitt, and White (1939) identified a new, third style of leadership, known as the laissez-faire leadership style.

### **2.1.2 Contingency Theories**

**Fred E. Fielder (1922 – present) Contingency Model of Leadership Effectiveness.** Fiedler is a renowned scholar in the study of leadership and organizational performance. He was professor emeritus at the University of Washington, as well as the president of the American Psychological Association’s Foundation for Personality and Social Psychology. In 1967, Fielder published his famous contingency model of leadership in his book *A Theory of Leadership Effectiveness*. The contingency model argues that the personality of the leader — known as the leadership style — and the degree to which a situation gives the leader control and influence — known as situational control — are the two fundamental factors that define the effectiveness of an organization (Fiedler, 1978; Vroom & Yetton, 1973).

In addition to his famous contingency model, Fiedler also developed a leadership-orientation measurement known as the Least-Preferred Coworker (LPC) scale (Fiedler, 1967). However, Fiedler’s LPC scale was criticized for its lack of flexibility. The leadership measuring

methodology and its supporting evidence also concerned some scholars (Ashour, 1973; Schriesheim & Kerr, 1977; Vecchio, 1983).

The LPC scale was based on a scenario in which respondents were asked to describe the person with whom the respondent least preferred to work using a pair of keyword descriptions, such as friendly versus unfriendly, to be rated on a scale of one to eight. The results of the LPC scale should identify whether the respondent has a people-oriented or a task-oriented style of leadership. Note that Lewin's autocratic and democratic leadership styles are interchangeable with Fiedler's task- and relations-oriented leadership styles, respectively (Bass, 2008; Fiedler, 2006). Modern leadership typology is based on the dimensions of autocratic and democratic leadership styles, regardless of the terminology used in different taxonomies (Luthar, 1996).

Utilizing the LPC scale, Fiedler carried out a field experiment to test his contingency model. He measured the leadership styles of military leaders, and then assigned the soldiers to multiple tasks. The structures of the tasks were manipulated in that some of the soldiers were assigned familiar and well-defined tasks. The rest were responsible for tasks with unclear instructions. The position of power was manipulated by appointing both higher- and lower-ranking soldiers as leaders. The favorability of the situation was also determined by the language spoken by each soldier. Some of the soldiers were grouped with others who spoke different languages, and the rest were grouped with comrades who spoke the same mother tongue.

Considering all the aforementioned factors — the leadership style of a leader, the task structure, the position of power, and situational favorableness — group performance and leadership effectiveness were studied. Fiedler found that task-oriented leaders were more effective among soldiers in situations that were either favorable or unfavorable to a high degree. On the other hand, people-oriented leaders were more effective in situations that were moderately favorable. Fiedler concluded that the performance of a group depended on whether the leader's leadership style was appropriate for the situation at hand. If a leader was assigned to a scenario that matched his/her leadership style, high group performance and effectiveness could be achieved (Fiedler, 1964, 2006).

**Vroom-Yetton-Jago Decision-making Model of Leadership.** Victor Vroom, Philip Yetton (1973), and Arthur Jago (1995) also argued that the most effective leadership style is contingent

on the situation at hand. They developed the Decision-making Model of Leadership, which depicts the decision-making pattern of a leader that varies according to the situation and the leader's involvement level. According to the leadership model, the factors that shape leaders' decisions are decision quality, subordinate commitment, and time constraints. Decision quality is the importance of a decision relative to the problem it aims to solve. The more critical the problem, the more debate and discussion are necessary. Subordinate commitment is the requirement for group members to embrace decisions made by the leader. Higher group participation will result in greater commitment of the group members. Time constraints limit the leader's capacity to include others in the decision-making process. If there is no time, the leader is required to make a prompt decision. If more time is allowed, the leader can seek members' opinions or encourage group discussions. An appropriate response to these fundamental factors is what defines the effectiveness of a leader.

Vroom-Yetton-Jago's decision-making process is presented in Table 2.1, explaining how leaders focus their judgment. The model defines leadership styles as AI (autocratic), AII, CI (consultative), CII, and GII (group). Respectively, these styles represent the decision-making processes that range from highly autocratic to highly democratic. The AI leaders dictate decision making. AII leaders tend to seek more information from the group before making decisions by themselves. On the other hand, CI leaders consult the group and incorporate its opinions in the final decision. CII leaders expect opinions and suggestions from each group member. GII leaders ensure that all group members agree on the final decision that was made by the group, and is thus the most democratic style of all (Vroom & Jago, 1988, 1995; Vroom & Yetton, 1973).

Vroom, Yetton, and Jago's theoretical model differs from that of Fiedler in that it views the situation more narrowly. While Fiedler argued that the effectiveness of a leadership style is influenced by the situation's favorableness (Fiedler, 1967), the Vroom-Yetton-Jago model is more focused on the leader's decision-making style. Whereas Fiedler compared different types of leaders, Vroom-Yetton-Jago considered the variability of behaviors within each individual leader. The circumstances that a leader encounters often dictate his/her subsequent behaviors. Thus, the model proposed that optimal actions taken by the leader regarding a problem should vary according to circumstances (Vroom & Jago, 1995).

**Table 2.1 Decision Process**

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<b>AI</b>	You reach a decision alone, employing whatever facts you have at hand.
<b>AII</b>	You reach a decision alone, but first seek some specific data from those who report to you <sup>1</sup> . You are not obliged to tell them about the nature of the situation you face. You seek only relevant facts from them – not their advice or counsel.
<b>CI</b>	You consult one on one with those who report to you, describing the problem to each and asking for the person’s advice and recommendations. However, the final decision is yours alone.
<b>CII</b>	You consult with those who report to you in a meeting (or portion thereof) devoted to the situation. You receive their advice and recommendations in this meeting, but the task of resolving any differences of opinions and of choosing one or more options is yours alone.
<b>GII</b>	You devote a meeting (or portion thereof) to a discussion of the situation and identification and consideration of possible decisions. Your goal is to help the group concur on a decision. You coordinate the meeting, facilitate the dialogue, protect minority viewpoints, and make sure all important factors are considered. Above all, you take care to ensure that your ideas are not given any greater weight than those of others simply because of your position.

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**Note:** <sup>1</sup> While these processes refer to direct reports, they are meaningful with respect to any group, including peers, customers, and suppliers.

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Source: Situation effects and levels of analysis in the study of leader participation (Vroom & Jago, 1995, p. 170)

## **2.2 Universality of Real-world Leadership**

Bass notably defined transformational and transactional leadership styles. Bass used his Multifactor Leadership Questionnaire (MLQ), which measures individuals’ leadership orientation to examine the universality of leadership, and concluded that “... although the model leadership may require adjustments and fine-tuning as we move across cultures, particularly into non-Western cultures, overall, it holds up as having considerable universal potential” (Bass, 1996, p. 731). While Bass’ studies concentrated heavily on Europe, den Hartog and her co-researcher tested the universality of transformational leadership across 62 cultures (including Thailand), and discovered that attributes such as foresight, encouragement, communicativeness, trustworthiness, dynamism, and positivity were universally endorsed. Nevertheless, the study also found that several aspects, such as ambition, uniqueness, and sensitivity, are culturally contingent (Den Hartog, House, Hanges, Ruiz-Quintanilla, & Dorfman, 1999). Sinha (1984) conducted a study in India, and proposed a model of effective leadership style in the Indian environment. Yokochi (1989) discovered that the leadership concepts of inspiration and contingent reward were applicable to Japanese organizations. In

Thailand, Yukongdi (2010) used a leadership measurement derived from Western studies to identify Thailand's preferred leadership style,(2010)(2010)(2010) and discovered that Thai scholars' interpretations and definitions of leadership differed from those in Western literature. Despite this difference, the study concluded that Thai people prefer a democratic leadership style, and noted that leadership behaviors may be transferable across cultures (Yukongdi, 2010).

### **2.2.1 Micro-level Leadership**

Previous studies have found transformational and transactional leadership to be universal, but the leadership model may require adjustment when implemented across cultures, especially in non-Western regions (Bass, 1996; Den Hartog et al., 1999). Nonetheless, these studies paid inadequate attention to the Southeast Asian region, and were primarily concerned with organizational leadership (macro) or social leadership (meta). Moreover, these studies were highly oriented towards business and the military, and are therefore not generalizable to the present study. It must not be assumed that everyone can or ever will be a leader. Therefore, it is essential to explore leadership from the micro level because it is the foundational level of traits and behaviors that contribute to individuals' leadership competencies (Rowland & Parry, 2009). Micro leadership triggers leadership ability even without the the power to lead or the position of leadership. It is the behavioral state that shapes the decision-making process (Rowland & Parry, 2009), determines the task-relationship orientation, forms the sense of responsibility (Evans, 1970; House, 1971) and generates trust (Keele, 2007; Luhmann, 2000). Accordingly, the present study recognizes Lewin's classic leadership behaviors as fundamental characterizations.

Lewin and his colleagues (Lewin & Lippitt, 1938; Lewin et al., 1939) observed the behavioral pattern of American children and categorized the behaviors according to three leadership styles — autocratic, democratic, and laissez-faire. Lewin's definitions of the three leadership styles concern individual or micro-level leadership behaviors (1938; 1939). Unlike Fiedler's task- and people-oriented leadership style that is exceedingly focused on the military (Fiedler, 1964), or Bass's transformational and transactional leadership styles that are highly focused on corporates (Bass, Avolio, & Atwater, 1996), Lewin's leadership styles are more applicable to the present study because they were not meant for application in work-related or military environments. The generality of Lewin's leadership theory is better suited for

implementation in a less complex leadership scenario such as eSports. Theoretically, the leadership styles are applicable to online gameplay with regard to the form of the game roles.

### **2.3 Virtual Team**

The development of information technology has offered the globalizing world a solution to the limitations of national boundaries. Modern communication technology enables individuals to function in virtual teams even when separated geographically. A virtual team is formed when a group of individuals works together from distant locations using communication technology (Lipnack & Stamps, 2008). While involvement in a team activity requires leadership skills, either in reality or virtually, many studies have criticized virtual teaming as being less effective and more time consuming than traditional face-to-face teamwork (Archer, 1990; Galegher & Kraut, 1994; McDonough, Kahn, & Barczak, 2001; Warkentin, Sayeed, & Hightower, 1997). This may imply that virtual leadership functionality is limited, especially when compared to the traditional type. According to the literature on the effective management of virtual teams, virtual-world leadership differs from real-world leadership with regard to the absence of physical interaction when crossing spatial boundaries (Bell & Kozlowski, 2002; Cascio & Shurygailo, 2003). Leadership in virtual teams is exercised through asynchronous communication and rarely, if ever, involves face-to-face interaction (Cascio & Shurygailo, 2003).

Leadership skills are crucial for the productivity of a virtual team. Bergiel, Bergiel, and Balsmeier (2008) noted in their study that trust among members is critical for leaders involved with a virtual team due to the lack of face-to-face communication. According to a study on the importance of goal setting in virtual teams, another critical factor for the success of virtual teams is the simplicity of tasks. Tasks must be simple and well defined, with clear and engaging goals. The more dispersed the members are, the clearer the tasks and goals should be (Forester, Thoms, & Pinto, 2007). These requirements are primarily due to the absence of real-world leadership's synchronous real-time interactive characteristics (Bell & Kozlowski, 2002; Cascio & Shurygailo, 2003). Hence, the requirement for a high level of trust, the presence of simpler tasks, and clearer goals are some key factors distinguishing virtual from real-world leadership.

### **2.3.1 Virtual Teaming in eSports**

The concept of virtual teaming has hitherto centered on work or business contexts. However, it also describes the interactions in eSports that involve competitive, asynchronous online gameplay as a team. The evolution of eSports, together with the concept of virtual teaming, began to attract academic attention because of the ambiguity of group and group leader effectiveness. In 2001, Manninen interviewed and observed the interactions between players of the world-renowned game Counter-Strike. His study concluded that the existing features in the game allowed players to work together as a virtual team, but not without technical limitations. It is interesting that the players tended to overcome these limitations by developing unique communication methods. The findings also indicated that participants were highly satisfied with the virtual interactions (Manninen, 2001). Ellis et al. (2008) developed a 3D game based on social psychological theory to observe players' interaction in the virtual environment, and concluded that gameplay could elicit role formation, cooperation, and communication among players. Most importantly, it also stimulated social behaviors. Similarly to Manninen's findings, players expressed high satisfaction with their virtual interactions (Ellis et al., 2008). Previous literature has hinted that virtual teaming in video gameplay may result in higher effectiveness in group collaborations.

### **2.4 Leadership in Video Games**

Durlak and his associates found that students taught social emotional learning (SEL) skills can manage relationships better and better at getting along. They are also more engaged at school which resulted in higher academic achievements by 11 percentile-point (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011). The SEL skills — including self-awareness, self-management, relationship, responsibility, and decision-making — are also presented in multiplayer online games. Online games provide a sophisticated platform that enables virtual human interaction and mimics reality (Barnett & Coulson, 2010; Lofgren & Fefferman, 2007). A variety of studies conducted on the virtual world has been multifaceted, but the most rewarding aspect is perhaps how video games can be used as a didactic tool for SEL skills development. Jane McGonigal (1977 – present) “is a world-renowned designer of alternate reality games — or, games that are designed to improve real lives and solve real problems” (McGonigal, 2010b, para. 1). In her book *SuperBetter*, she argued that video gameplay could

help players to improve their ability to control their attention, thoughts, and feelings. It gives the players' natural competency to self-motivate and to boost their heroic qualities, such as willpower, compassion, and determination (McGonigal, 2015). More specifically, those video games that simulate interaction among players may provide insight into and knowledge about how video gameplay shapes individuals' behaviors.

In 2006, Yee conducted a survey that explored the demographics, motivations and experiences players derived from massive multiplayer online role-playing games (MMORPG). He studied the MMORPGs' players and noted that the team collaboration involved in MMORPG environments provided opportunities for game players to experience circumstances that require leadership skills. The study also highlighted that younger game players — significantly more often than adult players — claimed to have learned real-world leadership skills from gameplay (Yee, 2006b). Similarly, Jackson et al. (2012) also reported a relationship between video games and creativity among 12-year-old children. These previous studies have contributed to the current discussion about gaming's potential link to leadership development.

In 2007, IBM<sup>11</sup> sponsored Reeves and his colleagues to conduct a pioneering study on leadership in games. This study, entitled "Leadership in Games and at Work", concluded that game environments facilitate leadership development in social contexts. They stated that "... game environments make leadership easier" (Reeves et al., 2007, p. 2). Reeves et al. noted that leadership in games encourages risk-taking, promotes leadership roles, and provides opportunities for players to practice leadership. The research further explained that the specific characteristics of game environments, such as virtual economies, the transparency of metrics, and connection methods for intergroup communication, are also critical to leadership development in individuals. Reeves et al. adopted the Sloan leadership model to explain leadership behaviors observable in MMORPG environments. The results highlighted that the sensemaking, inventing, relating and visioning dimensions from the Sloan model are embodied in MMORPGs (Reeves et al., 2007). This literature is of utmost importance in the study of games and leadership. It is landmark literature that firmly establishes the positive correlation

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<sup>11</sup> The International Business Machines Corporation (IBM) is a multinational technology and consulting corporation. The company was founded in Armonk, New York.

between games and leadership development. Nevertheless, their findings may be prone to bias because the samples used in the study were limited to one commercial community.

Jang and Ryu (2011) also supported the potential for leadership development through gameplay. Their study concluded that MMORPG environments expose game players to leadership improvement opportunities. They found that leadership factors in MMORPGs, such as value- and motivation-oriented, trust- and respect-oriented, and intellectual stimulation-oriented factors, are positively correlated with real-life leadership. The study used an in-game leadership measurement based on the MLQ. A quantitative analysis confirmed a positive relationship between leadership exhibited in MMORPG environments and leadership in reality (Jang & Ryu, 2011).

Both Reeves et al., and Jang and Ryu agreed that being part of a team in online games increased opportunities to experience leadership, which consequently fostered the emergence of leadership. Moreover, a recent study discovered that children who play video games for an hour or less a day have higher levels of prosocial behavior and life satisfaction when compared to children who do not play video games (Przybylski, 2014). These are several works that have established the connection between video games and leadership. However, there remains a gap in the body of literature to be filled by exploring specific leadership behaviors in relation to specific gameplay behaviors.

## **2.5 Situational Priming and Social Learning Theories**

This study used several social studies to theorize how behaviors in the virtual environment can interact with and impact on real-world behaviors. Bandura's notable social learning theory argues that the learning process occurs through direct experience or observation of an action and its consequences (Bandura, 1971). This theory hints at how game players can learn successful behaviors or discard actions with negative consequences that occurred during gameplay. The theory can be linked to experiments on the effects of situational primes. Nelson and Norton (2005) found that individuals primed with superhero roles are more likely to display helping behaviors and commit to future volunteering activities. A more recent experiment by Yoon and Vargas (2014) also found that individuals who played the hero role in games tended to display good behavior. By contrast, those who played the villain role were likely to exhibit

bad actions. The researchers described this phenomenon as virtual-self representation. Similarly, Greitemeyer and Osswald (2010) assigned individuals to video games with prosocial, neutral and aggressive contents and discovered that prosocial game content promotes helping behaviors in individuals. These studies hint at how video games affect the way players behave in reality, and possibly contribute to shaping their real-life personalities.

## **2.6 Contribution**

While most academic studies concern leadership at the macro and meta levels, few discuss the applicability of leadership models in Thailand. Even fewer works contribute to the gap between leadership behaviors in the virtual environment. As Bass (1996) noted, the systematic differences in beliefs, values, implicit theories, and traits associated with leadership cannot be overlooked. It must be noted that the present study does not attempt to explore macro and meta levels of leadership. In other words, the probability of an individual becoming a leader in an organization or in society will not be discussed.

Research into video games and behavioral development is diverse due to the multitude of game genres and behaviors examined. However, most studies of the subject of leadership potential in online games conducted to date have only involved the MMORPG genre. Moreover, many studies, such as those by Yee (2002a, 2002b, 2004), Jackson et al. (2012), and Reeves et al. (2007), refer to leadership as a general concept and not to specific behaviors that contribute to making a potential leader. Very few studies have succeeded in determining the effect of gameplay on leadership behaviors. Researchers may have been looking in the wrong direction, or possibly at the wrong video game genre. Further contributions to this topic should therefore seek to explore a different video game genre, and to perform a more in-depth examination of in-game behaviors associated with leadership. This study will therefore investigate games that are included in the multiplayer online battle arena (MOBA) genre. MOBA is a new video game genre that has rarely been discussed in the academic field.

This study hopes to contribute to the existing body of knowledge on the topic of leadership and its applicability across national borders and platforms. This applicability will denote how leadership is presented or performed in a virtual environment. Previous works have described the concept of a group of individuals forming a virtual team to work on tasks together over the

Internet. Albeit not directly related to video games, the characteristics and functions of virtual teaming resemble eSports. Both virtual teams and eSports incorporate the practice of teamwork and leadership in a virtual environment. These prosocial aspects of online games are a crucial link to leadership in reality. This study will therefore explore the prosocial behaviors related to leadership in eSports. The results will fill the gap in academic literature by providing conclusions regarding how playing specific roles in MOBA games impacts on game players' leadership behaviors.

## **Chapter 3**

### **Theoretical Framework**

This study proposes that video gameplay can contribute to the development of leadership. A theoretical framework that supports this proposition refers to the framework and findings of Reeves et al. (2007) as a point of departure. With the purpose of further deepening the understanding of the relationship between gameplay and leadership behaviors, this present study differs from the framework of Reeves et al. in terms of the game genre and the leadership models implemented in the theoretical framework. This study's framework was developed for video games in the MOBA genre. Thus, the dimensions associated with video gameplay are based on the mechanics and roles in MOBA games. Characteristics of the game roles are investigated, together with characteristics of the three leadership styles defined by Lewin (1938; 1939). Moreover, the circumstances in MOBA games are related closely to Fiedler's situational control scenario (1978).

This chapter proposes a theoretical framework that explains the process whereby the use of game roles influences the development of leadership behaviors. This framework can be divided into three fundamental phases — the applicability of leadership behaviors, the relationship between leadership styles and game roles, and the development of leadership behaviors through game roles. Firstly, the applicability of the leadership behaviors phase (Figure 3.1, Leadership Styles and Game Roles) is related to the micro-level leadership behaviors in both real and virtual worlds. Real-world leadership behaviors are categorized as leadership styles. In-game leadership behaviors can be identified as game roles. The presence of these leadership behaviors connects the leadership dimensions of the two worlds.

The second phase of the theoretical framework establishes the relationship between leadership styles and roles in games (Figure 3.3, Shared Behaviors and Situational Control between Real-world Leadership Styles and Roles in Games). The behaviors shared between leadership styles and game roles, in addition to the common situational control scenarios, explain the relationship between the two worlds. Game roles are connected to leadership styles under the MOBA game environment that favors the emergence of leadership.

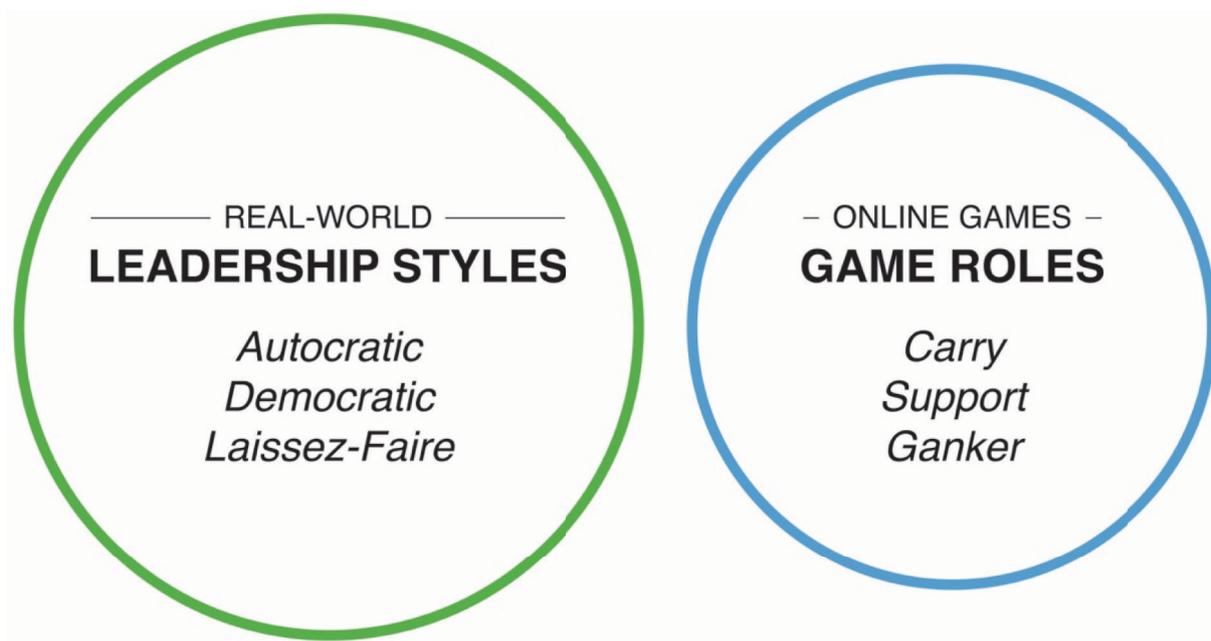
The relationship between leadership styles and game roles enables the final phase of this model. Situational prime and social learning theories are implemented in the theoretical framework to rationalize the development of leadership behaviors through game roles (Figure 3.4, Gameplay Influences Leadership Behaviors through Situational Priming and Social Learning). This phase explains the process whereby game players learn key leadership behaviors from being primed by the game roles they have mastered.

### **3.1 Applicability of Leadership Behaviors in Real and Virtual Environments**

Leadership style is an essential factor in the contingency leadership model. Whereas ‘leadership’ entails exercising authority and making decisions (Dubin, 1951), ‘leadership style’ refers to the means whereby such authority is exercised and the processes through which decisions are made. Leadership styles are the manners and approaches used in directing teams, implementing plans and motivating people. From the perspective of the contingency leadership model, an individual must recognize his/her leadership style, and exercise the style with appropriate situational control to achieve leadership effectiveness. Fiedler (1964, 2006) defined two leadership styles in his contingency leadership theory — task-oriented and people-oriented leadership styles. However, Fiedler’s leadership styles are work-environment oriented rather than aimed at addressing adolescents, who constituted the majority of the present study’s respondents. Hence, this study uses the three leadership styles — autocratic, democratic and laissez-faire — because they are the least specific to the work environment and the most applicable to video gameplay. The three leadership styles can be distinguished by their core behaviors, such as decision making, task fulfillment, responsibility, and trust. These are the traits and behaviors that game players may be able to adopt through competitive gameplay.

Leadership styles characterize the behaviors of a leader, whereas contingency models describe the circumstances in which he/she is placed. Both leadership theories were used to identify the video games to be examined, as well as to establish the foundation for this theoretical framework. The three leadership styles were used as references for in-game leadership behaviors. The concept of situational control within the contingency model was used to select the appropriate game mechanics to be used as particular situational controls in this framework. Accordingly, video games from the MOBA genre were the best candidates for the study of virtual leadership.

**Figure 3.1 Leadership Styles and Game Roles**



Source: Designed by the author.

The highly team-oriented scenario in MOBA games makes it extremely difficult for a solo player to lead the team to victory. The intricate human interactions throughout the gameplay and the games' features trigger leadership circumstances that emphasize each player's decision-making process, task-relationship orientation, sense of responsibility, and trust (Nuangjumnong, 2014; Nuangjumnong & Mitomo, 2012). One intensive MOBA match can expose players to a condensed leadership scenario similar to Fiedler's situational control scenario (Fiedler, 1978; Nuangjumnong, 2014; Nuangjumnong & Mitomo, 2012). MOBA gameplay incorporates the understanding of each game role and the application of the ability to form appropriate strategies as a team. Game role delegation can be done through pre-discussion or through the observation of team members' actions. A fully functional team requires a balanced and diverse combination of roles in order to accomplish all the tasks in a game. Game role selection or assignment is thus a crucial aspect of the recognized strategies that all game players must acknowledge. Each game role encompasses different responsibilities with regard to the distinctive capabilities. Each game player is obliged to adopt a role that is deemed appropriate for the team, considering his/her gaming skill for that role, as well as the team

members' competence. One single role cannot succeed without the others. It is up to the five players to delegate in-game responsibilities effectively. Each player must exercise his/her part to the fullest extent, aiming towards the team's common goal — victory. Hence, role assignment is one of the most important aspects of leadership practices in gameplay.

The three major roles in MOBA games — carry, support, and ganker — are theoretically equivalent to virtual-world leadership; each game role has defined responsibilities and personalities that mirror the traits and behaviors of real-world leadership styles, particularly those defined in Lewin's model (1938; 1939). The MOBA game environment offers limited leadership practice at the micro level because it does not have the complexities of reality. More sophisticated leadership aspects, such as possession of power, command hierarchy, punishment, and reward are not features of MOBA games. The games' leadership features are limited to the interactions between team members who are working together to overcome the game's challenges. These limitations make Lewin's primary leadership typology the most appropriate representation MOBA game roles. This phase of the theoretical framework will be quantitatively tested in Chapter 5, *Applicability of Leadership Behaviors in Real-world and Virtual Environments*.

### **3.1.1 Leadership Styles**

This study adopts the leadership style framework developed by Lewin (1939). The framework defined three leadership styles — autocratic, democratic, and laissez-faire — and summarized the contrasting characteristics of the three styles, as shown in Table 3.1, *Brief Summary of the Contrasting Methods of the Leaders in Creating the Three Types of Group Atmosphere*. The leadership styles are also differentiated by their distinctive communication patterns. Hackman and Johnson's (2013) work provided a list of leader's communication behaviors — shown in Table 3.2 — to help with the identification of leadership styles.

**Autocratic leadership style.** Ideal autocratic leaders — also referred to as authoritarian leaders — are directive, controlling, discouraging, and suppress participation (Luthar, 1996). Examples of famous leaders with an autocratic style are John D. Rockefeller (1839 – 1937) — founder of the Standard Oil company, Richard M. Nixon (1913 – 1994) — the 37<sup>th</sup> president of the United States, and Bill Gates (1955 – present) — founder of Microsoft (Dogra, 2011; Gill, 2014).

Autocratic leaders exercise exclusive control over group decision-making processes. They rarely accept input from others, and autonomous decisions are unwelcome (Eagly & Johnson, 1990). Autocratic leaders subsequently issue commands to the group as they exercise close supervision in a one-direction, downward manner (Hackman & Johnson, 2013).

Autocratic leaders are sensitive to inaccuracies or unproductivity during the work process. Accordingly, they dictate the work processes of each member and enforce strict procedures to ensure productivity and that the outcomes are precisely as intended (Lewin & Lippitt, 1938; Lewin et al., 1939). An autocratic leadership style emphasizes tasks over relationships (Bass, 1990), thereby assuming that all members are inefficient and unproductive. The fear of unproductivity and the control they attempt to exert reflect the autocratic leaders' lack of trust. Autocratic leaders do not trust the group members to complete the allotted tasks effectively unless given orders and supervision. Consequently, acquiescent obedient behavior will be rewarded, and erroneous actions will be punished by the autocratic leaders (Hackman & Johnson, 2013). The rewards and punishment, as well as their praise and criticism, can be subjective and personal (Goodnight, 2004; Hackman & Johnson, 2013; Lewin & Lippitt, 1938; Lewin et al., 1939; Luthar, 1996).

Autocratic leaders tend to consider themselves to be the most important part of the group, and as having the highest level of responsibility in the group. Their dictatorship may lead to an increase in stress and aggression among the group members (Day, 1971; Day & Hamblin, 1964; Rudin, 1964). Although often viewed as too harsh and absolute, autocratic leaders prove to be a positive force when a situation requires a speedy resolution. Productivity and group performance can increase significantly when autocratic leaders are present (Derue, Nahrgang, Wellman, & Humphrey, 2011; Lewin & Lippitt, 1938; Lewin et al., 1939; Ley, 1966; Shaw, 1955). They are more effective in leading poorly organized groups or when dealing with younger and unpredictable individuals (Bosiok & Sad, 2013; Weinberg & Gould, 2015). Moreover, in less complicated matters, autocratic leaders are able to lead the team through hardships to accomplish tasks successfully, especially when the leaders are knowledgeable (Cammalleri, Hendrick, Pittman, Blout, & Prather, 1973). However, the autocratic leadership style is ineffective for tasks with higher complexity (Rudin, 1964).

**Table 3.1 Brief Summary of the Contrasting Methods of the Leaders in Creating the Three Types of Group Atmosphere**

<b>Autocratic</b>	<b>Democratic</b>	<b>Laissez-Faire</b>
1. All determination of policy by the leader.	1. All policies a matter of group discussion and decision, encouraged and assisted by the leader.	1. Complete freedom for group or individual decision, without any leader participation.
2. Techniques and activity steps dictated by the authority, one at a time, so that future steps were always uncertain to a large degree.	2. Activity perspective gained during first discussion period. General steps to group goal sketched, and where technical advice is needed the leader suggests two or more alternatives procedures from which choice could be made.	2. Various materials supplied by the leader, who made it clear that he would supply information when asked. He took no other part in work discussions.
3. The leader usually dictated the particular work tasks and work companion of each member.	3. The members were free to work with whomever they choose, and the division of tasks was left up to the group.	3. Complete nonparticipation by leader.
4. The leader was “personal” in his praise and criticism of the work of each member, but remained aloof from active group participation except when demonstrating. He was friendly or impersonal rather than openly hostile.	4. The leader was “objective” or “fact-minded” in his praise and criticism, and tried to be a regular group member in spirit without doing too much of the work.	4. Very infrequent comments on member activities unless questioned, and no attempt to participate or interfere with the course of events.

Source: Patterns of aggressive behavior in experimentally created “social climates” (Lewin et al., 1939, p. 273).

**Democratic leadership style.** Democratic leadership is also known as participative leadership (Vroom & Jago, 1995), and is sometimes referred to as enlightened leadership (Goodnight, 2004). Carlos Ghosn (1954 – present) — the chairman and chief executive officer of Renault, Nissan and Renault-Nissan Alliance — is an example of a successful leader with a democratic leadership style (UK Essays, 2015). Google Inc. is an example of a company with a democratic corporate culture (Gill, 2015). Friendliness, helpfulness, and encouragement of participation are ideal characteristics that define the democratic leadership style (Luthar, 1996). The style strongly emphasizes participation of all group members during the decision-making process.

Democratic leaders value debate, discussion, and the sharing of ideas. They hold two-way, open group discussions, and seek the opinions of other group members in the decision-making process and when setting mutual goals (Eagly & Johnson, 1990; Hackman & Johnson, 2013). Therefore, all members gain an overall perspective of the tasks, as well as general procedures to achieve the goals. Once there is agreement and visions have been shared, all members are free to choose whomever they wish to be partnered with and proceed to delegate tasks among themselves (Lewin & Lippitt, 1938; Lewin et al., 1939).

In contrast to the autocratic leadership style, democratic leaders emphasize the overall satisfaction of the group members over productivity, thereby significantly increasing members' satisfaction (Hackman & Johnson, 2013). The democratic leadership style is people-oriented in that "the leader's actions are based upon trust, integrity, honesty, equality, openness and mutual respect" (Goodnight, 2004, p. 821). Democratic leaders are supportive and appreciative of group members (Bass, 1990). They will make suggestions and provide alternative solutions. The high emphasis placed on all aspects of the group's members lead to the phenomenon that democratic leaders place a great deal of trust in their members. They believe that group members will be responsible for the tasks with which they have been entrusted (Goodnight, 2004; Lewin et al., 1939). Democratic leaders tend to provide positive feedback and reward accomplishment frequently, while minimizing punishment (Hackman & Johnson, 2013). Nonetheless, they remain objective and factual when giving praise and criticism (Lewin & Lippitt, 1938; Lewin et al., 1939).

It is evident that democratic leadership is the most favorable and positively assessed leadership style under normal circumstances in many societies (Bhatti, Maitlo, Shaikh, Hashmi, & Shaikh, 2012; Fredriksson & Wollscheid, 2007; Luthar, 1996; Yukongdi, 2010). Greater member satisfaction is achievable with democratic leadership style management. Democratic leaders' encouragement results in increased morale, which consequently leads to a higher quality of contributions from group members, thereby lowering absenteeism rates (Hackman & Johnson, 2013; Luthar, 1996; Woods, 2004). The act of inclusion also evaluates the members' participation, which stimulates creativity and generates innovation among members (Al-Khasawneh & Futa, 2012; Hackman & Johnson, 2013). Democratic leaders can increase members' perceived responsibility to the group effectively, as well as encouraging members'

commitment to group decisions for the attainment of mutual goals (Hackman & Johnson, 2013). However, researchers have argued that democratic leadership style is not necessarily more productive (Bhatti et al., 2012; Gastil, 1994). Democratic leaders' decision-making processes are time consuming and inefficient due to the attempt to encourage everyone to participate. Democratic leadership may lower the turnover rate significantly, especially in larger groups (Hackman & Johnson, 2013).

**Laissez-faire leadership style.** The laissez-faire leadership style is also known as the delegative or free-rein leadership style. Mahatma Gandhi (1869 – 1948) — an anti-war activist (Biography.com, n.d.-a), Mao Tse-tung (1893 – 1976) — a Chinese Communist revolutionary and the founder of the People's Republic of China (Pye, 1976), and Martin Luther King, Jr. (1929 – 1968) — the leader of the African-American Civil Rights Movement (Biography.com, n.d.-b) — are a few examples of well-known revolutionaries with a laissez-faire leadership style (Goodnight, 2004). The laissez-faire leadership style is a passive form of leadership that practices noninterference and hands-off leadership (Goodnight, 2004). Laissez-faire leadership is characterized by freedom of choice, minimal supervision and perceived responsibility. Laissez-faire leaders value absolute freedom without enforced policy (Eagly, Johannesen-Schmidt, & van Engen, 2003; Goodnight, 2004; Hackman & Johnson, 2013; Lewin et al., 1939).

The laissez-faire leadership style encourages self-rule and independence for individuals when determining procedures toward individual goals. Laissez-faire leaders delegate all rights and decision-making power to group members. They do not participate directly in decision-making process or interfere with work procedures (Bass, 2008). The policy and procedures are up to the group members to decide. Laissez-faire leaders tend to provide little or no direction to group members. They will supply the necessary materials to accomplish tasks, give guidance and suggestions, and provide alternative solutions to the members, but only when requested (Lewin et al., 1939). They reason that group members have their own ways of working efficiently; thus, they should be left to perform their delegated tasks freely (Hackman & Johnson, 2013). Accordingly, laissez-faire leaders place a high level of trust on each member and rely prominently on his/her capabilities and discipline.

Laissez-faire leaders avoid participation or becoming an important part of the group. They engage in a noncommittal and superficial communication style (Hackman & Johnson, 2013), and attempt to have the least number of obligations possible within the group. The laissez-faire leadership style also exhibits minimal concerns about the group or its members (Blake & Mouton, 1985). Laissez-faire leaders refrain from all kinds of interactions with the group members, including giving feedback and offering rewards or punishment (Hackman & Johnson, 2013). Members under the direction of laissez-faire leaders may feel a sense of autonomy in terms of their work processes and decision-making abilities (Eagly et al., 2003; Goodnight, 2004; Lewin et al., 1939).

The absence of leadership by laissez-faire leaders (Bass, 2008) means that this style has been criticized for being the worst and most destructive form of leadership (Einarsen, Aasland, & Skogstad, 2007; Goodnight, 2004). Laissez-faire leaders' failure to take responsibility for managing (Avolio, 1999, 2010; Bass, 1998; Burns, 1979; Eagly et al., 2003) can undermine the group's objectives and the members' welfare (Einarsen et al., 2007). Group members may feel isolated and lose motivation when laissez-faire leaders abdicate, which results in a decrease in participation. Consequently, group efficiency decreases significantly, thereby hindering creativity and innovation. The turnover rate and the quality of the output can slump, along with a decrease in members' satisfaction (Hackman & Johnson, 2013; Lewin et al., 1939).

On the other hand, laissez-faire leadership style is valuable when dealing with advanced group members that do not need strong leadership, and for whom in fact a more forceful leader might be detrimental. The laissez-faire leadership style has proven to be successful for religious, political, military, and even world leaders (Goodnight, 2004). This is because laissez-faire leadership is particularly effective when group members are highly educated, skilled, experienced, and trustworthy (Hackman & Johnson, 2013). In a group composed of expert associates, each member is already self-assured and individually driven to deliver accomplishments. Accordingly, laissez-faire leadership can increase the highly motivated experts' satisfaction and productivity. Laissez-faire management may also stimulate creativity and innovation if leaders provide appropriate guidance to the group (Hackman & Johnson, 2013; Lewin et al., 1939). The laissez-faire leadership style is often employed by outside experts, such as specialists or consultants (Hackman & Johnson, 2013).

**Table 3.2 Styles of Leadership Communication**

<b>Autocratic</b>		<b>Democratic</b>		<b>Laissez-Faire</b>	
1.	Set goals individually	1.	Involves followers in setting goals	1.	Allows followers free rein to set their own goals
2.	Engages primarily in one-way, downward communication	2.	Engages in two-way, open communication	2.	Engages in noncommittal, superficial communication
3.	Controls discussion with followers	3.	Facilitates discussion with followers	3.	Avoids discussion with followers
4.	Sets policy and procedures unilaterally	4.	Solicits input regarding determination of policy and procedures	4.	Allows followers to set policy and procedures
5.	Dominates interaction	5.	Focuses interaction	5.	Avoids interaction
6.	Personally directs the completion of tasks	6.	Provides suggestions and alternatives for the completion of tasks	6.	Provides suggestions and alternatives for the completion of tasks only when asked to do so by followers
7.	Provides infrequent positive feedback	7.	Provides frequent positive feedback	7.	Provides infrequent feedback of any kind
8.	Rewards obedience and punishes mistakes	8.	Rewards good work and uses punishment only as a last resort	8.	Avoid offering reward or punishments
9.	Exhibits poor listening skills	9.	Exhibits effective listening skills	9.	May exhibit either poor or effective listening skills
10.	Uses conflict for personal gain	10.	Mediates conflict for group gain	10.	Avoids conflict

Source: Leadership: A Communication Perspective (Hackman & Johnson, 2013, p. 41).

### 3.1.2 Game Roles

Similar to real-world teaming, a strategically effective team formation in MOBA includes balancing roles and delegating responsibility, known as a “game role.” As in American football or rugby (Rioul et al., 2014), in which players must fill specific positions, game roles in MOBA teams determine how game players should choose and use their heroes.

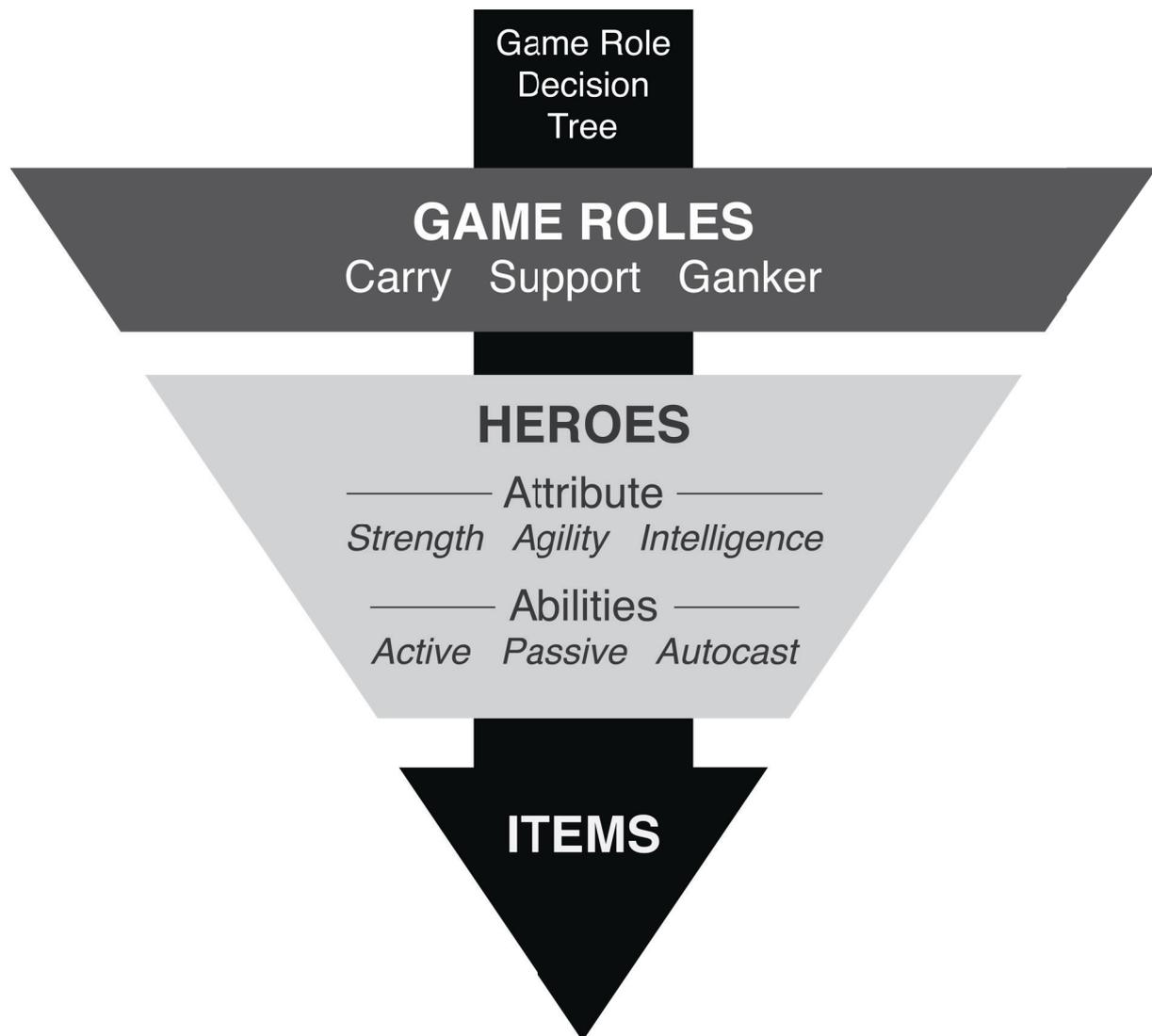
Various sources, such as the games’ official websites or other web-based forums, categorize game roles differently. Some sources claim there are two main categories of game roles, with

several sub-categories (Rodriguez, 2011b; “Role,” 2015), while other sources suggest three or more categories (Drakthul, 2012). All game roles defined according to MOBA games are carry, hardcore carry, semi-carry, ganker, initiator, tanker, disabler, escape, jungler, roamer, pusher, babysitter, and support. However, there are three primary categories of game roles that are universally described by all sources — carry, support, and ganker (Drakthul, 2012; “Role,” 2015; TapuAdmin, 2013). Most of the professional game teams participating in DotA and HoN competitions worldwide typically include these three roles (Cabahug, 2007; Khor, 2013b; Khor, Kolev, Järvinen, Benjamin, & Vitug, 2013). For example, the best DotA team of 2013, Alliance from Sweden, and the second best, Natus Vincere from the Ukraine, both consist of the world’s best carry, support, and ganker game players (Khor, 2013b; Khor et al., 2013).

These game roles define the way heroes can be played given their attributes, abilities, and potential items. For instance, having five players playing the same game role in a team essentially means that all players are doing the same thing. In other words, choosing heroes with similar attributes and abilities will limit the team’s capability and act as a drawback for the functionality as a whole. This will result in the entire team being subjected to the weakness of the particular role, since no other players on the team can compensate for the role’s disadvantages.

With regard to pairing the game roles with heroes, different heroes are suited to different game roles. There are over 100 heroes to choose from, but specific types of heroes are ideally suited to play only certain game roles. Countless combinations of game roles and heroes are possible. Taking into account the game roles that each game player chooses, either individually or assigned by the team, game players must consider the heroes’ attributes and abilities that are deemed optimal for their roles. In addition, it is crucial that players know how to use different heroes skillfully in different game roles, since this increases flexibility when building the team. Figure 3.2 describes the process whereby a player decides his or her role. However, many amateur game players are not familiar with or acknowledge these roles in games. Some may mistakenly reverse the process and choose their heroes before taking the game roles into account.

**Figure 3.2 Decision Tree for Choosing Roles in MOBA games**



Source: Designed by the author.

MOBA game roles are an aspect of gameplay strategy that forms an ideal team and defines the function of each player within a small group. A team that wishes to win requires a balanced and diverse combination of roles at its disposal. All roles in a team are equally important with regard to their different capabilities. Different roles have distinctive objectives and duties that players must undertake and achieve to maximize the team's effectiveness. Most importantly, different combinations of roles yield different game strategies. Thus, role selection is an important aspect of building the team's tactic. They are not objective selections that are made

during games, but are recognized strategies that game players adopt as a team. The typical characteristics of each game role are summarized in Table 3.3. However, regardless of the game roles or the gameplay strategy, the decisions made and actions taken by all game players remain highly situational. With regard to this study, the characteristics of the three game roles — carry, support, and ganker — will henceforth be the research focus. In addition, the jungler and non-assigned player categories are included as supplements and will be discussed in Chapter 6 and Chapter 7.

**Carry game role.** The heroes with carry roles are those that typically lack strength during the earlier stages of a game. For this reason, the carry role typically requires protection by ally heroes until the role becomes stronger. Carry heroes are exceedingly dependent on items in order to gain more strength. Therefore, teams usually use the strategy of allowing carry heroes to earn a bigger share of the gold and experience by allowing them to administer the last hit (DaemonLasher, 2009). Carry heroes cannot be killed too often throughout the game because they will lose the gold that is necessary to purchase items to boost their strength (Drakthul, 2012; FortyeNiN, 2011; SRKVEN, 2012). Despite their weak abilities early in each game, carry heroes are often expected to be the strongest by the end. This is because they have better attribute statuses and stronger skills, which are advantageous as they gain momentum later on (“Heroes,” 2013). Unlike the heroes used in the other roles, the amount of damage caused using their abilities is not fixed. Many of their abilities are passive, and have a permanent effect or are automatically activated in certain conditions. These abilities do not require magic points — also known as “mana” — and do not have a cooldown period. Hence, carry heroes are not restricted by limited mana or cooldown (“Abilities,” 2015).

The carry game role is most relied upon by the team during the later stages of the game. Players who take on a carry role are expected to inflict the highest amount of damage possible during the later stages of a game. The reason that the role is called “carry” hints at its main responsibility of carrying the team towards victory (Rodriguez, 2011b). A well-balanced team should therefore comprise at least one carry hero, but should never be comprised of more than two because in-game resources are limited and this will result in the creation of an unbalanced team (Leech, 2011; “Role,” 2015).

*Strategy of the carry game role.* In terms of gameplay strategy, a player who wishes to take the carry role should choose a carry hero that he/she wishes to utilize before other team members have made their choices. As mentioned previously, having one too many carry heroes will result in competition among members for in-game resources that are very limited. Thus, there should not be more than two carriers in a team. Choosing a carry hero early is a communication strategy to inform other team members that the role has already been taken. The other members should subsequently choose other heroes that could provide the carry hero with the necessary support. However, this strategy is based on an assumption that no game players know each other in person. It is also possible to predetermine the role of each member collectively before the match starts if the players in the team know each other.

Game players characterized as having a carry role, or carriers, should choose heroes that are suitable for the role. These heroes are most likely to be weak at the beginning of the game, but their passive abilities will empower the heroes and transform them into the most powerful heroes towards the latter half of the game (“Heroes,” 2013). A carry role must earn as much gold as possible from the start of the game. Therefore, the player would spend more time farming<sup>12</sup> to earn extra gold when compared to game players in the other roles (SRKVEN, 2012). Some carriers hunt in the jungle until their heroes grow strong enough. This strategy reduces the risk of being targeted and killed. Carriers also tend to commit to a lane to which they are assigned by the team. This is an attempt to reduce the amount of time spent changing lanes, which consequently causes the carry players to earn less gold (Drakthul, 2012). Another strategy is for the carriers to engage frequently in the last hit on enemy heroes, towers, and creeps to earn extra gold and experience points (DaemonLasher, 2009).

Carry players are crucial to the development of the entire team’s strategy towards victory (Rodriguez, 2011b). They are most relied upon during the later stages of a game due to their formidable strength. Carriers must avoid unnecessary deaths that will cost them gold and experience. Each death can significantly weaken the heroes and cede an advantage to the opposing team. Accordingly, carriers should not initiate an attack recklessly. They should avoid picking a fight, especially in the earlier stages of the game (FortyeniN, 2011).

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<sup>12</sup> Farming is a resource acquisition strategy widely use in MOBA gameplay, and refers to the act of hunting hostile creeps to earn gold and experience points (“Glossary,” 2015; PlayDotA.com, 2009d; Rodriguez, 2010a).

**Table 3.3 Brief Summary of the Characteristics of Major Roles in MOBA Games**

<b>Carry</b>	<b>Support</b>	<b>Ganker</b>	<b>Jungler</b>
1. Weak at the beginning of the game.	1. Strong defensive attribute from the beginning of the game.	1. Relatively strong at the beginning of the game.	1. Relatively higher survivability from the beginning of the game.
2. Equipped with offensive abilities that become more powerful over time.	2. Equipped with supportive abilities such as healing or disabling of enemies.	2. Equipped with abilities that inflict strong damage from the onset of the game and/or abilities that have disabling effects.	2. Equipped with abilities that have an area of effect and abilities that disable the enemies.
3. Has passive abilities with low or no cooldown. Low mana consumption.	3. Has active abilities with higher cooldown and mana consumption.	3. Has active abilities with higher cooldown and mana consumption.	3. Has either active or passive abilities with low or no cooldown. Low mana consumption.
4. Highly dependent on items; thus, high reliance on gold.	4. Independent of items. Focus gold spending on items that enhance team performance.	4. Lower reliance on gold. Requires only a moderate amount of gold.	4. Moderately dependent on items. Earned gold is spent either personally or for the team
5. Spends most of the time farming. Focuses on last hitting for gold and experience.	5. Farming is unnecessary. Allows teammates to engage in the last hit for extra gold earnings.	5. Farming is moderately necessary. Focuses on preventing the enemies from earning gold and experience.	5. Spends a considerable amount of time farming alone.
6. Stays within one designated lane at the beginning of the game.	6. Positions with the carry at the early stages of the games. May roam through lanes to provide support.	6. Rarely positions itself in one location for a long period. Roams throughout the map to seek out opponents.	6. Roams and hides in the jungle. Detached from the team.
7. Avoids risks and deaths at all cost. Does not initiate an attack.	7. May self-sacrifice if deemed necessary to keep allies alive as well.	7. Tends to behave unpredictably in both offensive and defensive strategies. Emphasizes offensive strategies regardless of the risks.	7. Avoids risks but will provide support as necessary.
8. Most relied upon during the later stages of a game due to its formidable strength.	8. Crucial defensive unit, but ineffective damage infliction.	8. Most critical at the early stages of the games, but gradually become less powerful due to limited abilities.	8. Resource allocation provides the team with a farming advantage. Acts as a supporter or ganker at the later stages of the game.

Source: Compiled by the author.

**Support game role.** The support role takes all actions for the collective benefit of the team rather than for individual advancement. Unlike the carry role, support heroes are not dependent on items. Therefore, they focus less on gold earnings and use their abilities almost exclusively for the team's success (Leech, 2011). Most of the support role's gold will be spent on items that yield collective benefits for allies (tech-ladan, 2010). The support role is usually paired with the team's carry hero in the early stages of the game to ensure the carry role's safety. The support role helps to execute offensive acts by disrupting opponents and provides better opportunities for allies to farm. This role is therefore crucial for ensuring that the carry heroes can achieve their full potential later in the game.

The concept of supporting can be achieved through actions that provide allies with necessary reinforcement and protection, and any actions that give the team advantages over its opponent. This involves actions that allow allies to earn extra gold or experience points. Thus, supporters are ultimately responsible for providing protection and keeping their allies alive (Mayer, 2012). Supporting can be achieved by using their heroes' healing or recovering abilities on their allies, for example ("Heroes," 2013). In some instances, support roles also sacrifice themselves to protect their teammates (PlayDotA.com, 2009c). Another crucial task of the support role is to secure and gain control of the territory in order for other team members to farm safely.

*Strategy of the support game role.* Heroes that are suitable for the support role usually have helpful abilities, such as healing or the disabling of enemies ("Heroes," 2013; PlayDotA.com, 2009c). These abilities are employed to ensure the safety and protection of teammates rather than to inflict damage on opponents (Mayer, 2012). However, most of the abilities are "active"; thus, they require activation for the ability to take effect. Utilization of active abilities will consume mana, and the active abilities can only be activated periodically ("Abilities," 2015).

The main priority of the support role is to protect and support other team members. Therefore, support game players must keep an eye on their allies and should never let them fight alone (Mayer, 2012). Support heroes' attack power and damage infliction on the opponent are not very effective. Hence, the strength of a support hero is less focused. Support role assistance in gaining strength for the other team members is emphasized instead. Accordingly, supporters would allow allies to keep a rare item that gives one extra life — known as the Aegis

of the Immortal in DotA, or the Token of Life in HoN — or runes that grant the holders special boosters (such as bounty, double damage, haste, illusion, invisibility, or regeneration) for a limited time (“Runes,” 2015). This strategy ensures that the item and the ruins are used more effectively against the enemy (NinjaMovesPro, 2012, 2014).

Support heroes are independent of items; therefore, do not require as much gold in comparison to other game roles. Supporters do not attempt to administer the last hit, but they would allow team members to have the last hit for additional gold and experience (Leech, 2011). Gold earned by the support role players is spent on items that will enhance team performance — for example, items such as Animal Courier, Observer Ward and Sentry Ward (tech-ladan, 2010).

**Ganker game role.** Ganking is the act whereby players attempt to eliminate as many opponents as possible. This action is named after the process in which a group of players “gangs up” on opposing players who have relatively low chances of defending themselves, or when a stronger player initiates an unexpected attack on weaker opponents (“Ganking,” 2015). Some have referred to the ganker game role as assassins or ninjas (Aethyna, 2015). A variety of ganking strategies can be used, such as invisibility, ambush, and trapping<sup>13</sup> (Rodriguez, 2010b; “Role,” 2015). In all these approaches, the ultimate purpose is to initiate an unpredictable offensive attack on a targeted opponent (Rodriguez, 2011a).

The ganker role is considered to have features between those of carry and support roles. The ganker role can act in either role, although gankers may not be as effective as the main carry or support heroes. The ganker role is mainly responsible for giving the team an early advantage during gameplay by inflicting as much damage on as many enemies as possible (“Ganking,” 2015). A successful ganker can reduce the enemies’ earning and level attainment significantly. They are also a significant force in helping to defend or expand territory, as they assist in tower destruction. In this sense, gankers eliminate obstacles and pave the way for victory.

*Strategy of the ganker game role.* Gankers usually choose heroes with abilities that can inflict a high degree of damage from the onset of the game (“Role,” 2015). Other powerful abilities

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<sup>13</sup> Trapping is a ganking strategy that involves restricting the movement of hostile units and preventing them from escaping (“Trap,” 2015).

that are effective for the ganker role are abilities with disabling effects, such as abilities that will stop or delay the enemies' actions and allow damage to be inflicted on them. Other powerful abilities that ganker game roles look for are disabling abilities ("Ganking," 2015). However, the abilities of the ganker heroes become weaker in the later stages of the games due to a fixed amount of hit points and cooldown limitations. Game players must therefore master ganker heroes' abilities from the beginning of the matches because their abilities are highly effective against lower-level heroes, but gradually become ineffective against higher-level heroes.

Gankers are required to be unpredictable but strategic. They should plan thoughtfully before initiating an attack. They may attempt to lure the enemies into strategically laid traps (Rodriguez, 2011a). For instance, baiting is when the team uses another hero as bait or as an easy target. The other team members are in fact lying in ambush and are ready to attack the enemies that take that bait. Backstabbing is when a player hides and waits for the right moment to initiate a surprise attack on the enemies. These are examples of basic ganking strategy that gankers should be able to utilize well. Gankers should focus their gameplay on these unpredictable moves and sophisticated strategies instead of on straightforward initiation.

Since gankers are responsible for distracting and obstructing the enemy, they usually roam across the map to search for their targeted enemies. Gankers rarely position themselves in one location for a long period because this proves ineffective in the light of the abilities the ganker roles possess ("Ganking," 2015). In order to utilize the ganker role effectively, players must be very patient throughout the game. This is because the best timing must be seized to execute the aforementioned ganking strategies and to achieve the successful elimination of the enemies. Game players may not always succeed in such strategies, but they must keep on trying and explore new ways to accomplish their tasks (Rodriguez, 2011a).

**Jungler game role.** The jungle is the area rich in neutral creep resources ("Jungling," 2015b). The jungler is a game role that must accumulate gold and experience efficiently from hunting creeps inside the jungle during the earlier stages of a game ("Jungler," 2014; PlayDotA.com, 2009e; Xenasis, 2012). Instead of normally engaging in one of the three main lanes, junglers detach themselves from the team and wander into the jungle. The jungle is covered by fog that

prevents the enemy from seeing what is hidden inside it. Unless supporting items (for example, an Observer Ward or a Sentry Ward) are used to clear the fog, junglers are less likely to be spotted by the enemy and are at less risk of being ganked (“Vision,” 2015). Accordingly, players can farm more safely without being threatened by their enemies. They have higher survivability and do not rely on their allies. The jungler game role also acts as the eyes of the team due to its roaming nature. Junglers can spot intruders effectively and prevent the team from gankers. At the same time, junglers may take advantage of the fog and stay hidden in the jungle, waiting to execute surprise offensive strategies. Their function for the team is similar to that of the support and ganker game roles (“Jungling,” 2015b; Xenasis, 2012). Therefore, junglers can provide support to the team’s supporters or gankers promptly and when necessary.

The role of the jungler becomes increasingly crucial in highly advanced matches (EternalLoL, 2014; Geere, 2012; JunDageki, 2013). As the competitions become more aggressive, game players must take advantage of all the resources available in a short time. Hence, wasting the gold and experience resources that are in the jungle or leaving the jungle unprotected is not an option.

*Strategy of the jungler game role.* Although all heroes can jungle (“Role,” 2015), the attributes and abilities of some heroes make them more effective as junglers. Heroes suitable for the jungler role must have high survivability and must not rely on the team (Aethyna, 2015). Typically, heroes that have abilities in area of effects (AoE) are preferred because they can blast many creeps that are within range at the same time. Other abilities, such as those in the summon group that allow players to summon extra units or convert the enemy into allies, and abilities in the lifesteal group, which enable health regeneration following each attack are proven to be very effective for jungling (“Jungler,” 2014, “Jungling,” 2015a; PlayDotA.com, 2009e). These abilities tend to have shorter cooldown periods and low mana consumption. They should also have at least one ability that can secure escape, such as abilities with disabling effects or teleportation, in case they encounter the enemy while jungling (Aethyna, 2015). These skills allow farming that is more efficient and provide sustainable defenses in the jungle.

Jungling is a strategy for resource allocation, as it takes advantage of the gold and experience sources in the jungle. Jungling in the enemy’s jungle territory can decrease their gold and

experience resources significantly. The traditional team formation only allows one solo lane<sup>14</sup>, but having a jungler in the team enables two. The additional solo lane in turn grants three players — the jungler and those occupying the solo lanes — a significant increase in gold and experience earnings because the resources are not shared with the allies nearby. In addition, it decreases the competition for last hits for both the enemies and the allies. However, a crucial tradeoff is the weaker solo lanes (Dimirti, 2013; “Jungling,” 2015b; PlayDotA.com, 2009e; Xenasis, 2012). Note that jungler role is not the focus of this study because it is uncommon in competitive gameplay. The jungler game role will mainly be discussed in Chapter 6.2, Game Roles Adopted by Professional eSports Players in Relation to their Leadership Behaviors.

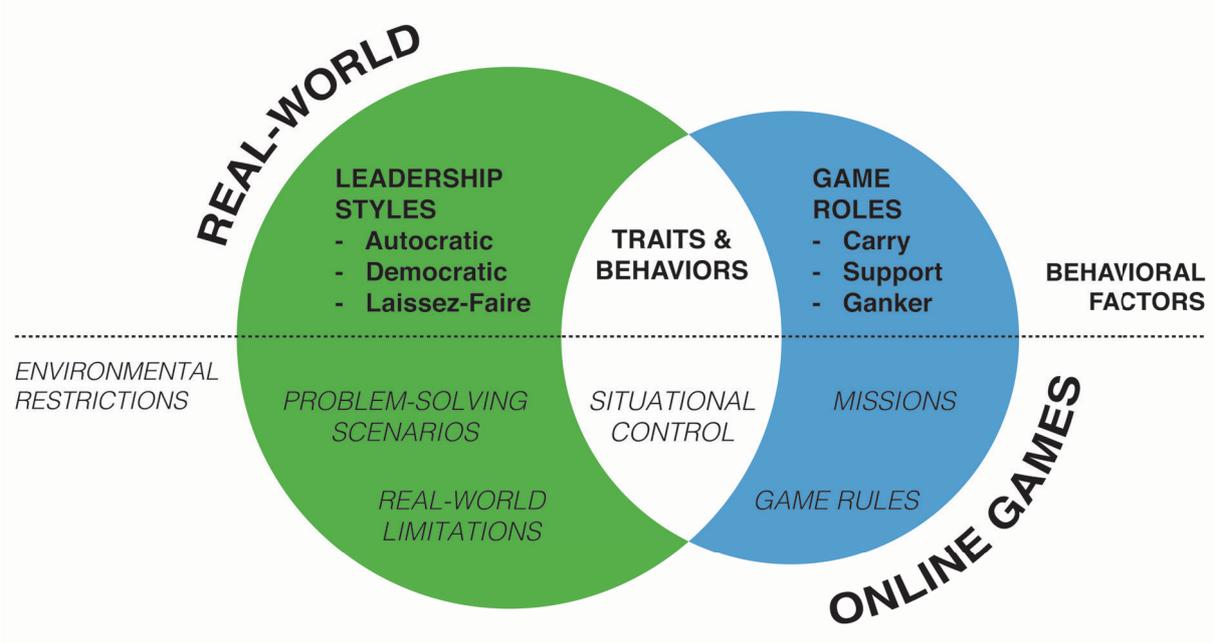
**Non-assigned players.** The term non-assigned players has been coined specifically for research purposes from Chapter 6, Relationship between Game Roles and Leadership Styles onward. This role refers to those game players who are not characterized by carry, support, ganker, or jungler game roles. They do not display any characteristics of these roles. The non-assigned players engage in gameplay without knowledge or awareness of the strategic concepts of MOBA games. They may also be game players who play the games solely for entertainment or just as a pastime with no concern for the game process and without expectations of winning. These players lack consideration of the games’ objective and the team’s collective goal — therefore, the motivation to cooperate and to engage fully in gameplay are absent.

It must be noted that the non-assigned players will not be used for the empirical analysis because they do not fall under any of the game role categories. Instead, this category is used to classify data from respondents with less definitive gameplay behaviors.

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<sup>14</sup> Solo laning is when a hero occupies one of the three lanes alone (Dimirti, 2013; “Lane,” 2015).

**Figure 3.3 Shared Behaviors and Situational Control between Real-world Leadership Styles and Roles in Games**



Source: Designed by the author.

**3.2 Relationship between Leadership Styles and Game Roles**

There is a connection between leadership behaviors and game players’ interactions in online games (Jang & Ryu, 2011; Yee, 2006b). Whilst the typology of real-world leaders is defined by leadership styles, in-game leadership — observable through the players’ interaction — occurs in the form of game roles. Leadership has distinctive styles, just as each game role has different abilities. Leaders are restricted by the given problem or situation to be resolved, and game players are restricted by the game rules and game environment they encounter. Leaders and game players therefore experience similar situational control scenarios. Within these scenarios, leadership styles and game roles also share overlapping traits and behaviors. These commonalities between scenarios and behaviors establish the relationship between leadership styles and game roles. Therefore, those players who practice a particular game role are more likely to possess the leadership style corresponding to that game role. While Figure 3.1 outlined the leadership behaviors in the real world and in MOBA games, Figure 3.3 incorporates the situational control scenarios into the framework.

### **3.2.1 Situational Control in MOBA**

Fiedler and Vroom-Yetton-Jago's contingency leadership models proposed that different leadership styles are most effective in particular situations (Fiedler, 1967, 2006; Vroom & Jago, 1995; Vroom & Yetton, 1973). The effectiveness of a group can be achieved by an appropriate match of a leader's leadership style and the situational control scenario. Just as leadership styles and situational control scenarios exist in the real world, they also exist in the virtual environment. Thus, real and virtual worlds are potentially connected through the universality of leadership behaviors and the commonality of the leadership environment.

Different roles in MOBA games hypothetically resemble the diversity of real-world leaders' personalities — otherwise known as leadership styles. For instance, the carry game role corresponds to the autocratic leadership style. The carry game role has formidable strategic strength toward the later stages of the game. Nevertheless, its player will face difficulties achieving this strength if the assistance of other game roles are absent. By having one too many carry players — theoretically similar to having too many autocratic leaders in a group — the team will suffer consequences such as insufficient resources and a lack of supportive features. Game players learn that simply utilizing one role cannot accomplish the goal. The players realize the importance of other game roles, thereby diversify the roles accordingly. Similarly, real-world leaders must acknowledge the personalities and competence of their associates in order to delegate tasks efficiently and to achieve leadership effectiveness. In this sense, one can see that the contingency models function within the MOBA game environment. This function prevents one particular game role from overpowering the others and ensures a good role balance during gameplay.

Another factor affecting leadership effectiveness is situational control of the scenario at hand (Fiedler, 1964, 2006). The situational control scenarios consist of three fundamental factors — leader-member relations, task structure and positions of power (Fiedler, 1967, 1978). Similarly, MOBA environments also present situational control scenarios in the form of player-to-player interactions, game missions and game characters' abilities. Real-world leaders have certain personality types that are restricted by social limitations and the specific rules that govern each problem-solving scenario. In a similar way, the moment that game players adopt a game role, they are immediately restricted by the characteristics of their role, in addition to the game rules

and missions. These factors define the levels of control exercised by players over in-game situations. The effectiveness of each role taker and the team's performance thus depend on appropriate adaptation to the given circumstances. In order to complete the missions in these in-game scenarios, each game player must make decisions and then take actions that are deemed most effective while considering the actions of other team members.

Leadership practices in real- and virtual worlds mirror each other in terms of behaviors and characteristics. Moreover, the situational control scenarios that exist in real-world circumstances also feature in the environment of MOBA games. The presence of behavioral and contingency leadership in both worlds interconnects the leadership aspects of the real world and video games. These commonalities consequently establish the relationship between the real-world leadership styles and the roles in MOBA games. This phase of the theoretical framework will be tested quantitatively and qualitatively in Chapter 6, Relationship between Game Roles and Leadership Styles.

### **3.3 Development of Leadership Behaviors through Online Gameplay**

Building upon the established link between the real world and online games, the final phase of this theoretical framework explores how games can influence leadership development. The rationale supporting this causality proposal derives from the similarity of behaviors in leadership styles and game roles. These behaviors are present within the situational control scenarios that have parallels between MOBA and real-world environments. Furthermore, the process whereby game players foster their leadership behaviors can be justified by the situational priming and social learning theories. As a result of in-game competition and collaboration, all players are primed by prosocial behaviors that are embodied in their game roles, including behaviors such as teamwork, resource allocation, task delegation, prioritization of tasks or people, and exercise of trust. The success and failure of these behaviors under a given circumstances enable the players to have learning experiences that encourage successful actions while discouraging actions that were unsuccessful.

**Figure 3.4 Gameplay Influences Leadership Behaviors through Situational Priming and Social Learning**



Source: The influences of online gaming on leadership development (Nuangjumnong, 2016, p. 146).

Figure 3.4 depicts the final theoretical framework, demonstrating the process whereby, as a game player exercises a particular game role, he/she simultaneously practices the leadership behaviors that characterize his/her role under simulated situational control scenarios. Accordingly, it is feasible that leadership behaviors are developed through continual exposure to prosocial games. In the contingent environment, the player is primed with the game role; thus, he or she learns its fundamental characteristics and adapts to its traits over time.

**3.3.1 How Gameplay Influences Leadership Development**

According to social learning theory, game players will be able to acquire new behaviors by direct experience or observation of others’ actions and the consequences of such actions (Bandura, 1971, 1973, 1997). MOBA games offer players the same opportunities to adapt leadership behaviors through game role utilization, and to experience situational control scenarios through in-game environments. Trial and error is encouraged in most video games,

especially in MOBA games. It is an essential process for problem solving and is the foundation of all learning theories (Radnitzky, Bartley, & Popper, 1987). Trial and error can be achieved in gameplay without irreversible consequences as would be the case in reality (Carstens & Beck, 2004; Kriz, 2003; Prensky, 2005). Thus, game players may experiment with their actions in games and discover both the rewarding and punishment consequences of those actions. In-game behaviors that led to rewarding consequences such as kills, gold, experience points, powerful characters, and victory (Prensky, 2005) will encourage players to perform or imitate such actions again. By contrast, in-game behaviors that resulted in punishment consequences that may include death, an increase in respawn delay, loss of gold and experience, character weakening, and defeat (Prensky, 2005) will reinforce the players' desire to avoid and never repeat such mistakes. As described in the social learning framework, these processes of differential reinforcement guide game players to adopt effective in-game actions — which also correspond to real-world leadership behaviors — or to discard ineffective actions. As mentioned previously, these in-game social learning processes are not restricted to direct experience, but are also possible through observation. Game players can observe other players, team members or enemies who play the same game role or roles, and can learn from the success or failure of their actions.

Playing a specific game role and learning effective in-game actions can simultaneously prime the players with the game role's characteristics and the prosocial aspects of gameplay (Greitemeyer & Osswald, 2010; Yoon & Vargas, 2014). Situational priming through the successful adoption of game roles can make players think of themselves as more decisive, productive, supportive, responsible and trustworthy individuals (Nelson & Norton, 2005). As a result, the combination of situational priming by in-game leadership behaviors and exposure to prosocial gameplay can influence individuals to behave correspondingly, thereby allowing game players to acquire the behaviors shared by games and leadership. This final theoretical framework will be tested in Chapter 7, *Gameplay Effects on Leadership Behaviors*, using a non-experimental research design.

### **3.4 Relationship between Game Roles and Leadership Styles**

The theoretical framework developed in this chapter proposed that leadership styles are interconnected with game roles (Section 3.1.1) through commonalities in behaviors and

situational control scenarios. Correspondingly, Section 3.3 proposed that game role utilization could influence the development of leadership styles through the processes of social learning and situational priming. This particular relationship between game roles and leadership styles includes the carry role and the autocratic leadership style, the support role and the democratic leadership style, while the ganker role is related to both the autocratic and the democratic leadership style. In addition, the jungler role is related to the laissez-faire leadership style; however, none of the major game roles has a relationship with the laissez-faire leadership style. The detailed relationships are discussed in the following sections.

### **3.4.1 Carry Game Role Correlates with Autocratic Leadership Style**

Autocratic leadership styles and the carry game role share similar characteristics, which are reflected through their behaviors that dictate decision making, the lack of trust given to team members, being highly task-oriented and having a self-centered sense of responsibility.

Both autocratic leaders and carriers dictate the overall group decisions. They require that other members provide them with support through strict obedience to the commands given by them. Autocratic leaders are those who keep all group decision making to themselves. They rarely discuss decisions with other group members or allow others into the decision-making process. This is similar to carriers, as the circumstances in games require that they be extremely decisive in the overall game strategy. For example, after choosing a hero that is suitable for the carry game role, the carrier requires other team members to choose heroes corresponding to his/her selection. This strategy is most advantageous for the carrier and subsequently for the team, albeit that it takes away the team members' freedom of hero choice. It can be said that the team's overall strategy is decided by the carrier from the beginning of a match due to the role's abilities, required items, and prospective strength.

Autocratic leaders assume that all group members are inherently unproductive; thus, the members are subject to strict supervision. These behaviors mirror the lack of trust in others, which is similar to carriers. The carry game role requires that its players succeed in strengthening their heroes for the team's sake. This pressure forces the carriers to be extra careful of any situations that may lead to death. Despite of carriers having other team members' support and protection, the carriers remain cautious about depending on the other members.

They rationalize that a slight mistake could cause their death and thereby jeopardize the team's success. Therefore, carriers are more prone to being self-reliant.

Moreover, autocratic leaders and carriers are both highly task-oriented. They emphasize the group's productivity over the fair treatment or wellbeing of members. Autocratic leaders make final decisions in the interests of maximum productivity or rate of return. They attempt to interfere with the working process of each member in an effort to ensure that all processes are executed according to their plan. Autocratic leaders enforce their orders on group members, regardless of whether the members agree or are satisfied with such commands. Similarly, a team's victory in MOBA games depends greatly on the strength of the team's carry hero. This condition makes the carriers seem greedy, since they take as many of the available resources for themselves to build personal strength. To illustrate this, a carrier tends to steal the last hit on the enemy's heroes and towers from his or her teammates in order to obtain extra gold for him/herself. Although these actions may cause other team members to harbor a feeling of unfairness, they are done for the team's collective victory.

With regard to their sense of responsibility, both autocratic leaders and carriers believe that they are the most significant members of the group, thereby experiencing a high level of responsibility for themselves. Autocratic leaders are conceited, believing that their own performance is more reliable than is that of others. This is also a result of the lack of trust in other members. Accordingly, their attempt to dictate all decisions and monitor all tasks habitually places great responsibilities upon themselves. This sense of responsibility leads autocratic leaders to rank themselves above all others. Analogously, carriers believe that the heroes they choose are of the utmost importance to their team — hence, the heroes must become the strongest amongst all the players. Circumstances in games also induce the carriers to prioritize their heroes because they are the key determinants of the team's victory. Other team members are obliged to protect their carry heroes to the point at which they may sacrifice themselves to keep the heroes alive. Under such circumstances, the self-centered sense of responsibility and the priority taken by carriers mirror the behaviors of autocratic leaders.

**Influence of the carry role on autocratic leadership behaviors.** Individuals with an autocratic leadership style tend to dictate group decision-making processes. They are inclined

to be absolute and task-oriented (Goodnight, 2004; Lewin & Lippitt, 1938; Lewin et al., 1939). The traits and behaviors of the carry role share similarities with the autocratic leadership style. For instance, it is unnecessary for a game's carry player to make strategic decisions with other team members. Instead, carry players make quick decisions that maximize their own benefits because they must grow stronger (FortyeniN, 2011; SRKVEN, 2012). Moreover, carriers are task-focused, which is also a characteristic of autocratic leaders who rule over team decisions and value productivity.

The analogy between these key leadership behaviors interconnects the autocratic leadership style and the carry game role. Therefore, practicing the carry game role may influence the development of an autocratic leadership style through the indirect practice of autocratic leadership behaviors, particularly those behaviors related to dictating decision-making processes, self-prioritization, and task orientation. On the other hand, misuse of the carry role — for example, failure to last hit the enemies' units to attain extra gold and experience, or the attempt to risk themselves for others — will affect the team's functionality and will ultimately result in the team's failure. Carriers will realize these mistakes as they master the role. These mistakes can influence the game players to become more task-oriented and self-centered, and to exercise doubt and distrust in order to fit into the carry role. Playing the carry role repeatedly should therefore have enhanced characteristics of autocratic leadership. Carriers are primed by the successful actions and reinforced by the in-game mistakes thus adopting the key characteristic of autocratic leadership. By contrast, the carry role does not share traits and behaviors with the democratic and laissez-faire leadership styles; thus, playing the carry role should not influence the development of democratic and/or laissez-faire leadership behaviors.

### **3.4.2 Support Game Role Correlates with Democratic Leadership Style**

Democratic leadership styles and the support game role share similar behaviors that are reflected through their behaviors towards collaborative decision-making, high trust given to all members, being people oriented and having a group-centered sense of responsibility. These aspects are in sharp contrast to the autocratic leadership style and to the carry game role.

Democratic leaders and their supporters value discussion, the sharing of ideas, and teamwork. Their decisions are solely dependent on unanimous agreement amongst group

members. Democratic leaders therefore ask for opinions before making decisions, and/or insist that decisions are made collectively. Similarly, the sharing of ideas or group discussion within games can be comprehended by observing the actions of others. With regard to the support role, in-game circumstances make supporters consider their teammates' heroes and the heroes' abilities before making any decisions. The heroes that supporters choose must be able to support other members effectively.

Because they entrust other members with important tasks, democratic leaders and supporters bestow a high degree of trust on their group members. Once decisions are made and tasks are delegated amongst the members, democratic leaders trust that each member is capable of keeping his or her responsibilities in check without strict supervision. These leaders feel confident that no group member will fail to deliver. Similarly, the supporters are responsible for providing team members with backup and protection. Their support allows the team members to tackle their tasks with fewer obstacles. Correspondingly, the key to the support game role is its ability to entrust other team members with critical tasks for which the other roles hold them responsible.

In this sense, both democratic leaders and supporters are highly supportive and people oriented. They put emphasis on promoting the competency of their group members, as well as on the fair treatment of others. Democratic leaders place importance on group productivity as well. However, they believe that this productivity can be achieved only if all members feel they are treated fairly. Democratic leaders would thus provide support to other members and may also offer a helping hand. Moreover, they would express appreciation of the work of others by praising or admiring the members' contributions. On the other hand, if the members were to fail in their delegated tasks, democratic leaders would offer suggestions and motivation instead of punishment. Along similar lines as democratic leaders, supporters will sacrifice their own gold to purchase items that support the overall team performance, instead of spending for personal benefit. Support heroes' abilities free them from being goal reliant, but allow them to earn for the team. Supporters also let the team earn more by giving the other players a chance to engage in a last hit on the enemy's units while they assist on the side. The supportive behavior, emphasis on team collaboration, and fair treatment make support game roles akin to the democratic leadership style.

Democratic leaders' and supporters' emphasis on teamwork mirrors how they prioritize other group members. The willingness to sacrifice their own benefits for the greater good of the team resembles the selflessness of democratic leaders. Throughout the work process, democratic leaders give support to members while each member proceeds with his or her work independently. The democratic leaders' personal needs usually come later, after the group members' needs have been satisfied. Similarly, supporters push their team members forward for opportunities to earn gold and experience. Although this is not ideal, they may sacrifice themselves in order for other members to survive or gain extra gold and experience points. It is also under this premise that support heroes are designed to be exceptionally strong in defense so that game players do not have to worry about building strength while supporting the team. In the later stages of the game, however, support heroes will become relatively weaker due to the lack of powerful items, but other team members become stronger because of the supporters' contribution.

**Influence of the support role on democratic leadership behaviors.** Individuals characterized by democratic leadership qualities tend to place a significant amount of trust in others. They value input from others and encourage suggestions for decision-making processes, and emphasize group participation strongly. Democratic leaders are people oriented and value the fair treatment of members (Goodnight, 2004; Lewin & Lippitt, 1938; Lewin et al., 1939). Just as the support role requires players to make decisions based on the optimum benefit for the team and its members (Leech, 2011; Mayer, 2012; tech-ladan, 2010), democratic leaders also make decisions based on group opinions for the good of the group. Both democratic leaders and supporters prioritize others over themselves. They believe that group members' well-being increases group effectiveness and leads to success. Supporters' and democratic leaders' motivation to satisfy other team members makes them highly people oriented and group driven. Moreover, because both supporters and democratic leaders rely on other team members to accomplish tasks, their behaviors reflect the high levels of trust they put in other members.

The democratic leadership style and the support game role are interconnected by the similarity of these key leadership behaviors. Hence, practicing the support game role can influence the development of a democratic leadership style by indirectly exercising democratic leadership behaviors. These shared behaviors allow supporters to adopt democratic leadership

qualities, such as group decision making, people-oriented behavior, and trust through gameplay. Supporters' failure to recognize other players' capabilities, to provide support, to share resources, or even the slightest act of selfishness will put all team members at risks, especially the team's carrier. The process whereby supporters recognize these errors as they master the role will reinforce the players to become more people-oriented, more responsible for the group, to rely more on others, and to take others into consideration. Supporters are primed by the prosocial behaviors of democratic leadership, as well as learning from ineffective actions as democratic leaders. Therefore, continuous utilization of the support role can develop democratic leadership qualities. Nevertheless, autocratic and laissez-faire leadership behaviors should not be affected by the support role because they lack common characteristics.

### **3.4.3 Ganker Game Role Correlates with Autocratic and/or Democratic Leadership Style**

Since the characteristics of the ganker role are a combination of carry and support roles, the ganker role is correlated with autocratic or democratic leadership styles — or with both. Gankers exhibit behaviors that mirror to the key qualities of autocratic and/or democratic leadership styles. Therefore, the relationship between the ganker role and the autocratic leadership style is similar to that discussed in Section 3.4.1. The ganker role, in relation to the democratic leadership style, is similar to that discussed in Section 3.4.2.

The differences of the ganker role in comparison to the carry or support roles lie in the responsibility gankers have, or their mission for the team. Carriers are responsible for strengthening their heroes in order to overcome the enemy in the later stages of a match, while supporters provide the team with backup and assistance. The gankers' responsibility, on the other hand, is to eliminate obstacles — especially the enemy's heroes — from the beginning of the match. Some heroes well suited for the carry role may also be suitable for the ganker role depending on how these heroes are used. This is because these heroes typically have high destructive powers and attributes that favor offensive strategies. Since the ganker role has characteristics overlapping with the carry role that is associated with autocratic leadership style, it follows that the gankers' behaviors encompass the qualities of the autocratic leadership style. These behaviors are associated with being task-oriented and having a self-centered sense of

responsibility. Both gankers and autocratic leaders face circumstances that cause them to care less about fair treatment, and more about the result of the assigned tasks

At the same time, gankers also incorporate democratic leadership behaviors in the aspects related to decision making and the high level of trust given to team members. The ganker role overlaps with the support role in terms of attributes and abilities. Heroes suitable for the ganker role typically have strong attributes that allow them to be fairly independent. They are also equipped with disabling abilities that restrict the movements of the enemies, thereby assisting the allies. A successful ganking strategy usually requires all team members, including the gankers, to work collaboratively. Strategies should be devised beforehand in agreement with other team members. In this sense, gankers do not have the power to enforce exclusive commands in gameplay. Although gankers are powerful, they still rely heavily on their team members. MOBA games' mechanics and the inherent nature of the ganker role forces gankers to prioritize teamwork. The group collaboration calls for trust that gankers must have in team members to accomplish the delegated tasks. Gankers share the high degree of trust in others with supporters and democratic leaders. Since the ganker role shares common characteristics with the support role that is associated with the democratic leadership style, it follows that the gankers' behaviors also include democratic leadership qualities as well.

**Influence of the ganker role on autocratic and democratic leadership behaviors.** The ganker role combines the functions of the carry and support roles, which resonates with a combination of the autocratic and democratic leadership styles. A ganker's responsibilities include both self-strengthening and providing advantages to the team ("Ganking," 2015; Rodriguez, 2011a). Self-strengthening is a carry role quality, in that the game players must prioritize themselves over others. In addition, the ganker role requires being task oriented in order to sustain advantages for the team. However, because the ganker role is inherently risky, gankers typically work with the team to deliver effective ganking strategies and to reduce risks (Rodriguez, 2010b). Their emphasis on teamwork leads gankers to prioritize group collaboration and group decision-making processes. Gankers thus place high trust in their team members because they rely on the members to achieve certain goals as part of their ganking strategies. Emphasizing group collaboration and high levels of trust are consistent with a democratic leadership style.

The similarity between these key leadership behaviors connects the ganker game role with autocratic and democratic leadership styles. Thus, gankers could stimulate an autocratic leadership style by the priming of self-prioritization and task-oriented behaviors, and could influence a democratic leadership style through the practice of collaborative decision-making procedures and the exercise of trust. By contrast, a ganker's failure to strengthen itself or to generate advantages for the team will expose all members to greater risk from the enemy's gankers. The ganker's failure to cooperate in a team would make it easier for the enemy to farm. As a result, the enemy's carrier would be overpowered and would be undefeatable. The process whereby gankers recognized their mistakes would encourage the players to become more task oriented, more centralized in the sense of responsibility, to rely more on others, and to value group collaboration. Gankers are primed by the prosocial behaviors of both leadership styles, and learn from the unsuccessful actions of autocratic and democratic leaders. Therefore, continuous practice of the ganker role can develop both autocratic and democratic leadership qualities. However, the ganker role should not influence the development of the laissez-faire leadership style, because there are no common behaviors.

#### **3.4.4 Jungler Game Role Correlates with Laissez-faire Leadership Style**

In addition to the three major game roles, this section will also explore the jungler role in relation to the laissez-faire leadership style. Despite the teamwork-oriented feature of MOBA games, not all players in MOBA enjoy working as a team.

I don't like playing with others in Dota 2. I find team fights deeply stressful. I get way too nervous while ganking, and unless I have a huge level advantage, I don't like even getting too close to enemy heroes if I don't have to. You might think that kind of attitude is a little against the spirit of a five-a-side team game. It's a bit like the winger in a football team just playing keepy-up on his own on the sidelines. But in Dota, there's a place for me. A place where I can be alone. That place is the jungle (Geere, 2012).

The jungler game role has unique characteristics, which means that those who dislike team play may find it most enjoyable. The players using the jungler role detach themselves from team activity and focus on resource mining. Accordingly, some may find the jungler game role highly suited to their play style. Accordingly, the characteristics of the jungler game role have similarities to the laissez-faire leadership style. Both the jungler game role and the laissez-faire

leadership style prioritize freedom and autonomous decision-making processes. They tend to avoid participating in group collaboration or making decisions unless absolutely necessary. In this way, laissez-faire leaders can evade conflicts in the real world, in a similar way to how the jungler game role avoids confronting the enemy.

Laissez-faire leaders exercise complete noninterference because they believe that individuals are best working on the assigned tasks independently and unsupervised. This resonates with the jungler game role in that their detachment is a tactical method of allowing the other members to have more resources in games without having to share them with the jungler player. They are neither task nor people oriented, as they only pay attention to their personal duties and delegate team matters to other team members. The delegation of important tasks reflects the high degree of trust in each team member's ability to accomplish his or her tasks. They rarely criticize or praise the accomplishments, and do not make comments unless pressed. These actions may reflect a lower sense of responsibility, but just as laissez-faire leaders respond to associates' requests, junglers also supply necessary recourses to team members. The primary tasks of the jungler role do not appear to be essential to the team's strategy. This is another factor that contributes to the lower sense of in-game responsibility, especially when compared to the other game roles. Similarly, as laissez-faire leaders neglect important tasks, they gradually become less fundamental and more dispensable. This allows the team to function autonomously, albeit transferring the sense of responsibility from the leader to the group members.

**Influence of the jungler role on laissez-faire leadership behaviors.** Laissez-faire leaders tend to delegate decision-making power to group members. They give complete freedom to the members to make decisions. They also provide very little or no guidance to group members. Laissez-faire leaders expect the members to solve problems on their own (Goodnight, 2004; Lewin & Lippitt, 1938; Lewin et al., 1939). These behaviors are identical to the characteristics of the jungler role. The jungler role requires players to detach themselves from the team to allow other members to farm and accumulate experience more effectively, although this is riskier. Junglers will provide assistance as needed, but will most likely not intervene in the team's activity.

The similarity of how laissez-faire leaders and the junglers avoid making decisions, their emphasis on personal tasks, the shift of responsibility onto others, and the high level of trust in other members enable the laissez-faire leadership style and the jungler game role to be correlated. Accordingly, utilizing the jungler role may influence the development of the laissez-faire leadership style through the practice of laissez-faire leadership behaviors that overlap with the jungler role. Successful junglers are primed with effective task delegation, a decentralized sense of responsibility, and the appropriate exercise of trust. On the other hand, ineffective jungling will impede the development of team members. Upon realizing their mistakes, junglers are reminded of the importance of task delegation and the exercise of trust. Therefore, continuous practice of the jungler role may develop laissez-faire leadership qualities. However, the jungler role does not require the decision-making process and task or people orientation. The lack of these dimensions of leadership behaviors may restrict leadership development through practicing the jungler role. Moreover, autocratic and democratic leadership behaviors should not be affected by the jungler role because their characteristics are dissimilar.

#### **3.4.5 Non-assigned Players Correlate with the Laissez-faire Leadership Style**

The laissez-faire leadership style and non-assigned players share similar behaviors because they prioritize freedom and exercise autonomous decision making. They remain neutral in terms of task- or people-oriented matters. They are susceptible to trusting others only to a certain extent, and have a limited sense of responsibility. The non-assigned players do not expect other team members to obey their decisions or support their actions during gameplay. Furthermore, they do not comply with other members' decisions.

The laissez-faire leaders and non-assigned players lack the motivation to participate in the group decision-making processes. In addition, they do not pass on commands, and nor do they criticize or praise other members' achievements. Laissez-faire leaders are unlikely to interrupt any group collaboration — instead, they stay away from it. They believe that other group members know what is best in order to complete their tasks; thus, there is no need to supervise or comment on any actions.

Both laissez-faire leaders and non-assigned players are neutral in terms of task- or people-oriented behaviors. They neither emphasize the importance of accomplishing tasks nor place

emphasis on the fair and good treatment of their group members. Although laissez-faire leaders pay attention to completing their tasks, they do not plan, nor do they consider the outcomes of their accomplishments. Non-assigned players resonate with laissez-faire leaders in the same way. They engage in gameplay without selecting game roles that would be to the advantage of the entire team. Non-assigned players tend to choose heroes that they like, regardless of what is best for the team. Accordingly, they engage in gameplay without a clear goal or a desired accomplishment in mind.

In terms of the susceptibility to trusting others, laissez-faire leaders and non-assigned players trust their group members only to a certain extent. The trust they give to members is based on the rationale that members are committed to the group and would accomplish the tasks they are given. Due to this mentality, laissez-faire leaders allow group members to make autonomous decisions during the working process. Laissez-faire leaders believe that, other than providing resources requested by the team, nothing more can be done. Corresponding to behaviors of the laissez-faire leadership style, the non-assigned players have a certain degree of trust in their team members as well. These game players allow their members to play freely since they are entrusted with sufficient skills to lead the team to victory. Non-assigned players are confident that the team still functions efficiently without their complete commitment. Hence, they often permit themselves to play games without any role assigned, thereby lacking in contributing to and taking responsibility for the team.

It is clear that the laissez-faire leaders and non-assigned game players both avoid taking on extensive responsibilities in their groups. They have a lower sense of responsibility compared to the other leadership styles and game roles. Their low sense of responsibility stems from the belief that they are not a fundamental part of the group. For instance, laissez-faire leaders avoid being an indispensable part of the team. They make few or no contributive comments and minimize participation in collaborative decision-making processes. This concept is analogous to the non-assigned players who do not adopt any game role for the team. This implies that the non-assigned players are not responsible for any task. Non-assigned players do not follow the team's strategy, and they do not act for the collective benefit of their team. Thus, the non-assigned players are not considered substantial members, especially when compared to the other game roles.

**Laissez-faire leadership behaviors contrast with game roles.** The laissez-faire leadership style emphasizes freedom in decision making. Laissez-faire leaders prefer to delegate decision making to other members, and tend not to intervene or supervise their working processes (Goodnight, 2004; Lewin & Lippitt, 1938; Lewin et al., 1939). Much of the literature has classified the laissez-faire leadership style as the absence of leadership behaviors that lead to unproductiveness among members (Avolio, Bass, & Jung, 1999; Derue et al., 2011). As discussed earlier, none of the major game roles shares common behavior with the laissez-faire leadership style. Laissez-faire leadership behaviors include being highly independent and detached from the group. The carry, support and ganker game roles, by contrast, have specific goals and responsibilities that require attentive interaction with the team. Therefore, these three game roles are dissociated from the laissez-faire leadership style.

### **3.5 Assumption**

The theoretical framework of this study assumes that roles in MOBA games mirror real-world leadership styles. This assumption is based on the rationale that online games resemble phenomena in a real-world society (S.-K. Lo, 2008). While different roles in games are unique in terms of characteristics and capabilities, each has its own objectives and responsibilities that the players are obliged to perform. The functionality of roles in games is similar to that of leadership in the real world. Therefore, it can be assumed that game roles are the means through which the in-game actions are executed, and the process that defines how decisions are made in the virtual environment.

With regard to video gameplay, it is assumed that game players make rational decisions when choosing game characters and during gameplay. The game players are assumed to have routine preferences for specific game roles and to attempt to exploit their game roles' abilities to the full. The game players put effort into maximizing their heroes' effectiveness and work towards the team's collective goal of victory. In order for game players to achieve this victory, it is assumed that they continue to play or practice their gameplay, aiming at mastering their gaming skills. Nevertheless, non-assigned players are not included in these assumptions, because they do not belong to any specific game role in the two games studied and are therefore not part of the sample included in the empirical analysis.

Part of this study (Chapter 6 and Chapter 7) drew on respondents with no work experience because of the assumption that exposure to a work environment may influence the respondents' behaviors. This limitation was inspired by Jang and Ryu's (2011) attempt to control for game players' previous leadership experiences. Jang and Ryu's methodology, with addition of Yee's findings that younger individuals are more conscious of in-game leadership (Jang & Ryu, 2011; Stewart & Barling, 1996), thus led to the specific selection of occupationally inexperienced young adults as study subjects. Accordingly, this study attempts to avoid the tendency of the work environment and group collaborations at work to have a significant impact on individuals' leadership behaviors, and to overshadow the leadership environment in games. It is thus assumed that work experiences have not yet shaped the original leadership styles of these individuals.

### **3.6 Summary of the Theoretical Framework for Leadership Development through Online Gaming**

The theoretical framework developed in this chapter aims to answer the question of how leadership can be developed via video games. An answer lies within the similarity of leadership behaviors that coexist in both real and virtual worlds. Moreover, the two worlds also share similar situational control scenarios. These two factors jointly enable the situational priming and social learning of leadership behaviors through video games.

The behaviors exhibited by real-world leaders can be characterized according to leadership styles. Similarly, the actions of game players in competitive multiplayer games are categorized according to game roles. Just as each leader possesses a specific leadership style, each game player also plays a specific game role. Leaders are restricted by the given circumstances and problems to be solved; game players are also restricted by their goals and game environments. Both leaders and game players therefore share similar situational control scenarios. Within these scenarios, game players practice leadership behaviors that occur in video games that parallel those in the real-world environment. Trial and error are encouraged in video gameplay. Social learning provides game players with opportunities to learn from game roles' misuse and mistakes made in games, whereas successful gameplay behaviors are reinforced. Subsequently, situational priming enables the game players to be primed with effective leadership behaviors

and prosocial aspects of multiplayer gameplay. These processes ultimately contribute to the development of game players' leadership behaviors.

This theoretical framework (Figure 3.4, Gameplay Influences Leadership Behaviors through Situational Priming and Social Learning) justifies the development of leadership behaviors through the practice of game roles that contain leadership characteristics. In particular, the autocratic leadership style can be developed by the adoption of carry and/or ganker roles. The democratic leadership style can be developed through the utilization of support and/or ganker roles. The laissez-faire leadership style may be developed through the practice of the jungler role and/or playing without a role. Conversely, the adoption of a particular game role may impede the development of the contrasting leadership style.



## **Chapter 4**

### **Research Design and Methodology**

The theoretical framework for leadership development through online gaming will be tested empirically in three phases. In order to achieve this aim, data concerning game players' behaviors in real and virtual worlds must be collected. Unfortunately, reliable open data, such as logging of online gameplay data or longitudinal data logging are either unavailable or are concealed by online game service providers. Therefore, a closed-ended questionnaire was distributed to investigate MOBA gameplay behaviors and real-world leadership behaviors. This questionnaire was distributed both online and in a paper format in Thailand. In addition, media interviews with established, professional eSports players in Thailand and their competition replays in video format were obtained as supplementary data. These data were essential for testing the hypotheses generated in each phase of the theoretical framework.

The first phase of the empirical analysis employed principle component analysis (PCA) to test the applicability of leadership behaviors — the first phase of the theoretical framework. The use of PCA to analyze the quantitative data obtained from the questionnaire can identify the types of leadership and game-player behaviors. It will also generate factor loadings for each behavior, which will identify the behaviors that are inapplicable to leadership styles or game roles.

The second phase of the framework proposes the relationship between leadership styles and game roles. An extensive analysis of the quantitative data will be conducted. The hypotheses in this phase will be tested using multinomial logistic regression (mlogit), with its marginal effect (mfx) being estimated. The resulting correlations will establish the connection between leadership styles and MOBA game roles quantitatively. Qualitative explanations of these correlations are achievable using direct content analysis. The professional eSports players' interview scripts, and observations of their competition replays, will be examined qualitatively to supplement the quantitative analysis.

To this end, the established relationship between leadership aspects of the real world and the MOBA game environment verifies the potential of video game usage for leadership development. The third phase of the theoretical framework, the development of leadership

behaviors through game roles, will test for the causal relationship between leadership styles and game roles. Using a non-experimental research design, propensity score matching (PSM) will be employed to estimate the effect of using a role in MOBA games on the behaviors of each leadership style. Uncertainty regarding the PSM's outcomes will be tested using a sensitivity analysis, together with a doubly robust estimation.

#### **4.1 Data Collection**

Both quantitative and qualitative data were collected for empirical analysis and testing the hypotheses. The structured quantitative data were collected using a closed-ended questionnaire. The questionnaire aimed at investigating the leadership behaviors and gameplay behaviors of MOBA game players in Thailand.

The unstructured qualitative data were obtained from media interviews. These interviews were given by professional Thai eSports players, particularly those who were or are well-known professional players of MOBA games. Their behaviors associated with leadership will be observed through the interview dialogues. Moreover, video replays of MOBA game competitions and/or tournaments were collected. These video replays were used for analysis of the professional eSports players' gameplay behaviors, together with their leadership behaviors. In addition, an interview with the marketing director of a leading online game service provider in Thailand was conducted. This interview serves as supplementary information with which to provide an insight into game developers' and service providers' perspectives, as well as an in-depth knowledge of the gaming scene in Thailand.

##### **4.1.1 Questionnaire about Real-world Leadership and Gameplay Behaviors**

The questionnaire designed for this research was divided into three sections — the demographic information section, the game roles section, and the leadership styles section. The game roles and leadership styles sections in this questionnaire were based on a combination of Lewin's leadership styles and Fielder's leadership effectiveness models. Lewin, together with his colleagues, distinguished and defined the characteristics of each leadership orientation in research published in 1939, "Patterns of Aggressive Behavior in Experimentally Created Social Climates". In this research, the researchers divided test subjects into groups and assigned leaders with different leadership styles to these groups. Lewin observed the behaviors and

interactions between the subjects in each group and determined three leadership styles — autocratic, democratic and laissez-faire. Based on Lewin’s work, this study first incorporated the behaviors of the three leadership styles (Table 3.1, Brief Summary of the Contrasting Methods of the Leaders in Creating the Three Types of Group Atmosphere) and their communication approaches (Table 3.2, Styles of Leadership Communication) when drafting the questions. Secondly, Fielder’s theory of leadership effectiveness was used to describe the situations or circumstances in which these leadership behaviors and communication styles are deemed ideal. The same conceptual framework was used in the game role section, but the leadership behaviors were substituted by behaviors of the three major game roles (Table 3.3, Brief Summary of the Characteristics of Major Roles in MOB).

The incorporation of Lewin and Fiedler’s models into this questionnaire resulted in three sets of bipolar scales of one to six to be used in the game roles section and leadership style section. It must also be noted that questions created in the game roles section were based on the descriptions of DotA and HoN game roles taken from the games’ manuals, instructions, game replay videos, game players’ blogs, game forums, and other communities’ discussions of these two games on the web. The questions in the section examining leadership styles were based on descriptions of leadership behaviors as described in Lewin’s research findings.

**Questionnaire design.** Both the online and written questionnaires used closed-ended questions. The questionnaire was written in the Thai language and contained 40 questions (five pages in total). The English translation of the questionnaire is presented in Figure 4.1 to Figure 4.5 (the original questionnaire drafted in the Thai language is presented in Appendix A). The language and word choice used in this survey were designed to be simplistic and easy to comprehend because this study targeted younger respondents.

As mentioned previously, the questionnaire consisted of three sections. The demographic information section contained 13 questions that inquired about general information concerning the respondents, such as age, academic degree, income, and the amount of time spent playing the games DotA and/or HoN.

Secondly, the game role section listed 16 questions associated with gameplay behaviors. The questions were based on the descriptions of DotA and HoN game roles taken from non-Asian

game manuals and instructions, game replay videos, game players' blogs, game forums, and other communities that discussed these two games (DaemonLasher, 2009; FortyneniN, 2011; Leech, 2011; Mayer, 2012; Rodriguez, 2010b, 2011a; SRKVEN, 2012); thus, they describe the Western conceptual behaviors of carry, support, and ganker roles in MOBA games. This section requested respondents to self-report the frequency of utilizing each gameplay behavior under the given situations using a bipolar scale of one to six — almost never to almost always. The questions were categorized according to three sets, each corresponding to either the carry, support, or ganker game role. The purpose of the game role section was to identify which game role the respondent most resembles through the evaluation of the frequency of his or her gameplay behavior. All questions in this section were presented in random order. The advantage of an online survey platform is that the online version of this questionnaire used an algorithm that randomizes the order of questions for each respondent. This implies that questions are not grouped in accordance with the game role the questions seek to identify. The purpose of randomizing these questions was to conceal the specific game role in the question from the respondent in order to obtain unbiased answers.

Finally, the leadership style section listed 11 questions associated with group activity behaviors in everyday life. These questions concerning autocratic, democratic, and laissez-faire leadership behaviors, and were based on the descriptions of leadership styles described in Western literature (Bass, 1997; Goodnight, 2004; Lewin & Lippitt, 1938; Lewin et al., 1939). Using the same bipolar scale of one to six — almost never to almost always - this section asked respondents to self-report the frequency of real-world behaviors related to how they would react under given situations in group collaborations. The questions were categorized according to three sets of behaviors, typical of either the autocratic, the democratic, or the laissez-faire leadership style. The purpose of this section was to identify which leadership style each respondent was most likely to possess. As with the game roles section, all the questions in this section were randomized. This resulted in the unsorted order of the questions; thus, they were not grouped according to the leadership style that these questions intended to investigate. The purpose of randomizing these questions was to conceal the pattern of leadership behaviors in order to produce unbiased answers.

The function of this questionnaire was not only to identify the most frequently used gameplay behaviors as exhibited by the respondents, but also to investigate the key behaviors that characterized their game roles, such as the types of items they purchased, what tasks they engaged in more frequently, and how they reacted in certain game scenarios. These key behaviors were observed and analyzed to indicate the highest potential game role that each respondent may be adopting. This technique is derived from the contingency model's situational control theory, whereby the most effective game role is the one that is best matched with the players' behaviors. The technique is beneficial because there are amateur game players who do not recognize the game role they have been playing. The results achieved from utilizing this technique can provide such players with suggestions of a game role that may enhance their performance in the games. The same concept is also used to identify leadership styles.

**Target group.** The target respondents in this study were Thai individuals aged from 12 years' old and above, and who were actively engaged in the selected eSports — DotA and/or HoN. The young adult individuals were targeted in accordance with Yee's (2002b) study, which found that younger game players, particularly those under the age of 18, are more conscious of in-game leadership and report having learned the most from gameplay.

**Questionnaire distribution.** Thailand was selected as the location for questionnaire distribution because of the popularity of DotA and HoN, thereby providing a large sample size of Thai individuals who play these games. The surveys were distributed over the Internet through large online game networks available in Thailand. These included major game discussion forums, and social network media such as Facebook fan pages for the games. Advertisements on large game websites were also created. Written forms of the survey were distributed in Internet cafes in the city of Bangkok. Finally, after the elimination of unusable surveys and ineligible surveys that did not match the target demographic, more than 4,000 survey samples were collected.

**Figure 4.1 English Translation of the Questionnaire on MOBA Gameplay and Player's Behaviors (Page 1 of 5)**

**MOBA GAMES & PLAYER BEHAVIOR**  
Survey for academic research on the positive influence of online game.

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**Research topic:** Potential benefits of eSports  
**Games:** Defense of the Ancients (DotA) and Heroes of Newerth (HoN)

**Declaration:** This survey is part of an academic research study by a student at the Graduate School of Asia-Pacific Studies (GSAPS), Waseda University. The research is conducted for the main purpose of studying the influences of eSports. The potential benefits of playing online games will be explored.

**This survey consists of three parts:**  
**Part 1.** General Information about the Respondent  
**Part 2.** Your Gameplay Behaviors in DotA and/or HoN  
**Part 3.** Your Real-world Behaviors During Group Work

Collected responses will be utilized solely for academic purposes. Results of this research will not affect respondents in any harmful manner. On the contrary, successful outcomes may contribute to the creation of a better video game society.

**Thank you for your kind cooperation!**  
**Sincerely yours,**

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**Corresponding Researcher:**  
Tinnawat Nuangjumnong  
Graduate School of Asia-Pacific Studies (GSAPS), Waseda University  
Email: amidotahero@gmail.com

Source: The Correlation of Game Roles and Leadership Styles (Nuangjumnong, 2012, p. 89).

**Figure 4.2 English Translation of the Questionnaire about MOBA Gameplay and Player's Behaviors (Page 2 of 5)**

**Are you currently working full time? (excluding freelance and part-time jobs)**

No work experience  Full-time employment

**Are you playing the games Defense of the Ancients (DotA), Dota 2 or Heroes of Newerth (HoN)?**

Yes, I am playing  No, not playing (disqualified)

---

**Part 1. General Information about the Respondent**  
Please provide factual answers, as precisely as possible.

**Gender**

Male  Female

**Age (years)**

\_\_\_\_\_ years old (please indicate in whole number)

**Your current academic degree.**

Below elementary  Occupational college  
 Lower elementary school (3<sup>rd</sup> year)  Bachelor's degree  
 Upper elementary school (6<sup>th</sup> year)  Master's degree  
 Middle school  PhD  
 High school (or equivalent)

**Your income per month in Thai Baht (THB).**

No more than 5,000 THB  20,001 – 25,000 THB  
 5,001 – 10,000 THB  25,001 – 30,000 THB  
 10,001 – 15,000 THB  30,001 THB or more  
 15,001 – 20,000 THB

**Which game(s) do you play? (check all that apply)**

Defense of the Ancients (DotA)  
 Heroes of Newerth (HoN)

Source: The Correlation of Game Roles and Leadership Styles (Nuangjumnong, 2012, p. 90).

**Figure 4.3 English Translation of the Questionnaire about MOBA Gameplay and Player's Behaviors (Page 3 of 5)**

**How many years have you been playing DotA and/or HoN?**

\_\_\_\_\_ years (please indicate in whole number of one to ten years)

**How many DotA and/or HoN matches do you usually play per week?**

( ) No more than 5 matches                      ( ) 21 – 25 matches  
( ) 6 – 10 matches                                ( ) 26 – 30 matches  
( ) 11 – 15 matches                              ( ) 31 matches or more  
( ) 16 – 20 matches

**Where do you play the games DotA and/or HoN most often? (check all that apply)**

[ ] My home    [ ] Internet café  
[ ] Friend's house                                    [ ] School / University  
[ ] Laptop / Notebook computer

**How much do you enjoy playing DotA and/or HoN?**

( ) Hate it    ( ) Like  
( ) Don't like                                        ( ) Love it  
( ) So so

**Which game roles do you most often take in the game?**

( ) **Carry** — the role that is highly dependent on items in order to be successful; therefore, it cannot be killed too often. A carrier typically lacks early game power, but is expected to be the strongest role at the end of the game.  
( ) **Support** — the role with main purpose of keeping its allies alive and giving them opportunities to earn more gold and experience. A supporter usually has supportive skills such as healing spells or skills that disable enemies.  
( ) **Ganker** — the role that is responsible for giving the team an early-game advantage during laning by killing enemy heroes in their proper lanes. Gankers are heroes with abilities to deliver long duration crowd control or immense damage early in the game.

**What is your action when you find yourself in an obvious losing situation?**

( ) Keep trying until the game ends.  
( ) Give up and/or concede to vote for surrender.  
( ) Troll around or leave the game right away.

Source: The Correlation of Game Roles and Leadership Styles (Nuangjumngong, 2012, p. 91).

**Figure 4.4 English Translation of the Questionnaire about MOBA Gameplay and Player's Behaviors (Page 4 of 5)**

**Part 2. Your Gameplay Behaviors in DotA and/or HoN**

Please consider the following actions regarding the games DotA and/or HoN, and describe how often you find yourself doing these actions. The answer sheet is in order from least frequent (left side) to most frequent (right side).

	← Never   Always →					
I try to earn myself more gold at the beginning of the game, so I spend more time farming compared to other players.	1	2	3	4	5	6
I choose a hero that has powerful abilities that can cause high damage at the beginning of the game, although the hero tends to be weakened by the end of the game.	1	2	3	4	5	6
I am not the person who would start an attack. I avoid being the person who initiates a fight.	1	2	3	4	5	6
I kill, steal and last shot towers purely for gold and experience, although these actions may upset other players.	1	2	3	4	5	6
I let other players keep Aegis of the Immortal that are dropped from defeating Roshan.	1	2	3	4	5	6
I do not let my teammates fight alone; I will protect and support them.	1	2	3	4	5	6
I choose the hero I want to play before any other players.	1	2	3	4	5	6
I emphasize more on the safety and protection of my teammates, and I am less worried about my own safety or about killing the enemy.	1	2	3	4	5	6
I stay in the lane I am in charge of, or I stay in the jungle for a long time. I do not change lanes.	1	2	3	4	5	6
When I choose a hero, I first consider its disabling abilities. For instance, stun, silence, and slow abilities.	1	2	3	4	5	6
I play heroes that are very weak at the beginning of the game, but become the most powerful later in the game.	1	2	3	4	5	6
I emphasize initiating enemy attacks by ganking or backstabbing.	1	2	3	4	5	6
I wait patiently for the best timing and chance to destroy the enemy.	1	2	3	4	5	6
The strength of my hero is more important than the strength of other people's heroes.	1	2	3	4	5	6
I support my team by being the one who purchases team-supporting items. For instance, upgrading Courier, Wards, and Gem of True Sight.	1	2	3	4	5	6
I make plans before the initiation of an attack and try to trap the enemy in various ways.	1	2	3	4	5	6

**On a scale of one to ten, please rate your DotA and/or HoN gameplay skill.**

\_\_\_\_\_ points (please indicate in whole numbers)

Source: The Correlation of Game Roles and Leadership Styles (Nuangjumngong, 2012, p. 92).

**Figure 4.5 English Translation of the Questionnaire about MOBA Gameplay and Player's Behaviors (Page 5 of 5)**

**Part 3. Not related to video games! This part is about your real-world behaviors during group work.**

**!! The Following Questions are Not Related to Games !!**

Please consider the following actions in real-world situations. Describe how often you find yourself executing these actions. Group work can be any kind of work as a team that consists of two or more members. For instance, work group, club activity, travel group, and team sport. The answer sheet is in order from least frequent (left side) to most frequent (right side).

	← Never   Always →					
I do not want other people to teach me or to give me suggestions about how I work.	1	2	3	4	5	6
I am the person who makes decisions and gives orders in the group, so that the resulting work comes out the way I want it to be.	1	2	3	4	5	6
I believe in my teammates. I trust them to perform the responsibilities they are given.	1	2	3	4	5	6
I discuss or ask for opinions from other group members to accompany my own decision making.	1	2	3	4	5	6
I am in charge of planning and giving out duties in the group by considering each member's skill sets.	1	2	3	4	5	6
I am happy to provide support for my teammates, and I am willing to take over the duties of others if needed.	1	2	3	4	5	6
I praise and admire others' good work, and comfort them when they face difficulties.	1	2	3	4	5	6
I emphasize the group's productivity more than the satisfaction of the group members.	1	2	3	4	5	6
I do not ignore any detected mistakes. I will immediately warn the member and temporarily pause the actions of the group member in charge to rectify the issue.	1	2	3	4	5	6
I do not mind that other members make decisions for me, both on important matters or regarding minor matters.	1	2	3	4	5	6
I avoid being an important part of the group, or I try to take the fewest responsibilities possible in the group.	1	2	3	4	5	6

**Thank you for taking the time to complete this survey!**

**Measures taken to reduce bias.** The survey questionnaire was first drafted in English and then translated into the Thai language. Both drafts were crosschecked and referenced to ensure that precise meanings were intact in both languages. In addition, value-laden terms were avoided in all questions. A pilot test was conducted before the actual survey. The survey questionnaires were distributed both online and in print. The online survey format was distributed across the nation via Thai gaming forums, game-related websites, and advertisements on social media. The paper-based survey format was distributed through game centers and Internet cafes in Bangkok, the capital city of Thailand. Accordingly, the respondents may or may not have belonged to any specific gaming community, and their gameplay skills could vary from beginner to highly experienced levels.

Respondents were kept uninformed of the specific purpose of the survey, which was to test their gameplay and leadership behaviors. For both the online and printed surveys, the order of questions in the game roles and leadership style sections were randomized to prevent respondents from recognizing the patterns related to the behaviors being measured. These measures were taken to avoid the reporting of fabricated personalities. After the survey collection was completed, all responses were filtered and checked, and inconsistent or ineligible answers were eliminated before compiling the remainder into a data set for quantitative data analysis.

In addition, extensive data screening was carried out prior to further quantitative analysis in Chapter 6 and Chapter 7. Respondents with past work experience were disqualified from the data sample. Only a subset of active game players with no full-time occupational background remained. Accordingly, further outliers and inconsistent responses were examined. It was found that respondents over the age of 27 were the primary outlier of the subset; therefore, they were removed for optimal bias reduction.

#### **4.1.2 Interviews with Professional eSports Players**

Interview scripts of well-known DotA and HoN professional eSports players in Thailand were gathered from Internet sources such as video game journalism and online eSports communities. A prominent video game journalist interviewed each player, and the conversations were then made available to the public on various websites. Some scripts were editorial pieces written by

the game players themselves to express their personal opinions about the eSports community. Unfortunately, the interview scripts contain grammatical error because most of the journalist and the professional eSports players are non-native English speaker. Some of the transcripts contain many errors that the inclusion of [sic] would render them unreadable. Therefore, it is more suitable to reproduce the transcripts warts and all. Note that some of the interviews were conducted in the Thai language. English translations of the interviews that were in Thai, along with archives of the interview scripts utilized in this study, are included in Interview Archives 1 to 14. Table 4.1 provides an index of the titles of these interviews.

Replay videos of these professional eSports players were used in combination with the interview scripts in order to study their gameplay behaviors in relation to their leadership behaviors. First, the players' game roles were identified. The leadership behaviors that related to decision-making processes, task- or people-orientation, sense of responsibility, and trust were then examined via the interviews using the word-mining method.

The use of interview scripts befits the research purpose, since the interviewees were not influenced by leadership topics during their interviews. Instead, they were simply discussing topics relevant to their gameplay, and their answers present a true and fair view of their opinions. This is analogous to the concept of concealing the actual leadership styles in the questionnaire from the respondents answering the research survey in order to achieve unbiased results.

This study utilized directed content analysis based on the theoretical framework proposed in Section 6.1, Correlation between Game Roles and Leadership Styles. It is theorized that roles in games and leadership styles are correlated due to the commonality of characteristics and situational control. The aim of this approach is to explain the positive correlations results reported in Section 6.1.5 qualitatively, and to validate this study's theoretical framework.

**Table 4.1 List of Professional eSports Player Interview Articles**

<b>No.</b>	<b>Interview Articles</b>	<b>Interviewer</b>	<b>Published Date</b>
I1	Meet Pongpan Deepromsuk — MiTH.Trust’s manager	RGN	January 9, 2011
I2	A message from captain Tnk of MiTH.Trust		April 11, 2011
I3	Team MiTH.TRY — Girls can DotA	RGN	October 6, 2011
I4	Interview with Tnk from MiTH.Trust	GosuGamers	October 21, 2011
I5	MiTH.Trust — Ready to clash in World DotA Championship 2011	RGN	November 5, 2011
I6	Dota 2 Malaysia Invitational: pre-tournament interview with MiTH.Trust captain TnK	Wei-Meng Lee	December 16, 2011
I7	MiTH.Trust and MiTH.TRY — Experience in WDC 2011, China	RGN	December 22, 2011
I8	Behind the mask of JinNy	JoinDOTA	December 27, 2011
I9	An interview with MiTH.Trust: getting ready for the GEST IDC 2012 battle	PCG	January 18, 2012
I10	An interview with Neolution-eSport and their readiness for the GEST IDC 2012 battle	PCG	February 10, 2012
I11	Unveil the interview with MiTH.OHP, Thailand’s leading Heroes of Newerth team	Online Station	March 15, 2012
I12	An Interview with Thailand’s Leading Online Games Service Provider	Tinnawat Nuangjumnong	May 18, 2012
I13	Countdown to AMD premier league: interview with MiTH.Trust	MasterRamen	May 4, 2013
I14	Interview with Lakelz: we still cannot adapt to playing with high pressure	GosuGamers	April 15, 2015

Source: Compiled by the author.

**Table 4.2 List of Professional DotA, Dota 2, and HoN Replay Battles (Part 1 of 2)**

<b>No.</b>	<b>Video Game Replays</b>	<b>Organizer</b>	<b>Published Date</b>
V1	MiTH.Trust vs MUFC – Group Stage – Dota 2 International	The International	August 17, 2011
V2	MiTH vs GGnet – Loser Bracket Rd 1 – Dota 2 International	The International	August 18, 2011
V3	Trust vs iG.Y	ECL	October 23, 2011
V4	iG.Y vs MiTH.Trust	ECL	October 29, 2011
V5	DotAHL 101 – [ECL’11] iG.Y vs Trust	ECL	November 12, 2011
V6	DotAHL 135 – [WDC’11 Ladies 3rd / 4th Placing] MiTH.TRY vs GG	WDC	December 27, 2011
V7	DotAHL 138 – [WDC’11 Ladies Semi] MiTH.TRY vs Tsu	WDC	December 28, 2011
V8	DotAHL 141 – [WDC’11 Ladies 3rd / 4th Placing] GG vs MiTH.TRY	WDC	December 31, 2011
V9	DotA2 Thailand Promotional Tournament – Final R1 CTW Vs. MiTH.Trust	DotA2 Thailand Promotional Tournament	February 5, 2012
V10	DotA2 Thailand Promotional Tournament – Final R2 CTW Vs. MiTH.Trust	DotA2 Thailand Promotional Tournament	February 5, 2012
V11	DotA2 Thailand Promotional Tournament – NeoES Vs. MiTH.TRY	DotA2 Thailand Promotional Tournament	February 5, 2012
V12	AHT Season 2 Final Round [LMTT] Lerk Mho T Vs. [OHP] MiTH.OHP	HoN Tournament	February 19, 2012
V13	HHH Doll vs. MiTH.OHP	HoN Tournament	February 28, 2012
V14	GCH Final Round MiTH.OHP vs LMTT	HoN Tournament	March 4, 2012
V15	GCH Semi Final Round d0y vs MiTH.OHP	HoN Tournament	March 4, 2012
V16	Orange vs MiTH.Trust (GEST) 2	GEST IDC	March 18, 2012
V17	PCG CH 2012-5-5 I GEST Phisanulok Q2-2012 – MiTH.TRY vs A-Time -	GEST IDC	May 5, 2012
V18	PCG CH 2012-5-5 I TESL Q2/2012 – Neo.ES vs iDeal.GIGABYTE – Game1 Part 1	TeSL	May 5, 2012
V19	PCG CH 2012-5-5 I TESL Q2/2012 – Neo.ES vs iDeal.GIGABYTE – Game2	TeSL	May 5, 2012
V20	PCG CH 2012-5-5 I GEST Phisanulok Q2-2012 – MiTH.TRY vs DotA Only – Re AP	GEST IDC	May 6, 2012

Source: Compiled by the author.

**Table 4.3 List of Professional DotA, Dota 2, and HoN Replay Battles (Part 2 of 2)**

No.	Video Game Replays	Organizer	Published Date
V21	PCG CH 2012-5-6   TESL Q2/2012 – Neo.ES vs MiTH.Trust – Game 2	TeSL	May 6, 2012
V22	PCG CH 2012-5-6   TESL Q2/2012 – Neo.ES vs MiTH.Trust – Game 1	TeSL	May 6, 2012
V23	[TESL May Round 5] tt eSports how vs Neolution eSports Game 1	TeSL	May 12, 2012
V24	[TESL May Round 5] tt eSports how vs Neolution eSports Game 2	TeSL	May 12, 2012
V25	Neolution.Orange vs MiTH.Trust – Game 1: GEST DOTA 2	GEST IDC	March 31, 2013

Source: Compiled by the author.

### 4.1.3 The Professional eSports Players' Competition Replays

In DotA and HoN, players are able to store records of their gameplay video format. The recorded video is referred to as a replay. The game replay feature is widely used by professional eSports players because it gives them the opportunity to look back at how they played and to identify their mistakes and those of the entire team. On the other hand, players may also use these replays to study their opponents' strategies.

In DotA and HoN competitions, referees usually record the game replays. The competition sponsors will subsequently make them available online for public viewers. When bigger organizations sponsor the competitions, commentators are usually also present to provide critiques of the competitions. Subsequently, these commentators' remarks are included in public game replays.

The behavioral patterns displayed by these professional eSports players during gameplay are used to identify their game roles. The game role behaviors described in Section 3.1.2, Game Roles, are the key focuses for this analysis. Furthermore, end-game statistics that show information such as the number of total kills, deaths, assists in killing, and gold earned are always displayed at the end of each game. The statistics are also used as references in determining the game players' game roles. In addition, the critiques by the matches' commentators are also used to analyze the gameplay processes.

#### **4.1.4 Interview with the Director of Marketing at Playinter Co., Ltd.**

A one-on-one interview was conducted with Somchai Patanapongchai, the Director of Marketing at Playinter Co., Ltd. — one of the biggest online game services providers in Thailand. Playinter provides game servers and other game services for HoN in Thailand. The objective of this interview was to obtain information about Thailand's gameplay environment and statistics for HoN. For instance, the interview established answers to questions such as the number of people playing HoN in Thailand, and the growth of online gameplay in the country. The interview is documented in Interview Archive 12, An Interview with Thailand's Leading Online Games Service Provider.

As a professional individual in the online games industry, Patanapongchai was requested to validate that the game structures of DotA and HoN are identical, as well as to verify that the game roles selected to be surveyed in this research were suitable.

#### **4.2 Principal Component Analysis (PCA)**

This study uses a quantitative approach to explore the universality of leadership behaviors in exploratory research settings using the responses to 27 questions related to the real-world and in-game leadership behaviors. The exploratory approach was chosen to investigate the common aspects of real-world leadership behaviors in a virtual environment based on the theoretical framework of leadership universality. The results will also establish an initial foundation for further studies in the subsequent chapters.

Principal Component Analysis (PCA) was the statistical technique used to analyze the collected survey samples to identify the real-world and in-game leadership behavioral patterns. An SPSS statistical analysis program was used to perform the PCA on the data set to test whether the patterns of behaviors derived from the questionnaire responses could be categorized according to the subcategories of leadership styles and game roles appropriately and accurately. After completing the PCA and significant variances that explained the components contributing to leadership styles and game roles were obtained, the factor loadings derived from the PCA were transformed using an oblique rotation. Promax rotation ( $kappa = 4$ ) was used to simplify the pattern matrix of the factor analysis results. Promax rotation is therefore an essential step that allows the PCA results to be interpreted.

The questions in the real-world leadership section were intended to examine the behaviors of the three different leadership orientations — autocratic, democratic, and laissez-faire. Accordingly, the PCA aimed to extract the components associated with real-world leadership from the self-reported behavior frequency. The factor analysis then reported factor loadings that revealed how well each behavior was represented in the extracted components. Similarly, items in the game roles' section were explored to identify the three game roles — carry, support, and ganker. The utilization of the PCA extracted linear composites of the observed behaviors associated with gameplay, and its factor loadings were reported.

The PCA technique will confirm that the behaviors described in the survey questions were grouped appropriately into components that defined each leadership style and game role. The number of components extracted from both real- and virtual-world leadership behaviors, together with the appropriate groupings of factor loadings, were observed and compared to Western definitions. The outcomes of the PCA determined how well the leadership concepts taken from the West explained the leadership characteristics of eSports players in Thailand.

#### **4.2.1 Questionnaire Scoring Method**

As previously stated in Section 4.1.1, Questionnaire about Real-world Leadership and Gameplay Behaviors, the respondents self-reported the frequencies of their behaviors corresponding to the gameplay or leadership behaviors using bipolar scales of one to six. A six sets of questions were divided into two main categories — leadership styles and game roles. Note that, due to the contrasting nature of the styles/roles, some behaviors corresponded with two leadership styles or with two game roles using the reverse value. Together with the result of the PCA (Section 5.4.2, Leadership and Gameplay Behavioral Patterns According to the PCA), each respondent was given scores for the autocratic, democratic, and laissez-faire leadership behaviors, as well as for his or her carry, support, and ganker role behaviors.

The three sets of questions associated with leadership behaviors measured the frequency of exhibiting autocratic, democratic, or laissez-faire leadership styles. The frequency of the various leadership behaviors were summed according to the corresponding leadership styles determined by the results of the PCA. The total amounts representing each leadership style were then compared. The set with the highest frequency placed each respondent in a leadership style

category. The categorical variable was later used as the response variable for the probability modeling of the quantitative analysis. This scoring method was designed to categorize each respondent according to his or her most likely style of leadership — autocratic, democratic, or laissez-faire.

Similarly, the three sets of questions concerning gameplay behaviors measured the frequency of playing carry, support, or ganker game roles. Corresponding to the factor loadings reported by the PCA, the behavior frequencies were allocated to the designated category. The total scores were then employed as explanatory variables for further quantitative analysis.

#### **4.3 Multinomial Logistic Regression (mlogit) and Marginal Effects**

A statistics and data (STATA) analysis tool was used to perform a multinomial logistic regression (mlogit) and to estimate its marginal effects on the data set. Mlogit is a methodology used in predicting the probability of each categorial response variable resulting from the outcome of the coefficient of the explanatory variables as compared to a referent group. However, the mlogit model can only report estimated coefficients. Therefore, a marginal effects model was executed after completing the mlogit analysis to generate informative conclusions from the results drawn from the mlogit analysis. In this analysis, leadership style was used as the response variable, and the frequencies of each game role behaviors and demographic information were employed as explanatory variables. The demographic information included gender, age, academic attainment, income, total number of years played, number of games played per week, total number of games played throughout the respondent's lifetime, and game-playing location. Table 6.3 reports the outcome of the marginal effects, which reveals the probability of possessing a particular leadership style correlated with the changes in the frequency of playing different roles in the games.

#### **4.4 Direct Content Analysis of Professional eSports Players**

Interviews with game players in Thailand are used to support this research. Scripts of interviews with distinguished game players in Thailand were analyzed using the qualitative method of case studies. In addition, a one-on-one interview with Thailand's leading online game service provider was conducted as a reference to obtain in-depth knowledge about Thailand's gaming industry.

The purpose of analyzing these interviews is to take the leadership styles and game roles identified in the survey findings and apply them in real case studies. This allows the research to bridge the gap between statistical analysis and authentic daily behaviors seamlessly, thereby justifying the survey findings. Furthermore, the analysis of interviews allows the statistical findings to be explored in further detail, based on real social situations and individuals.

#### **4.5 Propensity Score Matching (PSM)**

PSM<sup>15</sup> is an approach used to draw causal inferences in observational studies under non-experimental settings. The non-experimental research design was chosen for this study because of the difficulties of collecting structured, longitudinal data, especially from the target group that consisted of younger individuals. Moreover, experimental research may create unethical issues, which may cause physical or psychological harm to the subjects. An example would be instructing subjects to play the selected video games, in a particular manner, for a certain period. Not only would the success of such an instruction be unlikely, but it may also cause stress and undesirable outcomes. Therefore, the use of PSM, a method for non-experimental research, is appropriate for the current study.

A propensity score is the probability that an individual will be assigned to the treated group rather than to the control group, and PSM is used to match individuals with similar propensity scores from the treated and control groups. The propensity scores were calculated using covariates, such as hours of gameplay, gender, education, income, and age. As a result, the effects of these covariates are omitted from the results by means of the matching algorithm. By comparing two individuals with similar propensity scores, PSM determines whether the outcomes of the treated group differ significantly from those of the control group. The difference between the treated and control groups caused by the treatment administered is known as the average treatment effect on the treated (ATT).

In this analysis, the response variables are the continuous values of the three leadership behaviors — autocratic, democratic and laissez-faire. The explanatory variables are divided into multiple treatment and control groups. The treated groups consist of those players who

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<sup>15</sup> Full, detailed instructions for implementing the PSM methodology can be found in Caliendo and Kopeinig's "Some Practical Guidance for the Implementation of Propensity Score Matching" (2008).

have predominantly played the carry, support or ganker roles. Predominance in game role utilization is measured and divided into five levels based on the players' behaviors as they play each role, beginning from the moderate level of the top 50%, which is just above average. The subsequent levels are the top 40%, 30%, 20%, and the top 10%, which is the level of expert players. The percentages are based on the scores, which are the sums of how often the players displayed the gameplay behaviors of each role. Accordingly, this study assigned game players who played one or more role with at least an above average frequency in the treatment groups that corresponded to the roles. Respondents in the treatment groups will be referred to as predominant carriers, predominant supporters and predominant gankers, as applicable. The control groups are individuals who underperformed in each of the role categories, and will be referred to as non-carriers, non-supporters and non-gankers.

The covariates chosen for the propensity score estimation were considered not only for their relevance, but also for the best balance. As part of the PSM, the balance diagnostic must yield well-balanced results between the covariates of the treated and the control groups. Thus, this study utilized single nearest-neighbor matching with calipers, and imposed common support in addition to matching by replacing control group members in order to yield the lowest bias possible (Caliendo & Kopeinig, 2008).

It must be noted that real-world factors other than gameplay could affect leadership behaviors heavily. These factors can be a crucial challenge to the assumption that the PSM analysis is unconfounded. To address this issue, this study limited its respondents to those who were exposed to MOBA games, but who had no work experience, thus minimizing the influences on their leadership behaviors from occupational or social factors. However, factors such as family and/or educational background may also be confounding variables and will be addressed using the sensitivity analysis.

#### **4.5.1 Predominant Game Role Utilization**

Three additional terms have been coined to describe the more advanced adoption of game roles by MOBA players — predominant carrier, predominant supporter, and predominant ganker. These terms refer to the predominant game role users in order to describe advanced carry,

support, or ganker role game players in a shorter and more simplified manner. This is an attempt to avoid excessive word use, which can cause confusion and misinterpretation.

This study divided the level of predominant game role utilization into five levels based on the frequency of displaying each of the game role behaviors. Using a percentage curve method, the five predominant levels are the top 50%, top 40%, top 30%, top 20%, and the top 10%. The results are expressed in binary form (0, 1), and are used as treatment groups in PSM and doubly robust estimation as mentioned previously in Section 4.5, Propensity Score Matching.

#### **4.5.2 Sensitivity Analysis**

Hidden bias arising from unobserved variables is crucial to validating PSM results. Thus, a sensitivity analysis was conducted to test for the sensitivity of the estimates against hidden bias and the unconfoundedness assumption at a 95% confidence level. Table 7.1, PSM, Sensitivity Analysis, and Doubly Robust Estimates: Predominant Game Role Adoption presents a comparison of the ATT and the sensitivity analysis gamma values ( $\Gamma$ ) compared to the results of the doubly robust estimation. Although no literature has suggested a clear rule of thumb for a sensitivity analysis, some observational studies have reported sensitivity as low as  $\Gamma = 1.30$  (Rosenbaum, 2005). Therefore, this study will assume that a sensitivity analysis of no lower than  $\Gamma \geq 1.30$  is adequate.

#### **4.5.3 Doubly Robust Estimation with Interaction Variables**

As an additional step, a doubly robust estimate was utilized to confirm the validity of the PSM outcomes by identifying the relationship between substantial leadership behaviors and experiences for each game role (M. J. Funk et al., 2011). The response variables were the frequency of displaying the behaviors that indicate autocratic, democratic and laissez-faire leadership styles, which indicated individuals who displayed higher-than-average numbers in connection with behaviors from each leadership style. The explanatory variables are similar to those utilized in the PSM. The same five game role measurement levels are used — the top 50%, 40%, 30%, 20%, and the top 10% — but differ as they interact with gaming experience as measured by the total hours of MOBA gameplay. The interaction variable allows individuals' approximate experiences when enacting a specific role to be considered in the statistical modeling. The variables are referred to as carry, support and ganker role experience.



## **Chapter 5**

### **Applicability of Leadership Behaviors in Real-world and Virtual Environments**

Asians and Westerners differ in their cultures, beliefs, languages and, most importantly, their personalities (Diener, Oishi, & Lucas, 2003). These differences have become an increasing point of contention in the globalized world. As a result of this trend (Mrak, 2000), Southeast Asian countries seeking growth have begun to demand human resources with high leadership skills (Landis, Predolin, Lewis, & Kuang, 2012). This demand has resulted in more people living and working in foreign countries (Dumont & Hovy, 2013). Consequently, human resources have also become globalized, and the advancement of the Internet and communication technology has significantly aided the connection of human resources across the globe. Internet tools, such as video calling and cloud services, link people worldwide to work together virtually. In a virtual team, people with different cultural backgrounds cooperate from distant locations (Powell, Piccoli, & Ives, 2004). However, working as a team, both face-to-face and virtually, requires strong leadership. The utilization of information technology may have overcome geographical limitations, but the difficulties arising from cultural, traditional, and personality differences remain. Therefore, the use of leadership skills can be challenging when the team is composed of members with distinct backgrounds (L. R. Anderson, 1983). Accordingly, the efficiency and effectiveness of leadership in cross-cultural teaming should be examined, particularly in the context of the modern virtual environment (Burke & Aytes, 1998; Eveland & Bikson, 1988; Kayworth & Leidner, 2002).

Online gameplay is one of the many types of virtual cross-cultural collaboration; game players work virtually as a team to accomplish common goals. Although video games are mainly created for entertainment, online gameplay has developed into a sophisticated platform, and has evolved into professional competitions known as eSports. In modern society, it can be said that eSports is perhaps one of the places in which younger individuals experience virtual group collaboration.

However, whenever collaboration occurs, there must also be leadership. In the cross-cultural virtual environment, the question of whether the concepts of leadership and leadership

behaviors are identical for individuals from different cultures remains. The distinction between beliefs, values, implicit theories, leadership behaviors, decision-making processes, paternalism, and historical and legal backgrounds that vary among nations may have diversified the perception of leadership behaviors for individuals (Bass, 1996). The question of whether leadership behaviors are universal is therefore crucial, since leadership skills derived from one country may become irrelevant when applied elsewhere. If a leader in any field is required to work with a cross-cultural team, it is important to understand whether his or her leadership skills will be effective for achieving the desired outcomes.

There is still a very small amount of literature examining leadership theories within the context of Asian cultures, and even less literature exploring this topic within the virtual environment. This chapter aims at testing the first phase of the theoretical framework (RQ<sub>1</sub>). It primarily examines the universality of leadership behaviors derived from the West in the real world using the example of the virtual environment of eSports in Thailand. The study is exploratory, and is designed to examine leadership behaviors and to derive implications for virtual globalization of Thailand. It aims to identify and categorize roles in games through this process, with further hopes of identifying the beneficial functions of video games. The findings will contribute to the overlooked field of micro-level leadership, particularly in the virtual world.

### **5.1 Universality of Leadership Behaviors**

“Universality implies that the attributes of a person and this person’s performance as a leader are at a constant across situations. It also implies that the same concepts can be used to describe leadership regardless of country or culture” (Bass, 1996, p. 737). Corresponding to Bass’s definition, this study refers to leadership behaviors’ universality according to the applicability of traits, characteristics, personalities, or skills associated with leadership worldwide. The universality of leadership behaviors implies that the behaviors characterizing leadership styles, derived from Western practices, can be used to categorize and define the leadership style of an individual in the cross-cultural setting of Thailand.

This definition also applies to virtual-world leadership. The universality of virtual-world leadership implies that game players in a similar gameplay environment (such as playing the

same video games, or playing the same genre of games) can perceive the same concepts of gameplay, in-game behaviors, gaming strategies, and goals. Despite these game players' geographical locations or cultural backgrounds, the same gameplay behaviors can be used to describe their in-game actions, and the same strategies can be implemented in gameplay.

It must be noted that the term universality does not imply that the virtual world is an exact mirror image of the real world. The manifestation of leadership in these two worlds may have similarities due to shared foundational behaviors, but this does not imply that all other aspects are the same.

## **5.2 Hypotheses**

This chapter aimed to test whether the taxonomies of leadership styles and game roles are universal and are applicable to Thailand. It is hypothesized that the leadership behaviors characterized in Western literature can also describe the leadership behaviors of Thai individuals in Thailand's culture. Similarly, the game role behaviors defined by non-Asian gaming communities can also describe the MOBA gameplay behaviors of Thai players. This chapter tests the following hypotheses quantitatively:

H<sub>0</sub>: There is no pattern in leadership or in gameplay behaviors.

H<sub>1</sub>: Leadership behaviors can be categorized according to multiple leadership styles.

H<sub>2</sub>: Gameplay behaviors can be categorized according to multiple game roles.

## **5.3 Methodology: PCA**

This study uses an exploratory research design to examine the applicability of real-world and virtual leadership behaviors through eSports. The data used for the analysis were collected via closed-ended questionnaire (Section 4.1.1, Questionnaire about Real-world Leadership and Gameplay Behaviors). The method used to test the aforementioned hypothesis is PCA (Section 4.2, Principal Component Analysis, or PCA). This methodology aims at identifying the leadership behavior patterns in both worlds.

## **5.4 Results**

### 5.4.1 Respondents' Demographics

A total of 4,407 questionnaire samples were obtained after the data screening process was completed. Table 5.1 provides the summary of the samples' demographics. The vast majority of MOBA game players were male ( $SD = 0.14$ ,  $n = 4,320$ ); only two percent were female ( $n = 87$ ). The ages of the players ranged from 12 to 47 years of age ( $M = 18.53$ ,  $SD = 3.94$ ). Notably, the average age was 19 years, while the majority were 15 years' old ( $n = 646$ ). Accordingly, most of the respondents were students with no work experience ( $SD = 0.36$ ,  $n = 3,738$ ), and the rest were employed full time ( $n = 669$ ). The age distribution in relation to the employment demographic is displayed in Figure 5.1 and Figure 5.3. The majority of MOBA game players had a high school level of education ( $SD = 1.46$ ,  $n = 1,629$ ), followed by a middle school education ( $n = 921$ ). Only a few respondents were uneducated ( $n = 12$ ). High school graduates and lower accounted for 76% of the sample of game players. These demographics justify the average income of no more than 5,000 Thai Baht ( $SD = 1.19$ ,  $n = 2,703$ ,  $1 \text{ USD} \approx 33 \text{ THB}$ ), as 85% of the sample had an income of no more than 10,000 Thai Baht. Figure 5.4 to Figure 5.6 depict the education level in relation to the income of the sample.

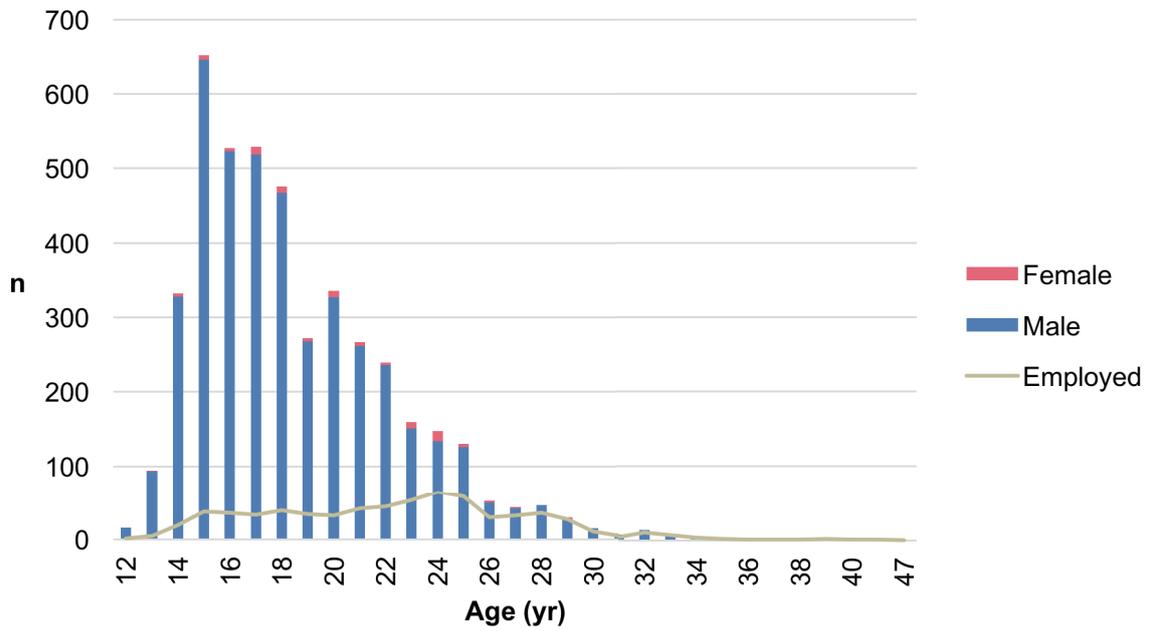
With regard to gameplay demographics, 76% of the sample played DotA actively ( $SD = 0.43$ ,  $n = 3,368$ ), and 54% played HoN ( $0.50$ ,  $n = 2,374$ ). Thirty percent of the sample ( $n = 1,335$ ) were active players of both games. The average starting age for MOBA exposure was approximately 15 years ( $SD = 3.89$ ). By the time of this survey, the games DotA and HoN have been available to public for almost a decade, but most players had only played the games for one year ( $n = 1,115$ ). The average gaming experience was three years ( $SD = 2.20$ ). However, the majority of the game players reported having played over 30 MOBA matches per week ( $SD = 2.09$ ), or roughly more than six hours per working day. This demographic corresponded with Thailand's video game market research data collected in 2012 by Niko Partners — a leading Asian video game market research source (as cited in Hause, 2013). Note that the legal number of working hours for employees in Thailand is 48 hours per week (The Department of Labour Protection and Welfare, 2014, sec. 23). Game players were reported to have played an average of approximately 3,359 MOBA games in total ( $SD = 3,173$ ). Figure 5.8 and Figure 5.9 reflect the hours spent playing MOBA games per week in relation to the number of years spent playing the games. The distribution of a total estimated gameplay experience is shown in Figure 5.10.

**Table 5.1 Game Players Demographics**

	Mean	SD	Quantiles				
			Min	25%	Median	75%	Max
<b>Male</b>		0.14	Female	Male	Male	Male	Male
<b>Age</b>	18.53	3.94	12	16	18	21	47
<b>Education</b>		1.46	<Elementary	Middle School	High School	High School	PhD
<b>Income (THB)</b>		1.19	≤ 5,000	≤ 5,000	≤ 5,000	5,001 – 10,000	30,001 ≥
<b>Age Started</b>	15.11	3.89	2	13	15	17	46
<b>Years Played</b>	3.42	2.20	1	1	3	5	10
<b>Matches per Week</b>		2.09	≤ 5	6 – 10	16 – 20	26 – 30	31 ≥
<b>Total Games Exposure (hours)</b>	3,359	3,173	156	939	2,086	4,797	17,207
<b>Play DotA</b>		0.42	No	Yes	Yes	Yes	Yes
<b>Play HoN</b>		0.50	No	No	Yes	Yes	Yes
	<b>N</b>						
		4,407					

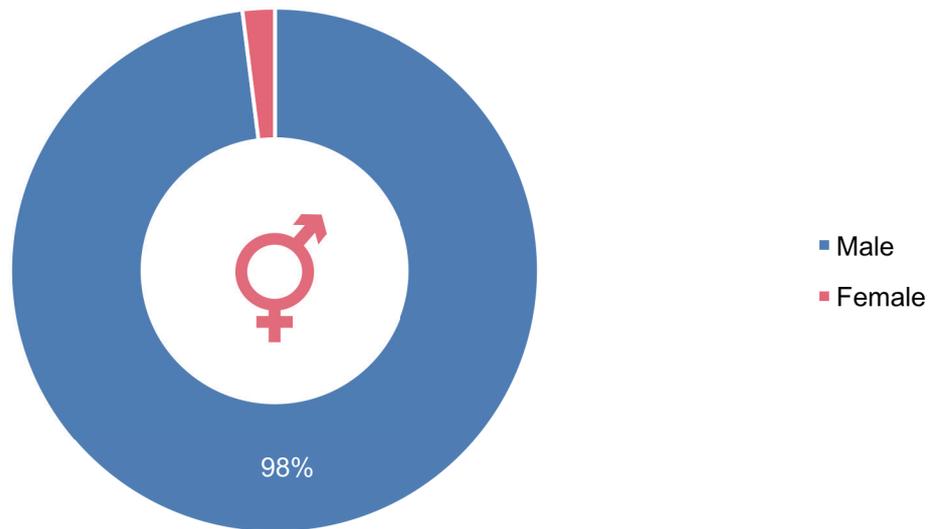
Source: Compiled by the author.

**Figure 5.1 Age Distribution and Employment Demographic**



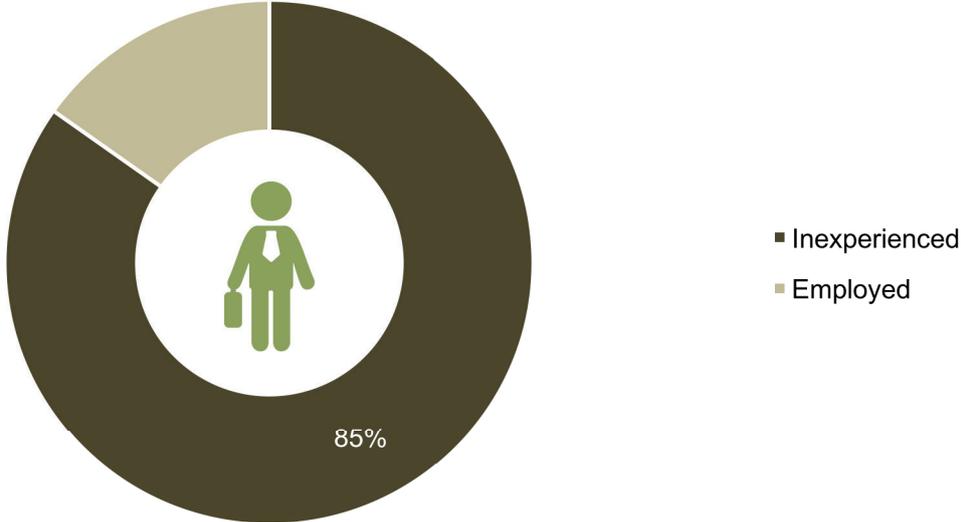
Source: Designed by the author.

**Figure 5.2 Gender Diversity**



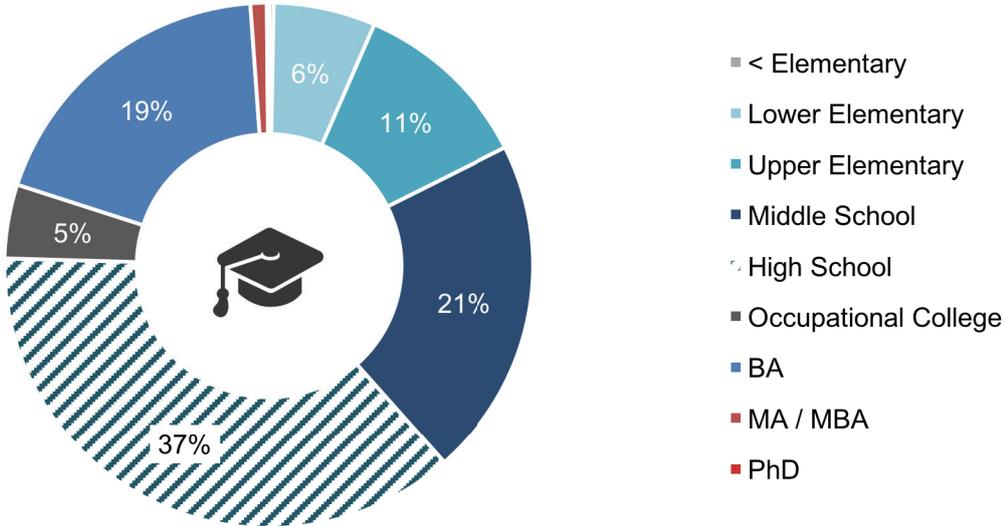
Source: Designed by the author.

**Figure 5.3 Working Experience**



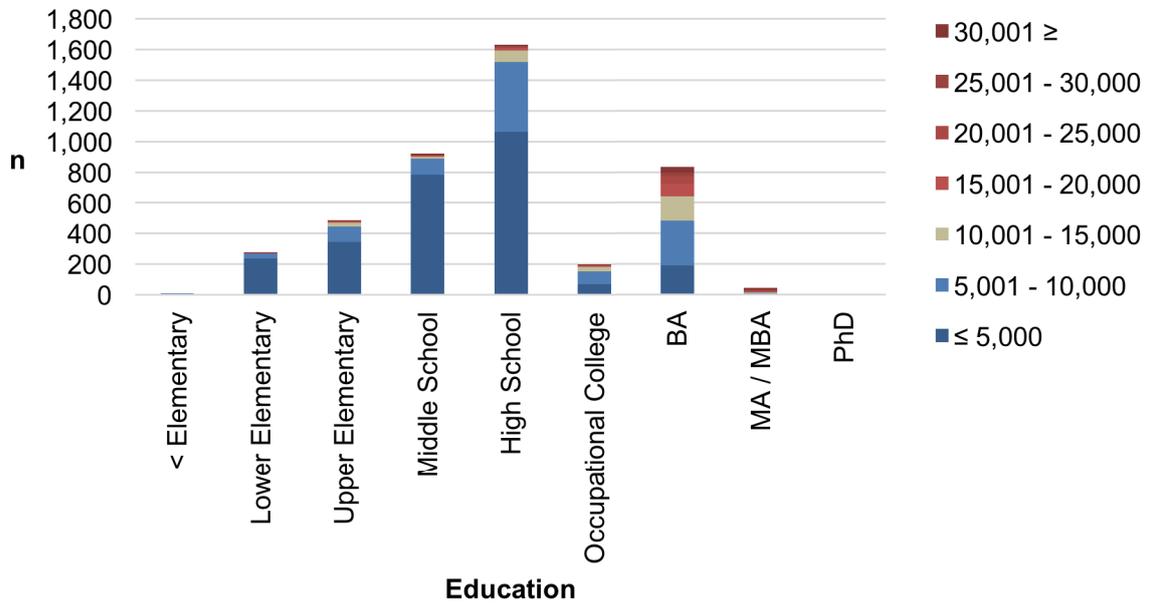
Source: Designed by the author.

**Figure 5.4 Education**



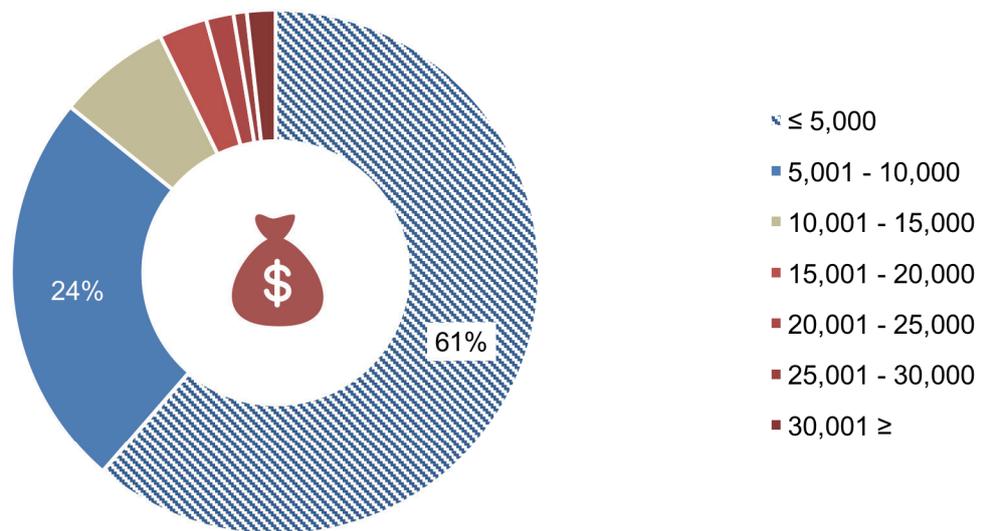
Source: Designed by the author.

**Figure 5.5 Education in Relation to Income**



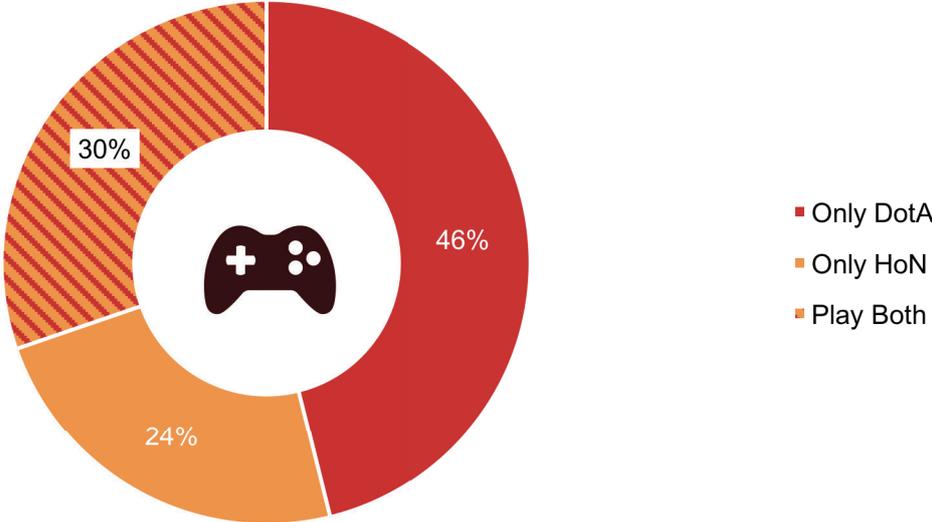
Source: Designed by the author

**Figure 5.6 Income in Thai Baht**



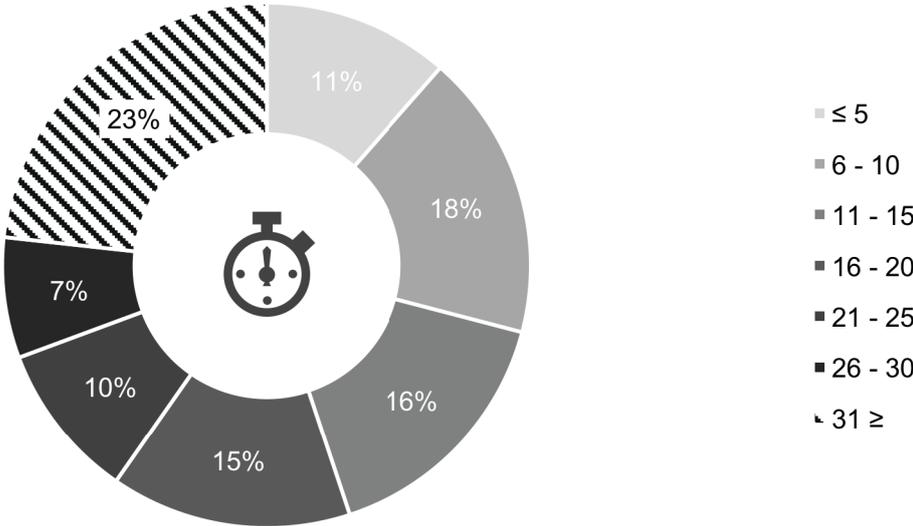
Source: Designed by the author.

**Figure 5.7 Video Games Played**



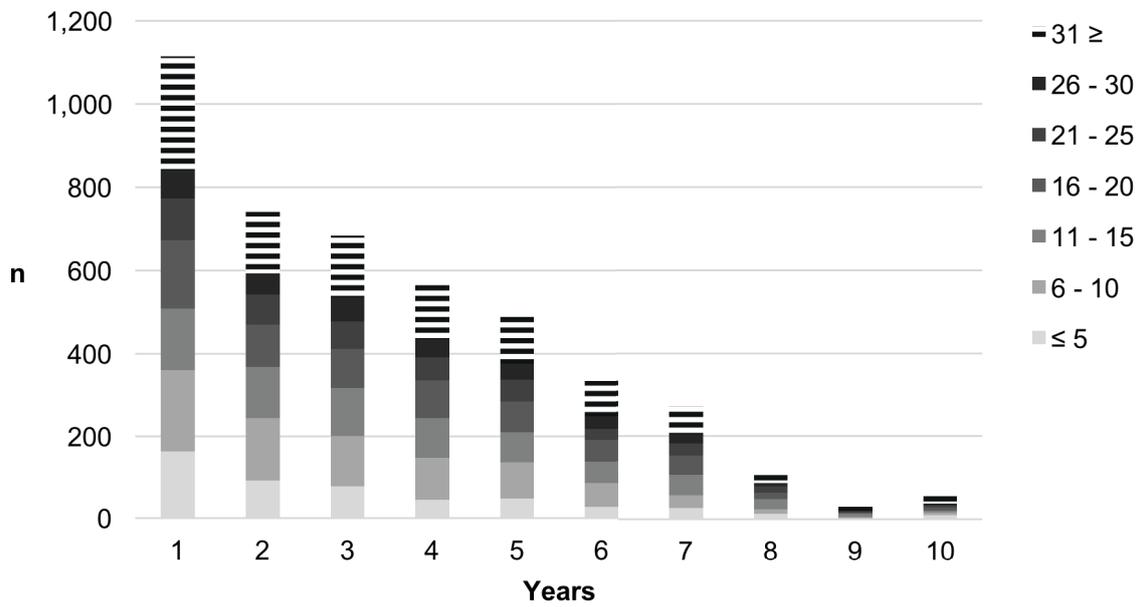
Source: Designed by the author.

**Figure 5.8 Games Played Per Week**



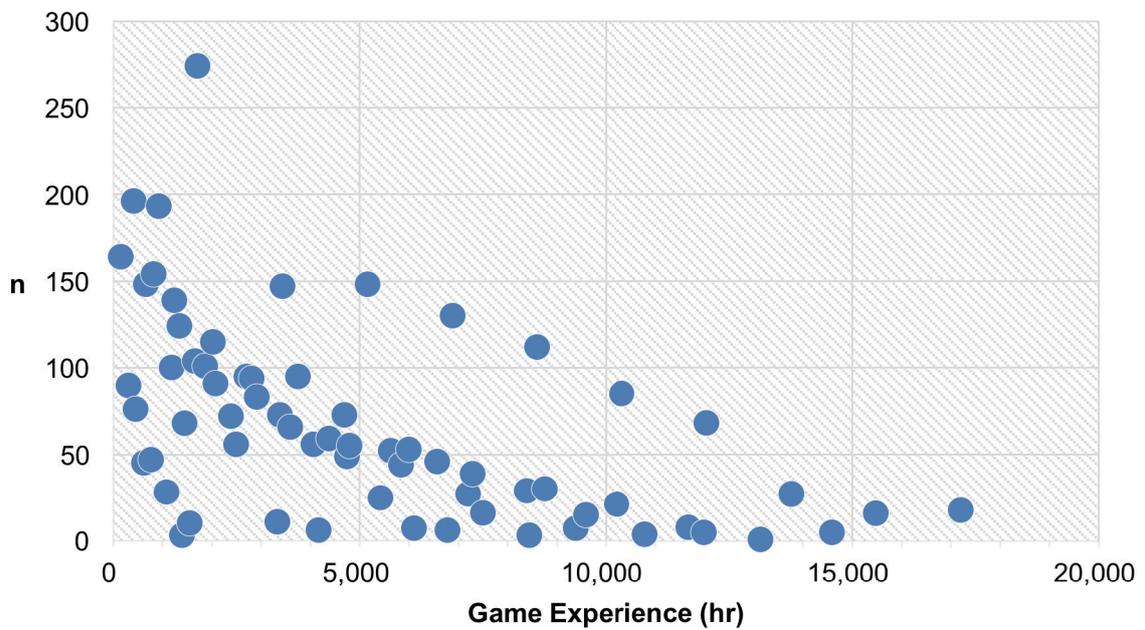
Source: Designed by the author.

**Figure 5.9 Video Game Exposure**



Source: Designed by the author.

**Figure 5.10 Total Video Game Experience**



Source: Designed by the author.

#### **5.4.2 Leadership and Gameplay Behavioral Patterns According to the PCA**

The principal component analysis (PCA) results in Table 5.2 and Table 5.3 reported the factor loadings on real-world leadership behaviors and gameplay behaviors, respectively. According to H. F. Kaiser's (1970) suggestion for the Kaiser-Meyer-Olkin Measure of Sampling Adequacy's (KMO) cut-off value of 0.5, this analysis achieved the desirable value of 0.849. The PCA obtained three components with eigenvalues of more than one from the behaviors associated with real-world leadership styles. The three principal components corresponded to autocratic, democratic, and laissez-faire leadership styles. Similarly, three components with eigenvalues greater than one were extracted from the behaviors associated with roles in MOBA games. The three principal components were characterized as carry, support, and ganker game roles. These results corresponded to the three major leadership orientations described in Western literature, and to the three major game role classifications according to the Western video game communities.

**Leadership behaviors.** Table 5.2 listed the 11 real-world leadership behaviors (items number L1 – L11) examined in part three of the questionnaire (Figure 4.5), and reported their loading coefficients. Questions number L1 – L4 corresponded theoretically to the autocratic leadership style, questions number L5 – L8 corresponded to the democratic leadership style and questions number L9 – L11 corresponded to the laissez-faire leadership style. The result of a promax rotation after the PCA revealed that the factor loading for each behavior loaded appropriately on a component that corresponded to its hypothetical leadership style. Three factors with an eigenvalue greater than 1.0 were extracted from the data set. According to the result, items L1 – L4 loaded strongly for the autocratic leadership component. Items L5 – L8 loaded strongly for the democratic leadership component. Items L9 – L11 loaded for the laissez-faire leadership component. These patterns of loadings corresponded appropriately to the hypothesis. Although the loading coefficient was imperfect, the leadership behaviors can be categorized according to multiple leadership styles; therefore, hypothesis H<sub>1</sub> cannot be rejected.

Although the majority of the leadership behaviors reported loading values above 0.5, the behavioral items L4, L9, and L11 significantly cross-loaded onto a mismatched leadership component; this is contrary to the hypothesis. The autocratic leadership behavior described in item L4, "I do not ignore any detected mistakes. I will immediately warn the member and

temporarily pause the actions of the group member in charge to rectify the issue,” cross-loaded on both autocratic and democratic leadership components. The laissez-faire leadership behavior described in item L9, “I do not mind that other members make decisions for me, both on important matters or regarding minor matters,” loaded strongly on the democratic leadership component. Finally, the laissez-faire leadership behavior described in item L11, “I avoid being an important part of the group, or I try to take the fewest responsibilities possible in the group,” cross-loaded on both autocratic and laissez-faire leadership components.

**Gameplay behaviors.** The factor loadings on gameplay behaviors reported in Table 5.3 showed a cleaner pattern matrix when compared to those of real-world leadership behaviors (Table 5.2). Table 5.3 listed the 16 DotA and HoN gameplay behaviors (items number G1 – G16) investigated in part two of the questionnaire (Figure 4.4), and reported their loading coefficients. Questions number G1 – G6 corresponded theoretically to the carry game role, questions number G7 – G11 corresponded to the support game role, and questions number G12 – G16 corresponded to the ganker game role. The outcome of a promax rotation after the PCA revealed that factor loading of each behavior loaded appropriately on its hypothetically corresponding game role component. Three factors with an eigenvalue greater than 1.0 were extracted from the data set. In particular, the gameplay behavior indicated in items G1 – G6 corresponded to the carry game role. Items G7 – G11 corresponded to the support game role. Items G12 – G16 corresponded to the ganker game role. No conspicuous cross loading was reported, and the majority of the loading values were greater than 0.5. Therefore, the gameplay behaviors can be categorized according to multiple game roles; thus, hypothesis H<sub>2</sub> cannot be rejected.

However, the carry game role behavior described in item G6, “I choose the hero I want to play before any other players,” was invalid due to its failure to load significantly on all gameplay components. The ganker game role behavior described in item G15, “When I choose a hero, I first consider its disabling abilities. For instance, stun, silence, and slow abilities,” cross-loaded weakly on the support game role.

**Table 5.2 Factor Loadings on Real-world Leadership Behaviors**

Item #	Leadership Behaviors	Factor Loadings		
		Autocratic	Democratic	Laissez-faire
Autocratic	L1 I am the person who makes decisions and gives orders in the group, so that the resulting work comes out the way I want it to be.	0.815		
	L2 I am in charge of planning and giving out duties in the group by considering each member's skill sets.	0.667		
	L3 I emphasize the group's productivity more than the satisfaction of the group members.	0.604		0.360
	L4 I do not ignore any detected mistakes. I will immediately warn the member and temporarily pause the actions of the group member in charge to rectify the issue.	0.420	0.427	
Democratic	L5 I believe in my teammates. I trust them to perform the responsibilities they are given.		0.699	
	L6 I discuss or ask for opinions from other group members to accompany my own decision making.		0.674	
	L7 I praise and admire others' good work, and comfort them when they face difficulties.		0.613	
	L8 I am happy to provide support for my teammates, and I am willing to take over the duties of others if needed.		0.488	
Laissez-Faire	L9 I do not mind that other members make decisions for me, both on important matters or regarding minor matters.		0.667	0.356
	L10 I do not want other people to teach me or to give me suggestions about how I work.			0.681
	L11 I avoid being an important part of the group, or I try to take the fewest responsibilities possible in the group.	0.438		0.456
<b>KMO</b>	0.849			
<b>N</b>	4,407			

**Extraction Method:** Principal Component Analysis.

**Rotation Method:** Promax with Kaiser Normalization.

**Note:** Factor loadings below 0.30 are suppressed.

Source: The universality of leadership behaviors in virtual environments: A case of eSports players in Thailand (Nuangjumnong, 2015, p. 120).

**Table 5.3 Factor Loadings on Gameplay Behaviors**

Item #	Gameplay Behaviors	Factor Loadings			
		Carry	Support	Ganker	
Carry Role	G1	I stay in the lane I am in charge of, or I stay in the jungle for a long time. I do not change lanes.	0.588		
	G2	I play heroes that are very weak at the beginning of the game, but become the most powerful later in the game.	0.729		
	G3	I am not the person who would start an attack. I avoid being the person who initiates a fight.	0.401		
	G4	The strength of my hero is more important than the strength of other people's heroes.	0.422		
	G5	I try to earn myself more gold at the beginning of the game, so I spend more time farming compared to other players.	0.614		
	G6	I choose the hero I want to play before any other players.			
Support Role	G7	I kill, steal and last shot towers purely for gold and experience, although these actions may upset other players.		0.474	
	G8	I let other players keep Aegis of the Immortal that are dropped from defeating Roshan.		0.617	
	G9	I emphasize more on the safety and protection of my teammates, and I am less worried about my own safety or about killing the enemy.		0.699	
	G10	I do not let my teammates fight alone; I will protect and support them.		0.593	
	G11	I support my team by being the one who purchases team-supporting items. For instance, upgrading Courier, Wards, and Gem of True Sight.		0.558	
Ganker Role	G12	I wait patiently for the best timing and chance to destroy the enemy.			0.526
	G13	I make plans before the initiation of an attack and try to trap the enemy in various ways.			0.583
	G14	I choose a hero that has powerful abilities that can cause high damage at the beginning of the game, although the hero tends to be weakened by the end of the game.	-0.410		0.506
	G15	When I choose a hero, I first consider its disabling abilities. For instance, stun, silence, and slow abilities.		0.344	0.486
	G16	I emphasize initiating enemy attacks by ganking or backstabbing.			0.726
<b>KMO</b>		0.849			
<b>N</b>		4,407			

**Extraction Method:** Principal Component Analysis.

**Rotation Method:** Promax with Kaiser Normalization.

**Note:** Factor loadings below 0.30 are suppressed.

Source: The universality of leadership behaviors in virtual environments: A case of eSports players in Thailand (Nuangjumnong, 2015, p. 121).

## **5.5 Discussion**

Three principal components for real-world leadership behaviors and three for gameplay behaviors were successfully extracted from the data on Thai eSports players. Most of the behaviors represented the corresponding leadership styles or game roles appropriately, as theorized. This implies that leadership behaviors defined in the Western literature can also be applied across cultures within the Thai population. Hence, the three major leadership styles — autocratic, democratic, and laissez-faire — can describe the leadership orientations of Thai individuals. Similarly, Thai eSports players' gameplay behaviors can be characterized as carry, support, and ganker game roles using the Western typology. It can be concluded that these aspects of micro-level leadership exist within both real and virtual environments in Thailand. The conclusions support the propositions of previous literature, which asserted that leadership is universal (Bass, 1996; Den Hartog et al., 1999; Yukongdi, 2010). Nevertheless, some behaviors did show inadequate factor loadings. A few cross-loadings were found in behaviors associated with the task-people orientation (item L4), and the sense of responsibility (items L9, L11, and G15). This may imply that Thai eSports players' perceptions of these specific behaviors were diverse, thus requiring further investigation.

Regardless of the face-to-face or virtual application of leadership skills, the universality of leadership behavior occupies a fundamental position. The degree of leadership universality can determine an individual's level of control in a particular situation. Therefore, one may expect greater leadership effectiveness and group efficiency as a result of better-defined leadership styles recognizable by all group members (Ayman, Chemers, & Fiedler, 1995), with a higher degree of universality. Analogous to the argument by Bass (1996), this study's findings imply that some leadership behaviors need adjustment or localization to accommodate the culture and traditions of the target society.

## **5.6 Conclusion**

The findings of this study support the proposition that leadership is universal. The core behaviors associated with leadership remain the same regardless of how countries vary in terms of factors such as culture, language, lifestyle, and personality. Moreover, globalization during the Internet age has extended the implications of universality to the virtual world. Individuals

are capable of implementing their leadership skills in online group activities, such as virtual teams and eSports, despite their geographical locations or national boundaries.

These findings allow for conflicts that arise due to the misuse of leadership strategies to be prevented through the appropriate adoption of leadership behaviors. If leadership skills are applied in societies with contrasting cultures, one can consider adjusting some of the behaviors to better accommodate the cultural differences. A successful adjustment should facilitate leadership effectiveness and associated satisfaction levels.

The applicability of leadership behavior has become increasingly influential as a result of the emphasis on the utilization of information technology for global communication. It has transformed the ways in which people cooperate, particularly in Thailand, where there is rapid growth and the migration of an international, elite workforce. Without the need to be physically present, virtual teaming can potentially enable individuals across the world to cooperate more effectively and efficiently if the universality of behaviors associated with leadership is present. Online gameplay or eSports is a universal platform that compels all players to follow the same rules, and has well-defined tasks and goals. Regardless of nationality and cultural background, young people can use the virtual platform to practice leadership skills and to become familiar with the concepts of leadership before honing their leadership skills in the real world.

eSports offers a shared platform for all individuals to explore and practice these leadership skills without risking the irreversible consequences of real-world failure (Kriz, 2003; Prensky, 2005). Previous studies have described a well-performing virtual team as having a combination of training (P. R. Kaiser, Tullar, & McKowen, 2000; B. C. Y. Tan, Wei, Huang, & Ng, 2000), strategy and goal setting, communication (Kayworth & Leidner, 2000; Suchan & Hayzak, 2001) a shared language (P. R. Kaiser et al., 2000; Majchrzak, Rice, King, Malhotra, & Ba, 2000; Malhotra, Majchrzak, Carman, & Lott, 2001), team cohesiveness, coordination and commitment (Maznevski & Chudoba, 2000), the appropriate task-to-technology fit (Malhotra et al., 2001), and competitive and collaborative conflict behaviors (Montoya-Weiss, Massey, & Song, 2001). These are the beneficial functions that are assimilated into each game role and can be experienced through gameplay. The universality of these skills in gameplay hints at eSports' great potential as a didactic tool for leadership development. Accordingly, future video game development should incorporate and emphasize these positive aspects while avoiding the

negative ones. The violent actions could be modified as a punishment instead of a reward, which would in turn magnify the prosocial values (Hartmann, Toz, & Brandon, 2010; Hartmann & Vorderer, 2010; Makuch, 2014a) in future game designs.



## Chapter 6

### Relationship between Game Roles and Leadership Styles

As Internet usage has become a social necessity, many have come to rely on the Internet for both productivity (teleworking, virtual teaming) and entertainment. This includes adolescents, who currently play online games for longer hours than ever before (Gentile et al., 2007). These online games are complex platforms that simultaneously simulate and continue to shaping reality. As a result, the social impact of online games has become a growing point of contention among scholars. This chapter seeks to contribute to this developing debate by focusing on how online games are connected to the real world, particularly in relation to the development of leadership style. The interest here is generated by the proposition that “online games, and their associated virtual communities, resemble small societies that contain numerous real-world phenomena” (S.-K. Lo, 2008, p. 1955).

In this chapter, the eSports genre of multiplayer online battle arena (MOBA) will remain the primary source of observation. In comparison with the individually oriented nature of massive multiplayer online games (MMO), MOBA is a relatively new genre that provides greater opportunities for leadership due to its group-oriented nature. Moreover, there are specific roles in MOBA games that share similar traits and behaviors with real-world leadership styles. Thus, this study aims to examine the relationship between roles in MOBA games and leadership behaviors in everyday life.

Chapter 5 highlighted the findings concerning the leadership aspects in MOBA games, and the universality of the leadership concepts in both real and virtual worlds. This chapter further investigates the relationship between leadership behaviors that occur in the two worlds (RQ<sub>2</sub>). This chapter thus focuses on establishing the interactive relationship between leadership styles and roles in MOBA games. Data from the closed-ended questionnaires regarding gameplay and leadership behaviors achieved from the previous chapter (Section 4.1.1, Questionnaire about Real-world Leadership and Gameplay Behaviors) were tested quantitatively to examine the aforementioned relationship. In addition, a qualitative analysis of interviews with professional eSports players and their gameplay behaviors was conducted to explain the quantitative results in a real-world context. The findings of this chapter provide insight into the relationship

between game roles and leadership styles. The results of the qualitative analysis are highlighted in Section 6.1, Correlation between Game Roles and Leadership Styles. The qualitative analysis is discussed in Section 6.2, Game Roles Adopted by Professional eSports Players in Relation to their Leadership Behaviors.

## **6.1 Correlation between Game Roles and Leadership Styles**

The framework presented in Figure 3.3, Shared Behaviors and Situational Control between Real-world Leadership Styles and Roles in Games, incorporates the situational control scenario in which the environment (real-world limitations, problem-solving scenarios, and personality of a leader) provides experiences that play a decisive role in determining the effectiveness of a leader's leadership style. Using the contingency model as a basis for exploring the link between leadership styles and game roles, the three leadership styles mirrored the roles in MOBA games. The circumstances in games (game rules and gameplay mechanics, team members' interactive dynamics, and missions) determined the effectiveness of a game role. Furthermore, real-world leadership styles are interconnected with game roles through the similarities in their traits and behaviors. According to this theoretical framework, this study proposed the relationship between the autocratic leadership style and the carry game role, the democratic leadership style and the support game role, both the autocratic and the democratic leadership styles and the ganker game role and, finally, the laissez-faire leadership style and the non-assigned players. Figure 6.1 summarizes the aforementioned relationship between each leadership style and game role.

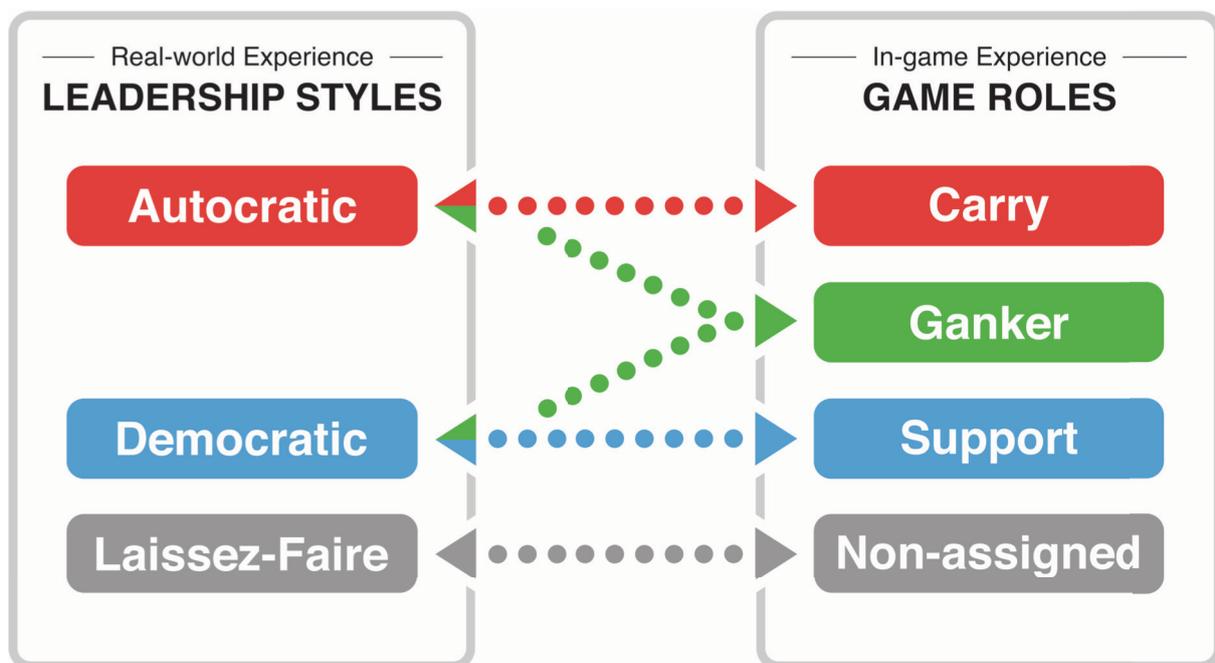
### **6.1.1 Hypothesis**

The hypothesis of this study is derived from a theoretical proposition that leadership styles share similar behaviors and decision-making rationale with game roles. Therefore, those players whose gameplay behaviors characterize them as playing a particular game role are more likely to be associated with its corresponding leadership style. Specifically, respondents who are characterized as carriers in MOBA games would display an autocratic leadership style in the real world. Respondents who are characterized as supporters display a democratic leadership style. Those who are characterized as gankers within the game would have either an autocratic or a democratic leadership style. Lastly, respondents who play MOBA games without

any specific role, or the non-assigned players, would display a laissez-faire leadership style. The main hypotheses to be tested quantitatively are summarized as follows:

- H<sub>0</sub>: Game players' in-game behaviors have no relationship with the players' leadership styles.
- H<sub>1</sub>: Game players who display the carry role behaviors more frequently are more likely to be autocratic leaders.
- H<sub>2</sub>: Game players who display the support role behaviors more frequently are more likely to be democratic leaders.
- H<sub>3a</sub>: Game players who display the ganker role behaviors more frequently are more likely to be autocratic leaders.
- H<sub>3b</sub>: Game players who display the ganker role behaviors more frequently are more likely to be democratic leaders.
- H<sub>4</sub>: Game players who display any of the game role behaviors frequently are less likely to be laissez-faire leaders.

**Figure 6.1 The Relationship between Each Game Role and Leadership Styles**



Source: Designed by the author.

### **6.1.2 Methodology: Mlogit and Marginal Effect**

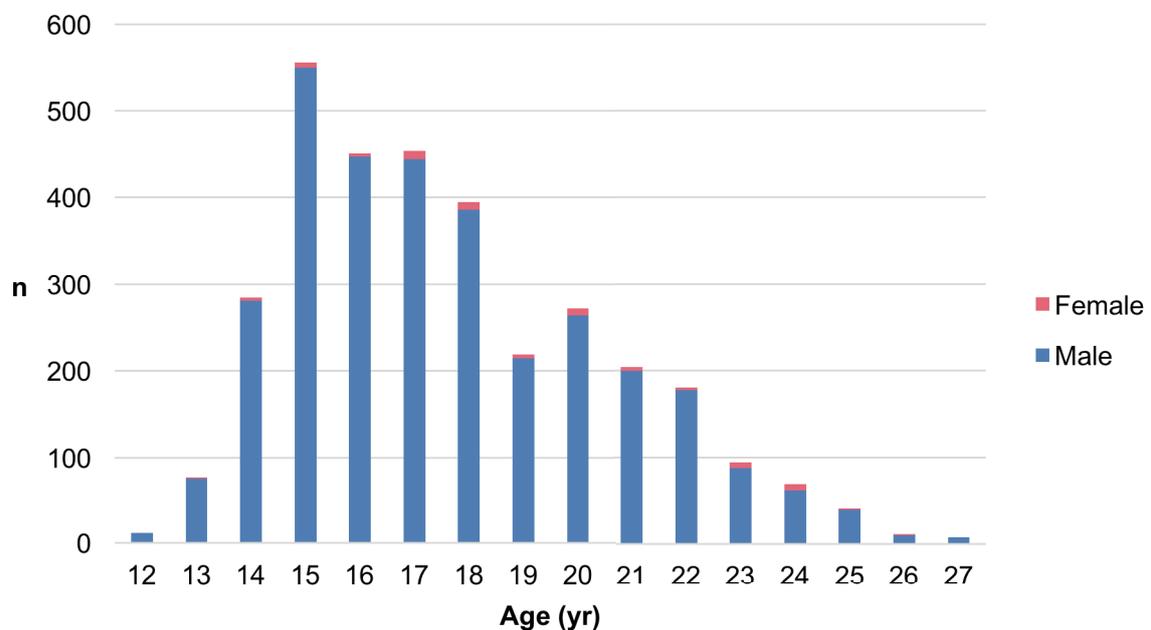
This study used the data derived from Chapter 5 for an extensive quantitative analysis of the relationship based on the previously identified game roles and leadership style patterns (Section 5.4.2, Leadership and Gameplay Behavioral Patterns According to the PCA). However, respondents with full-time work experience were excluded from this study due to the possibility that the work environment may suppress the leadership behavior outcomes (Jang & Ryu, 2011; Stewart & Barling, 1996). Similar to the demographic described in Section 5.4.1, the target group remained Thai adolescents who actively played MOBA games, but who did not have full-time employment. The statistical analysis used for this study was a multinomial logistic regression and its marginal effect estimations (Section 4.3, Multinomial Logistic Regression (mlogit) and Marginal Effects).

### **6.1.3 The Demographics of Respondents with No Work Experience**

Respondents with full-time work experience were excluded from the game players' dataset described in Section 4.1.1, Questionnaire about Real-world Leadership and Gameplay Behaviors. After extensive data screening for outliers, the removal of inconsistent answers and incomplete responses, 3,330 samples qualified for quantitative analysis. The descriptive data summary is reported in Table 6.2. The demographic of the collected samples is game players between 12 and 27 years of age ( $M = 17.64$ ,  $SD = 2.90$ ). According to the age distribution and gender diversity reported in Figure 6.2 and Figure 6.3, only two percent of the demographic was female ( $SD = 0.14$ ,  $n = 69$ ). The majority of the respondents were enrolled in high school (40%,  $SD = 1.36$ ,  $n = 1,343$ ), followed by middle school (23%,  $n = 765$ ). Accordingly, Figure 6.4 reports 82% ( $n = 2,737$ ) of the game players received at least a high school level of education. The respondents were controlled for work experience because work environments can affect individuals' leadership behaviors and outweigh their gameplay experience (Jang & Ryu, 2011; Stewart & Barling, 1996). Thus, their allowance was typically no more than 5,000 Thai Baht (70%,  $SD = 0.85$ , 1 USD  $\approx$  33 THB). Game players' educational levels in relation to their income are reported in Figure 6.5 and Figure 6.6.

Almost half of the MOBA game players played DotA only (46%,  $n = 1,533$ ), whereas 77% ( $n = 2,568$ ,  $SD = 0.42$ ) played both DotA and HoN. The remaining 23% ( $n = 762$ ) only played HoN. Most of the players (23%,  $n = 756$ ,  $SD = 2.09$ ) played more than 30 matches in MOBA games per week, analogous to Niko Partners' Thailand's video game market research findings (Hause, 2013) Cumulatively, more than half of the sample ( $n = 1,840$ ) played at least 16 matches per week. The majority of the players had played MOBA games for at least three years ( $n = 1,889$ ,  $M = 3.30$ ,  $SD = 2.10$ ). The number of MOBA matches played in relation to the number of years of experience is reported in Figure 6.9. Figure 6.10 reports an estimated total of MOBA game experience by game players with no full-time work experience. Almost 80% of the players claimed that they played MOBA games at home ( $n = 2,641$ ,  $SD = 0.41$ ), and more than 40% played at an Internet café or at a PC game center ( $n = 1,460$ ,  $SD = 0.50$ ). Figure 6.11 reports the environments in which players played MOBA games.

**Figure 6.2 Age Distribution of Game Players with No Work Experience**



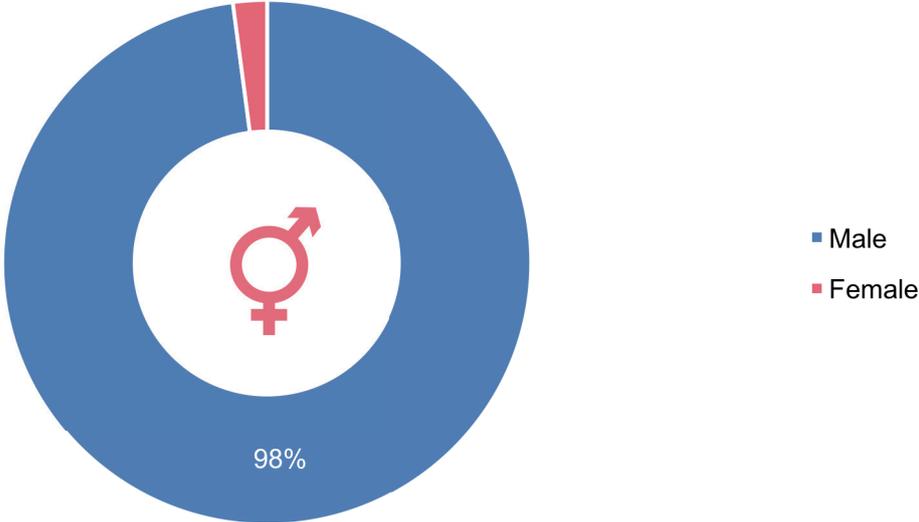
Source: Designed by the author.

**Table 6.1 Demographics of Game Players with no Work Experience**

	Mean	SD	Quantiles				
			Min	25%	Median	75%	Max
<b>Male</b>		0.14	Female	Male	Male	Male	Male
<b>Age</b>	17.64	2.90	12	15	17	20	27
<b>Education</b>	1.36	1.36	<Elementary	Middle School	High School	High School	MA / MBA
<b>Income (THB)</b>	0.85	0.85	≤5,000	≤5,000	≤5,000	5,001 – 10,000	30,001 ≥
<b>District</b>	21.10	21.10	Bangkok				
<b>Age Started</b>	14.35	2.88	6	12	14	16	22
<b>Years Played</b>	3.30	2.10	1	1	3	5	10
<b>Matches per Week</b>	2.09	2.09	≤5	6 – 10	16 – 20	26 – 30	31 ≥
<b>Games Exposure (hours)</b>	3,232	3,064	156	939	2,034	4,693	17,207
<b>Play DotA</b>	0.42	0.42	No	Yes	Yes	Yes	Yes
<b>Play HoN</b>	0.50	0.50	No	No	Yes	Yes	Yes
<b>Home</b>	0.41	0.41	No	Yes	Yes	Yes	Yes
<b>Friend</b>	0.21	0.21	No	No	No	No	Yes
<b>Laptop</b>	0.35	0.35	No	No	No	No	Yes
<b>Shop</b>	0.50	0.50	No	No	No	Yes	Yes
<b>School</b>	0.23	0.23	No	No	No	No	Yes
<b>N</b>		3,330					

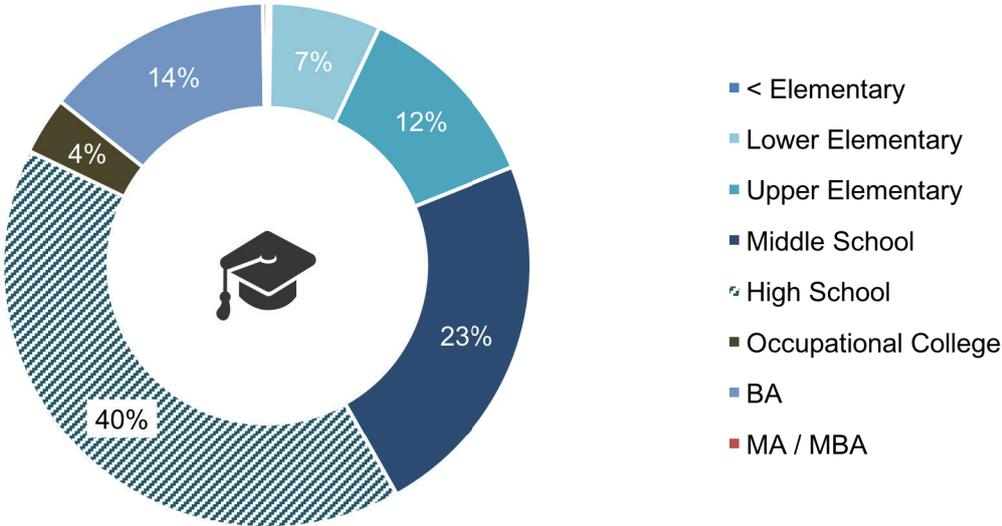
Source: Compiled by the author.

**Figure 6.3 Gender Diversity of Game Players with No Work Experience**



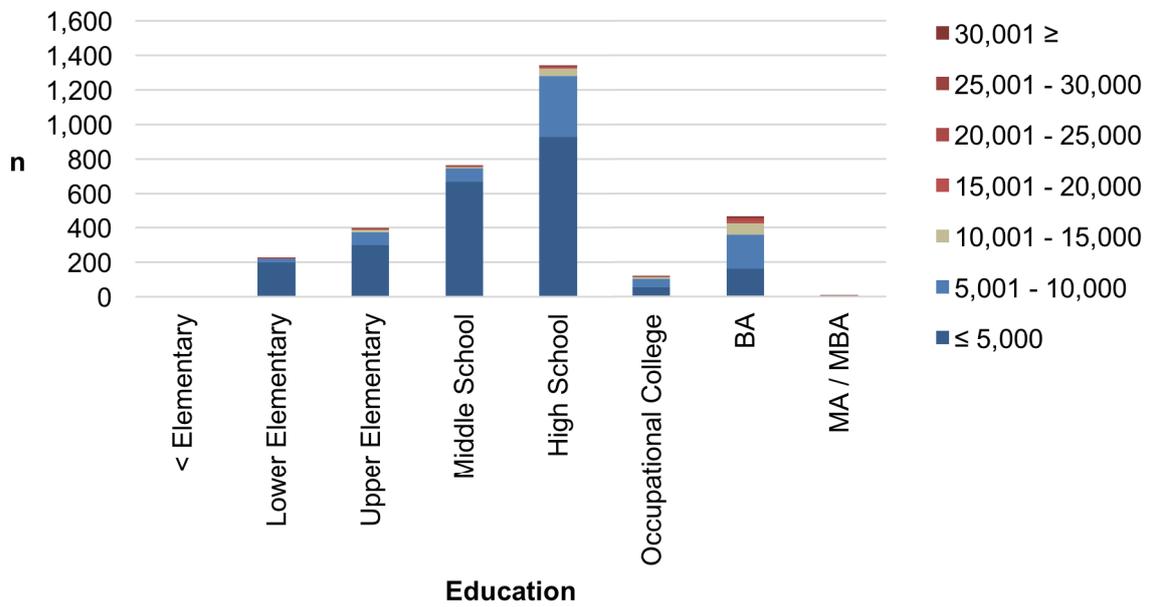
Source: Designed by the author.

**Figure 6.4 Education of Game Players with No Work Experience**



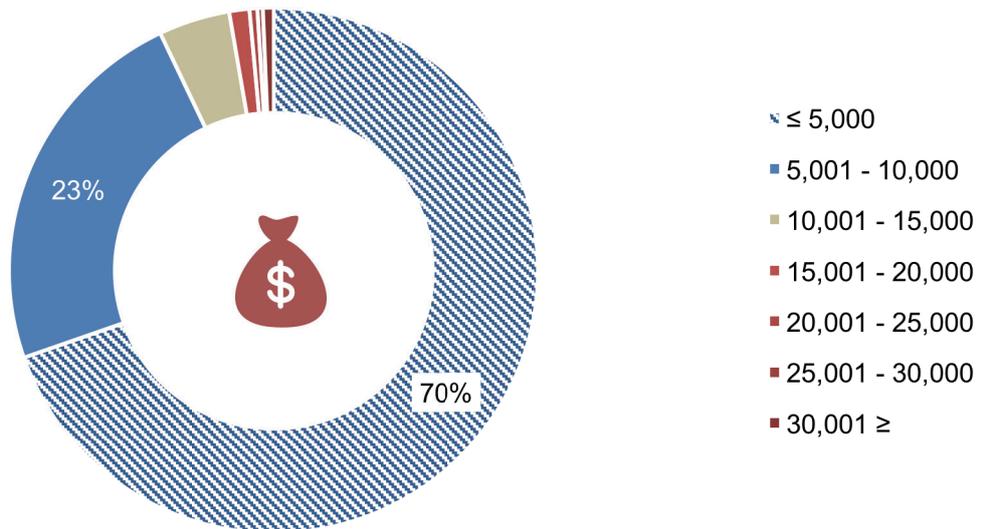
Source: Designed by the author.

**Figure 6.5 Education in Relation to Income of Game Players with No Work Experience**



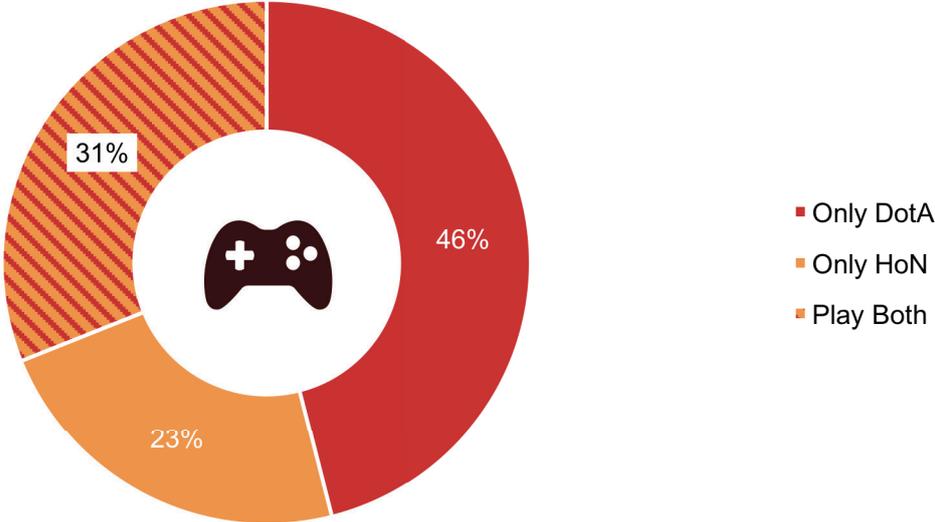
Source: Designed by the author.

**Figure 6.6 Income of Game Players with No Work Experience**



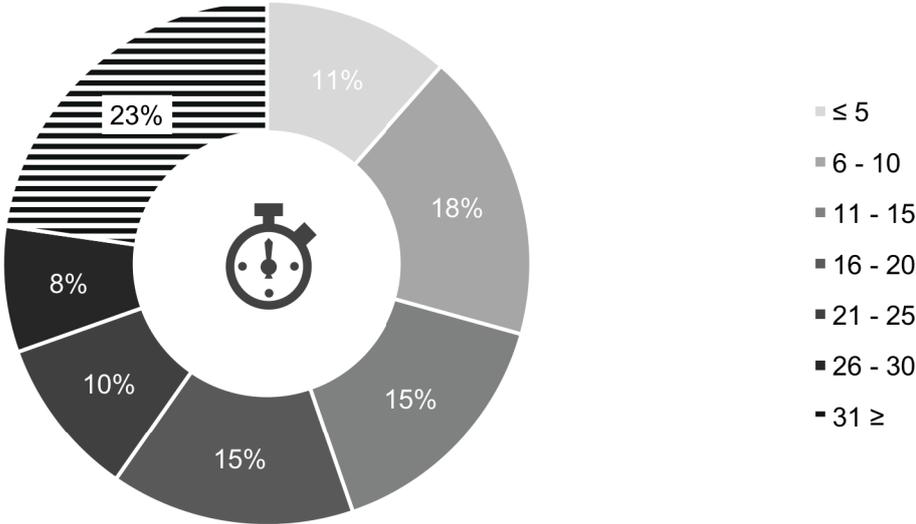
Source: Designed by the author.

**Figure 6.7 Video Games Played by Players with No Work Experience**



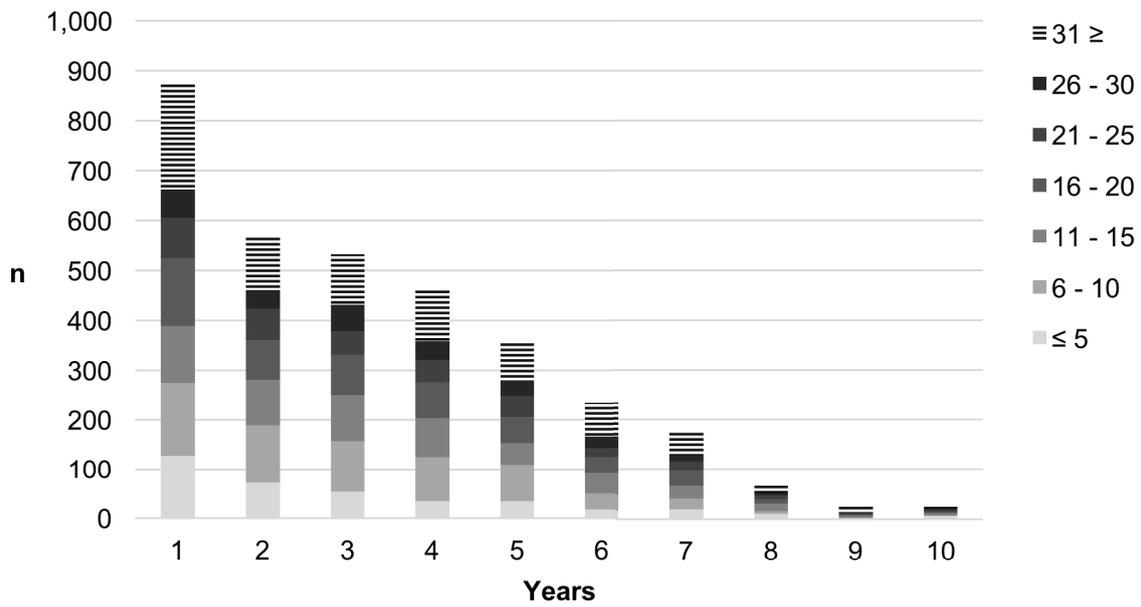
Source: Designed by the author.

**Figure 6.8 Games Played Per Week by Game Players with No Work Experience**



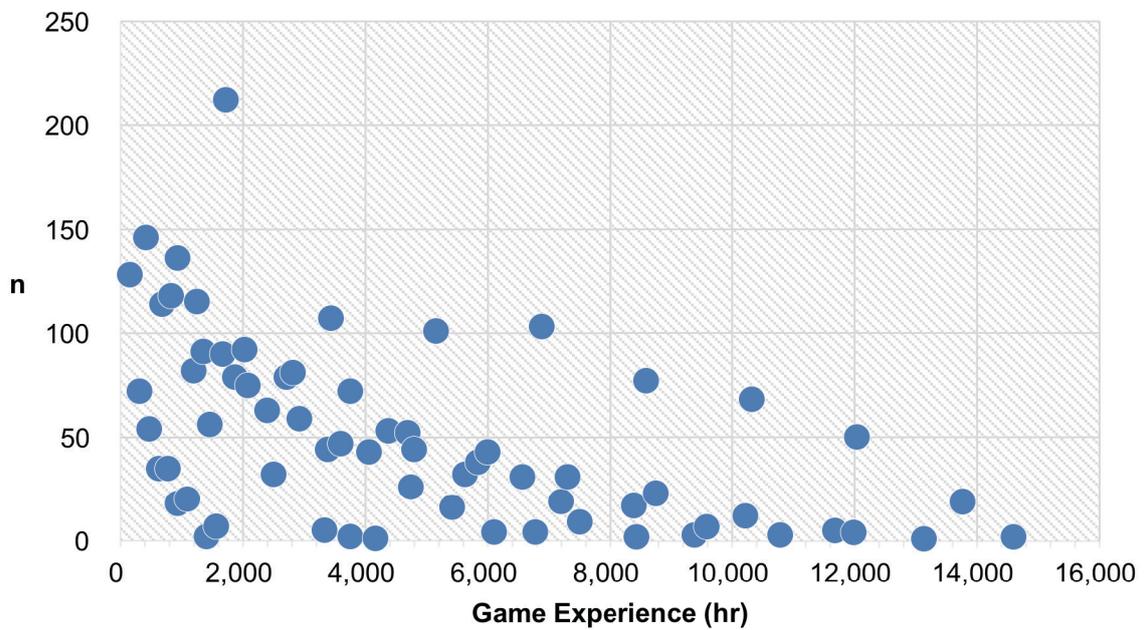
Source: Designed by the author.

**Figure 6.9 Video Game Experience of Game Players with No Work Experience**



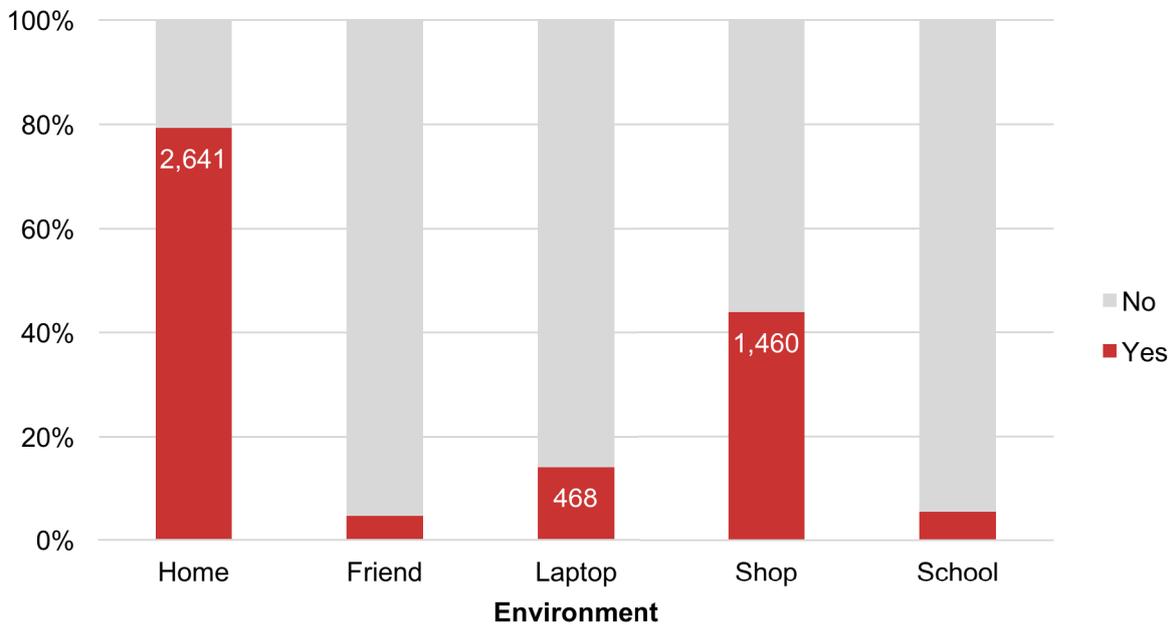
Source: Designed by the author.

**Figure 6.10 Total Video Game Experience of Game Players with No Work Experience**



Source: Designed by the author.

**Figure 6.11 Game Play Environment**



Source: Designed by the author.

#### **6.1.4 Measurement of Behaviors**

**Measuring leadership behaviors.** Eleven closed-ended questions were asked in order to examine behaviors that corresponded to the three leadership styles — autocratic, democratic, and laissez-faire. Respondents were asked to self-report the frequency with which they displayed the real-world behaviors described in the questionnaire on a six-point scale from almost never to almost always. As evidence of the measurement’s validity, the questions corresponding to leadership behaviors were based on Lewin’s predefined leadership behaviors identified in children (Lewin & Lippitt, 1938; Lewin et al., 1939). Prior studies that adopted Lewin’s leadership styles have shown adequate measurement validity (Al-Khasawneh & Futa, 2012; Bhatti et al., 2012). The reported frequency of displaying specific behaviors was summed to produce scores that reflected the respondents’ autocratic (N = 561 or 17%, M = 14.85, SD = 3.59,  $\alpha = 0.78$ ), democratic (N = 2,378 or 71%, M = 17.89, SD = 3.50,  $\alpha = 0.83$ ), and laissez-faire (N = 391 or 12%, M = 10.53, SD = 3.50,  $\alpha = 0.82$ ) leadership behaviors.

**Measuring gameplay behaviors.** Sixteen closed-ended questions were asked with regard to the behaviors involved in the three game roles — carry, support, and ganker. Respondents were asked to self-report the frequency with which they displayed the gameplay behaviors described in the questionnaire, using a six-point scale from almost never to almost always. The questions regarding game role behaviors were drafted according to the MOBA game guides, which are publicly available in the gaming media and in communities such as game discussion forums and critiques of competitions (Drakthul, 2012; “Ganking,” 2015, “Heroes,” 2013, “Role,” 2015; Leech, 2011; Mayer, 2012; PlayDotA.com, 2009c; Rodriguez, 2011a, 2011b), as well as according to a consultation with a games service provider and with professional MOBA players in Thailand. The reported frequency of displaying specific gameplay behaviors was summed to produce scores that represented the respondents’ carry ( $M = 18.91$ ,  $SD = 5.27$ ,  $\alpha = 0.76$ ), support ( $M = 24.60$ ,  $SD = 5.14$ ,  $\alpha = 0.74$ ), and ganker ( $M = 20.83$ ,  $SD = 4.27$ ,  $\alpha = 0.61$ ) gameplay behaviors.

#### **6.1.5 Result of Multinomial Logistic Regression and Marginal Effect**

The multinomial logistic regression (mlogit) model used respondents identified as democratic leaders as the baseline comparison group. The coefficients of mlogit analysis reported in Table 6.2 are relative to the baseline category. Marginal effects were calculated numerically after the mlogit estimation. The marginal effects of respondents’ in-game behaviors in relation to their leadership styles are summarized in Table 6.3, Marginal Effects after Multinomial Logistic Regression: Game Roles as Predictors of Leadership Styles.

**Carry game role.** According to the results of the marginal effects reported in Table 6.3, the carry game role is correlated positively with the autocratic leadership style (Coef. = 0.0230,  $z = 2.47$ ,  $p < 0.05$ ). Game players who adopt carry game role behaviors more frequently have a higher tendency toward an autocratic leadership style. Therefore, the null hypothesis  $H_0$  must be rejected, and hypothesis  $H_1$  cannot be rejected at a significance level of 5%.

An increase in the frequency of carry game role behaviors also resulted in a higher likelihood of possessing a democratic leadership style (Coef. = 0.0284,  $z = 2.69$ ,  $p < 0.01$ ). This partially negates the hypothesis that the carry game role should have a negative correlation with the democratic leadership style, but should have a positive correlation instead. By contrast, game

players showed a lower tendency to possess a laissez-faire leadership style as carry game role behavior increased (Coef. = -0.0514,  $z = -8.42$ ,  $p < 0.001$ ).

**Support game role.** The support game role is significantly and positively correlated with a democratic leadership style (Coef. = 0.1095,  $z = 9.51$ ,  $p < 0.001$ ). An increase in the frequency of support game role behaviors resulted in a higher likelihood of possessing a democratic leadership style. Therefore, hypothesis H<sub>2</sub> cannot be rejected at a 0.1% significance level.

On the other hand, the support game role is negatively correlated with autocratic (Coef. = -0.0414,  $z = -4.03$ ,  $p < 0.001$ ) and laissez-faire leadership styles (Coef. = -0.0681,  $z = -11.43$ ,  $p < 0.001$ ). Game players are less likely to exhibit autocratic and laissez-faire leadership as support game role behaviors escalate.

**Ganker game role.** The ganker game role is positively correlated with the autocratic leadership style (Coef. = 0.0312,  $z = 3.34$ ,  $p < 0.001$ ). Game players' higher tendency towards an autocratic leadership style is associated with an increase in ganker game role behaviors. Thus, hypothesis H<sub>3a</sub> cannot be rejected at a 0.1% significance level. Similarly, the ganker game role is positively correlated with the democratic leadership style (Coef. = 0.0251,  $z = 2.50$ ,  $p < 0.05$ ). Game players are more likely to exhibit democratic leadership as the ganker game role behaviors increase; thus, hypothesis H<sub>3b</sub> cannot be rejected at a significance level of 5%.

However, a negative correlation between the ganker game role and the laissez-faire leadership style (Coef. = -0.0563,  $z = -10.88$ ,  $p < 0.001$ ) was reported. Game players revealed a lower likelihood of being characterized as laissez-faire leaders with an increase in ganker game role behaviors.

**Gender.** Gender is significantly correlated with a laissez-faire leadership style. Male game players are more likely to be characterized as having a laissez-faire leadership style (Coef. = 0.0498,  $z = 2.80$ ,  $p < 0.05$ ). The quantitative result was insignificant when compared to autocratic ( $z = 0.46$ ,  $p > 0.05$ ) and democratic leadership styles ( $z = -1.57$ ,  $p > 0.05$ ).

**Age.** No significant relationship was found between game players' ages and the leadership styles ( $p > 0.05$ ). Hence, age is not a predictor of leadership styles.

**Table 6.2 Multinomial Logistic Regression: Game Roles as Predictors of Leadership Styles**

	Autocratic			Laissez-Faire	
	Coef. / (z)	SE		Coef. / (z)	SE
<b>Carry</b>	0.0984 (1.46)	0.07		-0.6984 *** (-7.84)	0.09
<b>Support</b>	-0.3905 *** (-5.22)	0.07		-1.0206 *** (-11.89)	0.09
<b>Ganker</b>	0.1517 * (2.23)	0.07		-0.7576 *** (-10.53)	0.07
<b>Game Experience</b>	0.2609 * (2.22)	0.12		-0.1330 (-0.93)	0.14
<b>Male</b>	0.2099 (0.64)	0.33		1.0776 (1.79)	0.60
<b>Age</b>	0.0321 (1.45)	0.02		-0.0463 (-1.54)	0.03
<b>Education</b>	0.0072 (0.17)	0.04		0.0029 (0.05)	0.06
<b>Income</b>	0.0316 (0.53)	0.06	(base outcome)	-0.0155 (-0.18)	0.09
<b>Private Space</b>	-0.4130 ** (-2.90)	0.14		-0.4245 * (-2.51)	0.17
<b>Public Space</b>	-0.0136 (-0.12)	0.11		0.1969 (1.38)	0.14
<b>Play DotA</b>	-0.0619 (-0.43)	0.14		-0.0505 (-0.29)	0.17
<b>Play HoN</b>	-0.0389 (-0.34)	0.11		0.2464 (1.74)	0.14
<b>_cons</b>	-2.1296 ** (-2.93)	0.73		7.6481 *** (7.88)	0.97
<b>Wald chi2 (24)</b>			429.03		
<b>Prob &gt; chi2</b>			0.0000		
<b>Pseudo R2</b>			0.0975		
<b>Log Pseudolikelihood</b>			-2380.3312		
<b>N</b>			3,330		
<b>Note:</b> Robust t-statistics shown within parentheses.					
* p < 0.05, ** p < 0.01, *** p < 0.001					

Source: Compiled by the author.

**Table 6.3 Marginal Effects after Multinomial Logistic Regression: Game Roles as Predictors of Leadership Styles**

	Autocratic		Democratic		Laissez-Faire	
	Coef. / (z)	SE	Coef. / (z)	SE	Coef. / (z)	SE
<b>Carry</b>	0.0230 * (2.47)	0.01	0.0284 ** (2.69)	0.01	-0.0514 *** (-8.42)	0.01
<b>Support</b>	-0.0414 *** (-4.03)	0.01	0.1095 *** (9.51)	0.01	-0.0681 *** (-11.43)	0.01
<b>Ganker</b>	0.0312 *** (3.34)	0.01	0.0251 * (2.50)	0.01	-0.0563 *** (-10.88)	0.01
<b>Game Experience</b>	0.0384 * (2.34)	0.02	-0.0254 (-1.40)	0.02	-0.0130 (-1.28)	0.01
<b>Male</b>	0.0194 (0.46)	0.04	-0.0692 (-1.57)	0.04	0.0498 ** (2.80)	0.02
<b>Age</b>	0.0051 (1.66)	0.00	-0.0014 (-0.39)	0.00	-0.0037 (-1.76)	0.00
<b>Education</b>	0.0010 (0.16)	0.01	-0.0011 (-0.16)	0.01	0.0001 (0.03)	0.00
<b>Income</b>	0.0046 (0.56)	0.01	-0.0031 (-0.31)	0.01	-0.0015 (-0.25)	0.01
<b>Private Space</b>	-0.0558 * (-2.44)	0.02	0.0826 *** (3.30)	0.03	-0.0268 (-1.86)	0.01
<b>Public Space</b>	-0.0045 (-0.29)	0.02	-0.0099 (-0.56)	0.02	0.0144 (1.40)	0.01
<b>Play DotA</b>	-0.0081 (-0.4)	0.02	0.0109 (0.49)	0.02	-0.0028 (-0.23)	0.01
<b>Play HoN</b>	-0.0087 (-0.55)	0.02	-0.0094 (-0.53)	0.02	0.0181 (1.82)	0.01
<b>N</b>		3,330				

**Note:** Robust t-statistics shown within parentheses.

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Source: The influences of online gaming on leadership development (Nuangjumnonng, 2016, p. 151).

**Education.** The game players' levels of education were found to be insignificant for all leadership styles ( $p > 0.05$ ); thus, education is not a predictor of leadership styles.

**Income.** Seventy percent of the survey respondents had a monthly income of up to 5,000 Thai Baht (approximately 150 US dollars) because this study targeted younger game players with no work experience. However, the income level was found to be an insignificant factor in all leadership styles ( $p > 0.05$ ).

**Game experience.** The amount of time spent on gameplay was insignificant for all leadership styles ( $p > 0.05$ ) according to the quantitative analysis. The duration of gameplay or video game exposure alone does not contribute to predicting a leadership style.

**Video games played.** Regardless of the games played, both DotA and HoN produced an insignificant result for all leadership styles ( $p > 0.05$ ). Therefore, neither DotA nor HoN is a predictor of leadership styles.

**Gameplay Locations.** Playing games in private spaces, such as at home or at a friends' house, is negatively correlated with an autocratic leadership style (Coef. = -0.0558,  $z = -2.44$ ,  $p < 0.01$ ), but is positively correlated with a democratic leadership style (Coef. = 0.0826,  $z = 3.30$ ,  $p < 0.001$ ). Game players who play games in private spaces are less likely to be characterized as having autocratic leadership styles, but are more likely to possess a democratic leadership style.

On the other hand, the private space factor produced insignificant results for the laissez-faire leadership style ( $p > 0.05$ ). Public spaces, such as Internet cafés, PC game centers, and the area near schools were insignificant predictors of all leadership styles ( $p > 0.05$ ). Accordingly, playing games in both private and public spaces is not predictive of the laissez-faire leadership style, while public spaces are not predictive of any leadership styles.

## **6.2 Game Roles Adopted by Professional eSports Players in Relation to their Leadership Behaviors**

This section incorporates a qualitative analysis of interviews with professional eSports players and the subjects' gameplay video records. In the analysis of these interviews, the behaviors related to autocratic, democratic, and laissez-faire leadership styles of the interviewees were

observed closely. Specifically, this study identified behaviors associated with decision-making processes, the prioritization of task- or people-oriented issues, susceptibility to trusting other people and the sense of responsibility of each subject. The patterns of leadership behaviors found in the analysis are subsequently compared to gameplay behaviors exhibited by the corresponding players, observable through their game replay videos.

These interview scripts and competition replays of professional, well-known DotA and HoN players in Thailand were made public on video game websites and in online eSports communities. Behavioral patterns of the professional eSports players exhibited in their interviews were studied, and were then compared to the behaviors they exhibited during gameplay. The primary objective of this study is to gain an in-depth understanding of the quantitative results derived in Section 6.1, Correlation between Game Roles and Leadership Styles.

**Table 6.4 Professional eSports Player Profile Summary**

Subject No.	Screen Name	Gender	Professional Team	Position	Game Role	
					Primary	Secondary
P1	Lakelz	Male	MiTH.Trust	Player	Carry	
P2	JinNy	Female	MiTH.TRY	Player	Carry	
P3	Executionel2	Male	MiTH.Trust	Manager	Support	
P4	CTW	Male	Neolution E-Sport	Manager	Support	
P5	RaChEz'	Male	MiTH.OHP	Captain	Support	Ganker
P6	Tnk	Male	MiTH.Trust	Captain	Ganker	Support
P7	Pinkle	Female	MiTH.TRY	Captain	Ganker	Support
P8	GUSGUS	Male	Neolution E-Sport	Player	Jungler	
P9	NV	Female	MiTH.TRY	Player	Carry	
P10	Giiz	Female	MiTH.TRY	Player	Semi-carry	
P11	Aunjii	Female	MiTH.TRY	Player	Support	Ganker
P12	Byul	Female	MiTH.TRY	Player	Ganker	Carry

Source: Compiled by the author.

### **6.2.1 Introducing National eSports Teams and High-Profile Professional eSports Players**

Thai society does not recognize eSports players as real-world sportsmen or eSports as a profession. However, this trend is changing as the industry gains more investment from multinational corporations. More Thai eSports teams are being sponsored, and many players have been granted the opportunity to participate in international eSports competitions at a professional level (TIG\_MrChow, 2015).

Twelve high-profile professional eSports players were included in this analysis. These eSports players are the most important DotA and HoN representatives of Thailand, and ten of them were signed up by a professional eSports franchise known as Made in Thailand e-Sports (MiTH). MiTH is considered to be one of Thailand's largest gaming communities, with sponsorships from various multinational corporations including NVIDIA Corporation and MSI Computer Corporation ("MiTH," 2015; MiTH eSports, n.d.). The franchise is composed of several eSports teams, competing in different video games such as DotA, Dota 2, HoN, Hearthstone, StarCraft II, Counter-Strike: Global Offensive (CS:GO), Special Force 2, and FIFA Online 3. Among the 10 professional eSports players, three members are from the team MiTH.Trust, an all-male DotA team, one member from the team MiTH. OHP, which is an all-male HoN team, and six members from team MiTH.TRY — an all-female DotA team.

The remaining two players were from the NeoES-Dota team — an all-male DotA team under the Neolution E-Sport franchise. The Neolution E-Sport franchise is possibly Thailand's second largest professional eSports community, coming just after MiTH, although accurate information about this rapidly growing industry remains elusive. The franchise has sent its players to compete in DotA, Dota 2, HoN, and Point Blank. Unlike MiTH, Neolution E-Sport is a multinational community with teams from Indonesia, Myanmar, the Philippines, Singapore, and Thailand ("Neolution E-Sport," 2015). Neolution E-Sport is sponsored by multinational corporations such as Logitech and Elitegroup Computer Systems (ECS) ("Neolution E-Sport," n.d.). However, Neolution E-Sport decided to drop its long-time sponsorship of the Thai DotA team in 2013, most likely due to disagreement over terms and conditions (Khor, 2013a).

All the aforementioned eSports teams and their players are experienced and highly professional with regard to the video games they play. Albeit underappreciated by the local

society, each team has won many titles for Thailand in worldwide competitions and championships. They are, without doubt, recognized as virtual athletes globally. The list of the professional eSports players to be studied is presented in Table 6.4. The players P1 – P8 will be briefly introduced because they are the primary subjects of this study. Players P9 – P11 however, will only be discussed as additional subjects due to the lack of information; thus, their full backgrounds are omitted.

**Tnk (subject P6).** Tnk is the captain of team MiTH.Trust (Akkaravinej, 2011, para. 1; RGN, 2011a, l. 4). He is one of the most experienced DotA game players because he started to play the game when it was first developed. His alias is MiTH-Tr|TnK (Akkaravinej, 2011; buzzkinz, 2012a; RGN, 2011c). Tnk is mainly responsible for the ganker game role and, on occasion, he plays the support game role depending on the team strategy (diesmiling666, 2011a; DocsDota, 2011; Dota 2, 2011a, 2011b; LuminousInverse, 2012; Ngazi, 2011; RGN, 2011c). As captain of the strongest DotA team in Thailand, Tnk has been placed under the spotlight of the gaming industry's media attention. Thus, there are many interviews with him that have been made public. However, he announced his retirement from competitive DotA competitions in 2014 (Vitug, 2014). Tnk will be referred to as Subject P6.

**Lakelz (subject P1).** Currently one of the top DotA players in Thailand, Lakelz is well known for being the best carrier in the country. He is the key player in the DotA team MiTH.Trust, in which he is responsible for the carry position (diesmiling666, 2011a; DocsDota, 2011; Dota 2, 2011a, 2011b; LuminousInverse, 2012; Ngazi, 2011; RGN, 2011c). The alias he used in global competitions was “MiTH-Tr|Lakelz”. In 2015, Lakelz left MiTH and signed with Signature, a newly established eSports franchise. He was assigned the position of captain and was positioned as the main carry player for the team Signature.Trust (“LaKelz,” 2015, “Signature,” 2015, “Signature.Trust - Dota 2 Wiki,” 2015). Lakelz has been interviewed by many video game-related media due to his fame as a carry game player (buzzkinz, 2012a; RGN, 2011c; B. [PineappleCake] Tan, 2015). His interviews are published online and are used in this qualitative analysis case study. Lakelz will be referred to as Subject P1.

**Executionel2 (subject P3).** Executionel2 was one of the original members of MiTH.Trust. He was a former manager of the team (RGN, 2011a, l. 2). He was one of the early professional

eSports players who participated in global competitions before eSports became popular. Executionel2 played the support position for team MiTH.Trust (RGN, 2011a). Executionel2 is no longer active in MOBA competitions, but his support for the eSports community continues. Executionel2 will be referred to as Subject P3.

**RaChEz` (subject P5).** RaChEz` is the captain of the team MiTH. OHP, a MiTH franchise that competes exclusively in HoN competitions. RaChEz`s alias was [OHP]RaChEz` (Lafezter, 2012). According to the observation of four competitions` video replays, along with the confirmation from Thipairote, the MiTH team director, RaChEz` is primarily responsible for the support role in the team. He is sometimes positioned as the ganker, depending on the member composition and the team strategy (HonthTv, 2012a, 2012b, 2012c, 2012d; Thipairote, 2012). RaChEz` will be referred to as Subject P5.

**CTW (subject P4).** CTW was a team manager of and a professional player in the team Neolution E-Sport (buzzkinz, 2012b, l. 5). The team only participates in competitions for DotA games. CTW`s alias is NeoES-CTW (buzzkinz, 2012a, 2012b). According to the observation of seven competitions` video replays, the game role NeoES-CTW was responsible for in his team was the support game role (PlayCyberGamesTV, 2012b, 2012c, 2012e, 2012f). CTW will be referred to as Subject P4.

**GUSGUS (subject P8).** GUSGUS was another main player for the team Neolution E-Sport. His gameplay style is unique compared to other professional MOBA game players. He utilized strategies closely linked to the jungler game role. After leaving Neolution E-Sport in 2013 (Khor, 2013a), GUSGUS shifted his focus from MOBA to First Person Shooter (FPS) games (Wanothayarnchai, 2015). He is currently very active in CS:GO competitions. GUSGUS will be referred to as Subject P8.

**Pinkle (subject P7).** Pinkle is female player with the most experience in gameplay and competition of all the team members of MiTH.TRY. Her great experience made her the team manager of the male DotA team under the same franchise — MiTH.Trust — and the team captain of the female DotA team MiTH.TRY (buzzkinz, 2012a, l. 6). Her alias in competitions is “MiTH-TRYlpinkle” (buzzkinz, 2012a; RGN, 2011b, 2011c). She was mainly responsible

for the ganker role in the team, but she also played the support role. Her gameplay strategy was a combination of both ganker and support role strategies (diesmiling666, 2011b, 2011c, 2011d; Hyomin, 2013; PlayCyberGamesTV, 2012a, 2012d; Thai eSport Streamer, 2012c). Due to the limited number of highly talented female game players in Thailand, Pinkle (along with JinNy) has been the center of the eSports community's and the media's attention. As a result, she has often been interviewed by the international media. Many of the interviews are published online. Pinkle will be referred to as Subject P7. Other team members of MiTH.TRY include JinNy (Subject P2), NV (Subject P9), Giiz (Subject P10), Aunjii (Subject P11), and Byul (Subject P12).

**JinNy (Subject P2).** JinNy is one of the most famous female professional eSports players in Thailand. She is, however, more involved in FPS games than in MOBA games. JinNy was invited to join MiTH.TRY and to compete in DotA competitions by Pinkle (P7), the team captain. She was positioned as the carrier for team MiTH.TRY, and subsequently earned the title of the strongest player in the team (RGN, 2011b). She became the main driver of the MiTH franchise and FPS community in Thailand ("FPSThailand," 2009). JinNy will be referred to as Subject P2 in this study.

### **6.2.2 Hypotheses**

This study qualitatively examines leadership behaviors of professional Thai eSports players according to the hypothesis that their positions in the team reflect the leadership behaviors they possess. The null hypothesis and alternative hypothesis to be tested are summarized as follows:

- H<sub>0</sub>: Professional eSports players' leadership behaviors share no commonality with their roles in games.
- H<sub>1</sub>: Leadership behaviors of professional eSports players mirror the game roles they play.

### **6.2.3 Methodology: Direct Content Analysis**

This chapter uses interview dialogues with professional DotA and HoN players in Thailand retrieved from the well-established eSports mass media. Behaviors associated with leadership that have been exhibited by the professional players are studied using the direct content analysis

method. Together with the interviews, each players' competition replays are observed to increase the understanding of their behaviors during gameplay.

**Codes for leadership behaviors.** The qualitative analysis of professional eSports players will focus on a word analysis of autocratic, democratic, and laissez-faire leadership behaviors and communication styles as described in Table 3.1, Brief Summary of the Contrasting Methods of the Leaders in Creating the Three Types of Group Atmosphere and Table 3.2, Styles of Leadership Communication. In particular, the behaviors related to decision-making processes, task- or people-orientation, expressions of praise and criticism, and exercise of trust are closely observed and coded. The coding scheme is as follows:

*Category: Autocratic leadership.*

Subcategory 1: Decision-making Process

Code <sup>a1</sup>: DICTATE

Code <sup>a2</sup>: ABSOLUTE

Code <sup>a3</sup>: ASSERTIVE

Subcategory 2: Task-orientation

Code <sup>a4</sup>: PRACTICE

Code <sup>a5</sup>: COMMITMENT

Code <sup>a6</sup>: RESULTS

Subcategory 3: Sense of Responsibility

Code <sup>a7</sup>: SELF-CENTERED

Code <sup>a8</sup>: SELF-CONFIDENCE

Code <sup>a9</sup>: CONTROL

Subcategory 4: Exercise of Trust

Code <sup>a10</sup>: DISTRUST

Code <sup>a11</sup>: CRITICISM

*Category: Democratic leadership.*

Subcategory 1: Decision-making Process

Code <sup>d1</sup>: DISCUSSION

Code <sup>d2</sup>: ALTERNATIVE

Code <sup>d3</sup>: INCLUSION

Code <sup>d4</sup>: TOGETHER

Subcategory 2: People-orientation

Code <sup>d5</sup>: EMPATHY

Code <sup>d6</sup>: ENCOURAGEMENT

Code <sup>d7</sup>: RELATIONSHIP

Code <sup>d8</sup>: ENJOYMENT

Code <sup>d9</sup>: EFFORT

Code <sup>d10</sup>: IMPROVEMENT

Code <sup>d11</sup>: OPENNESS

Subcategory 3: Sense of Responsibility

Code <sup>d11</sup>: SELFLESS

Code <sup>d12</sup>: CONSIDERATE

Code <sup>d13</sup>: PRIORITIZE GROUP

Subcategory 4: Exercise of Trust

Code <sup>d14</sup>: SUPPORTIVE

Code <sup>d15</sup>: PRAISE

Code <sup>d16</sup>: APPRECIATION

Code <sup>d17</sup>: TRUST

Code <sup>d18</sup>: OPTIMISTIC

*Category: Laissez-faire leadership.*

Subcategory 1: Decision-making Process

Code <sup>11</sup>: DETACHMENT

Code <sup>12</sup>: FREEDOM

Code <sup>13</sup>: IRRELEVANT

Subcategory 2: Neither Task- nor People-oriented

Code <sup>14</sup>: INDOLENT

Code <sup>15</sup>: NO COMMENT

Subcategory 3: Sense of Responsibility

Code <sup>16</sup>: PROVIDER

Code<sup>17</sup>: FREE REIN

Code<sup>18</sup>: NONPARTICIPATION

Subcategory 4: Exercise of Trust

Code<sup>19</sup>: RELYING

#### **6.2.4 Results**

There was limited information on the professional eSports players in Thailand. This study has obtained 12 cases; eight primary and four additional cases of professional DotA, Dota 2, and HoN players from four high-profile teams, in which six players were male and six were female. At the time of the interviews, all players were in their 20s with no full-time employment experience other than being eSports professionals.

The game role behaviors listed in Section 3.1.2, Game Roles and Table 3.3, Brief Summary of the Characteristics of Major Roles in MOB were used as references for validating the gameplay of the behaviors of each subject. The leadership behaviors listed in Table 3.1, Brief Summary of the Contrasting Methods of the Leaders in Creating the Three Types of Group Atmosphere and Table 3.2, Styles of Leadership Communication were used as references for identifying the leadership style of each subject through the code scheme established in the previous section (Section 6.2.3, Methodology: Direct Content Analysis).

**Subject P1: The carry game role and the autocratic leadership style.** Subject P1 stated clearly that his role for the team was the carry role. The 11 different video replays of subject P1's gameplay (CompgamerTV, 2013; diesmiling666, 2011a; DocsDota, 2011; Dota 2, 2011a, 2011b; LuminousInverse, 2012; Ngazi, 2011; PlayCyberGamesTV, 2012e, 2012f, Thai eSport Streamer, 2012b, 2012a) confirm the carry game role he played for the team. His game behaviors correspond to the common carry role behaviors. The heroes that subject P1 chose were heroes most suitable for the role he utilized — heroes that are initially weak, equipped with passive abilities, and highly reliant on items throughout the game. During gameplay, the subject spent relatively more time farming compared to other teammates, and he usually became the player with the most gold according to the end-game statistic of each game. The game behaviors described indicate that subject P1 belonged to the carrier category in the game.

Regarding subject P1's characteristics, the three online articles describing the interviews with subject P1 hinted that he most likely possesses the autocratic leadership style.

*Decision-making process.* Subject P1 expressed high confidence (a8) and was absolute (a2) in his opinions and performance. His opinions were influenced by personal impressions. Throughout the interviews, subject P1 emphasized the fact that his team was invited to the competition because his team was among the greatest DotA teams worldwide (a8). He also stated personally that he wished to compete with other teams just to test their strength (a3), without complying with the other team members. Subject P1 determined the team's goal and tended to dictate the procedures to achieve it (a1).

<sup>a2</sup> Like I told you, they're all so strong (RGN, 2011c, l. 2). <sup>a2</sup> ABSOLUTE

<sup>a2</sup> Trust me, DotA will be popular in China for a long time (RGN, 2011c, l. 30). <sup>a2</sup> ABSOLUTE

Heroes of Newerth is the most played in Thailand for now, <sup>a2</sup> but it will be Dota 2 in the future (B. [PineappleCake] Tan, 2015, l. 40). <sup>a2</sup> ABSOLUTE

<sup>a1</sup> I think about moving into the top four teams. Next I will move on to the championship (buzzkinz, 2012a, l. 20). <sup>a1</sup> DICTATE

<sup>a2</sup> It doesn't matter even if we have to face the new or strange strategies that we have never seen before. <sup>a1</sup> I believe that utilizing the strategy that we are already best at is better than trying to solve or cope with the opponents' strategy (buzzkinz, 2012a, l. 24). <sup>a2</sup> ABSOLUTE <sup>a1</sup> DICTATE

<sup>a1</sup> I just try to show everyone my intentions, my goals (B. [PineappleCake] Tan, 2015, l. 14). <sup>a1</sup> DICTATE

*Task-oriented.* Subject P1 is highly task-oriented according to his excessive concerns over the team performance and the objective gains or losses (money, victory, failure). For example, subject P1 generally prioritized the result (a6) of the games — whether he gained or lost when

in participating in competitions. He often stressed achievements during gameplay and he expected others to commit (a5) to the same goal. When asked how he overcame pressure during competitions, the subject stated that he practices harder (a4) to resolve the pressure at hand, instead of speaking to friends or communicating with teammates as a people-oriented leader would do. Accordingly, subject P1 believed that training hard (a4) would deliver results (a6). P1 rarely expressed his concern for others or for the eSports society (d12) of which he was part, and such concerns were always followed by objective expectations (a6).

<sup>a6</sup> I just want find out who will be the winner if we were to compete with one another (RGN, 2011c, l. 2).

<sup>a6</sup> RESULTS

We believe that someday <sup>a6</sup> we'll stand on the top, among the great teams (RGN, 2011c, l. 57).

<sup>a6</sup> RESULTS

I think it is a very good that we get the chance to compete with leading teams from various nations. <sup>d12</sup>

<sup>d12</sup> CONSIDERATE

This will greatly push the E-sport into our society and <sup>a6</sup> game players will be able to generate income too (buzzkinz, 2012a, l. 12).

<sup>a6</sup> RESULTS

<sup>a6</sup> E-Sports player will have a transfer cost like in football (B. [PineappleCake] Tan, 2015, l. 46).

<sup>a6</sup> RESULTS

<sup>a6</sup> ..., we chose Signature because they have always provided us with many important things such as budget, salary and gaming gear (B. [PineappleCake] Tan, 2015, l. 20).

<sup>a6</sup> RESULTS

<sup>a6</sup> We have learned things from every competition we were part of. <sup>a6</sup> We learned new lessons and experiences. <sup>a6</sup> It was worthwhile to go there (RGN, 2011c, l. 19).

<sup>a6</sup> RESULTS

<sup>a6</sup> We gained nothing from these matches (RGN, 2011c, l. 7)."

<sup>a6</sup> RESULTS

<sup>a6</sup> It's the event [WDC]. I hope someday Thailand will have such a big event too (RGN, 2011c, l. 55).

<sup>a6</sup> RESULTS

There were a lot of supporters. <sup>a6</sup> I heard they spent a lot of money as well. <sup>a5</sup> Their players spent more time to practice and they took the game more seriously than us. <sup>a4</sup> After they lost, I saw them analyzing why they have lost and how to improve their gameplay (RGN, 2011c, l. 30).

<sup>a6</sup> RESULTS

<sup>a5</sup> COMMITMENT

<sup>a4</sup> PRACTICE

<sup>a4</sup> I will keep practicing for greater confidence until I can forget the pressure (buzzkinz, 2012a, l. 28)”

<sup>a4</sup> PRACTICE

..., maybe it's because <sup>a8</sup> I'm like a farming machine!?” (B. [PineappleCake] Tan, 2015, l. 10)

<sup>a8</sup> SELF-CONFIDENCE

<sup>a4</sup> It really affected our performance because we needed to spend our time on every game which makes us not good at any games (B. [PineappleCake] Tan, 2015, l. 12).”

<sup>a4</sup> PRACTICE

Mypro is the one who has a short temper. <sup>a5</sup> But he's the most diligent one, always training hard even though it's not training time. <sup>a6</sup> aabBAA is the one we can rely on. His weird thing is that he is always on the phone with his girlfriend even during training time (B. [PineappleCake] Tan, 2015, l. 24).

<sup>a5</sup> COMMITMENT

<sup>a6</sup> RESULTS

*Sense of responsibility.* Subject P1 often displayed an egotistic attitude, frequently referring to himself (a8) when discussing team-related matters. He rarely mentioned his team members or the overall team in interviews (a7). For example, when discussing changes made to the updated DotA game map, subject P1 focused on commenting on the effects they had on the carry game role, and how he could utilize the changes to benefit the carry game role he played (a7). When speaking about other teammates, subject P1 stated that the strength of the team relies on how well the other team members protect and support his game role (a7). Subject P1 stated that his game role was the one crucial factor that could result in victory for the team. In other words, subject P1 thought of himself as the most important member of the team and as having the most responsibilities (a7).

<sup>a7</sup> I have to tell you that WDC 2011 only sent invitations to the great teams from around the world.	<sup>a7</sup> SELF-CENTERED
<sup>a8</sup> Every team that got invited is so strong and has individual styles (RGN, 2011c, l. 2).	<sup>a8</sup> SELF-CONFIDENCE
<sup>a7</sup> I wanted to play with DK (RGN, 2011c, l. 2).	<sup>a7</sup> SELF-CENTERED
<sup>a7</sup> I promise <sup>a8</sup> we won't let you down and we'll do our best (RGN, 2011c, l. 57).	<sup>a7</sup> SELF-CENTERED <sup>a8</sup> SELF-CONFIDENCE
<sup>a7</sup> I think the map 6.73c have made carry position more flexible because there are more items that can be utilized (buzzkinz, 2012a, l. 32).	<sup>a7</sup> SELF-CENTERED
<sup>a7</sup> The strengths of team ... is to form up 1 carry hero and 4 ganker heroes. <sup>a9</sup> This will make the carry hero become very rich because the other 4 players are working hard to empower the only carry player (buzzkinz, 2012a, l. 35).	<sup>a7</sup> SELF-CENTERED <sup>a9</sup> CONTROL
<sup>a7</sup> I would like encourage Trust's fans to continue keeping an eye on our work. We promise that we won't disappoint (buzzkinz, 2012a, l. 40).	<sup>a7</sup> SELF-CENTERED
<sup>a7</sup> I think about moving into the top four teams. Next I will move on to the championship (buzzkinz, 2012a, l. 20).	<sup>a7</sup> SELF-CENTERED

*Trust.* Subject P1 did not praise or express appreciation of the accomplishment of others. On the other hand, he repeatedly criticized (a11) both his own team and the opponents. He often stated the weakness of the team and how it could not overcome its weakness, which contradicted his emphasis on his role as the team's strength (a8, a9). The subject was negative and did not seem to have a vision for a solution to the weakness (a10). This reveals the subject's lack of trust in other team members' abilities, placing the responsibility for the team's successes on himself.

<sup>a9</sup> The strengths of team, as we all know, is to form up 1 carry hero and 4 ganker heroes. This will make the carry hero become very rich because the other 4 players are working hard to empower the only carry player. <sup>a11</sup> The weakness is that the 4 on 1 strategy cause disadvantages when initiate a fight (buzzkinz, 2012a, l. 35).

<sup>a9</sup> CONTROL

<sup>a11</sup> CRITICISM

<sup>a11</sup> We can't eliminate these weaknesses, and we don't know how to improve our teamwork (RGN, 2011c, l. 7).

<sup>a11</sup> CRITICISM

<sup>a10</sup> I think it's because they have no intention to fight till the end. Once they lose, <sup>a11</sup> they think they cannot surpass the lost and then they surrender instead of improving themselves (B. [PineappleCake] Tan, 2015, l. 42).

<sup>a10</sup> DISTRUST

<sup>a11</sup> CRITICISM

I would like to say thank you <sup>a6</sup> to our partnership ASRock, SteelSeries, TN Accessories and everyone who supported us all this time (RGN, 2011c, l. 57).

<sup>a6</sup> RESULTS

<sup>a11</sup> Mypro is the one who has a short temper. But he's the most diligent one, always training hard even though it's not training time. aabBAA is the one we can rely on. <sup>a11</sup> His weird thing is that he is always on the phone with his girlfriend even during training time (B. [PineappleCake] Tan, 2015, l. 24).

<sup>a11</sup> CRITICISM

<sup>a11</sup> CRITICISM

<sup>a11</sup> ..., it's because of our two sponsors being unable to cooperate with each other (B. [PineappleCake] Tan, 2015, l. 20).

<sup>a11</sup> CRITICISM

<sup>a11</sup> I think it's an internal problem. It's because we still can't adapt to playing with high pressure. When we play without any pressure, we always have good results <sup>a10</sup> but when it comes to an important match, we cannot play properly (B. [PineappleCake] Tan, 2015, l. 26).

<sup>a11</sup> CRITICISM

<sup>a10</sup> DISTRUST

*Summary.* The interviews with subject P1 revealed that he possesses an autocratic leadership style. Behaviors such as being self-centered (a7), his tendency to focus on his own actions, prioritizing himself as the most important member of the team, and being highly task oriented (he emphasized the end results (a6) of games), revealed the autocratic leadership behaviors. In addition, P1 often expressed criticism of (a11) and distrust (a10) in the performance of his own team and others, which led to the conclusion that he can be characterized as an autocratic leader.

**Subject P2: Carry game role and democratic leadership style.** Subject P2 declared that she was the team's primary carry game role player (Khor, 2011, l. 32). The subject's six competition replays confirmed her carry game role utilization (diesmiling666, 2011b, 2011c, 2011d, PlayCyberGamesTV, 2012a, 2012d; Thai eSport Streamer, 2012c). According to the replays, subject P2 utilized heroes that were weak, but were armed with powerful offensive abilities. The subject spent most of the time farming and accumulating experience in order to purchase items and cultivate her hero's abilities. Toward the later stages of the game, her heroes managed to become the strongest, and consequently led the team to victory. With regard to the subject's leadership behaviors, she revealed behaviors mostly associated with democratic leadership behavior.

*Open decision-making and people orientation.* According to the team's captain (P7), subject P2 is open to ideas and suggestions (d3). Moreover, she is focused on relationships. She values the hard work and the effort team members put into gameplay highly (d9). Subject P2 appreciated the friendliness and the opportunity to know more people (d7). The open decision-making process and people orientation hint at the possession of a democratic leadership style. This conclusion, however, contradicts the behaviors of carry game role that she played.

<sup>d3</sup> She [P2] is open minded for new ideas (RGN, 2011b, l. 8).

<sup>d3</sup> INCLUSION

There's no difference in gender. <sup>d9</sup> It's the effort you put into a gameplay that matters (RGN, 2011b, l. 17).

<sup>d9</sup> EFFORT

<sup>a6</sup> I have gained new experience and <sup>d7</sup> getting to know a lot of good people (RGN, 2011b, l. 38).

<sup>a6</sup> RESULTS

<sup>d7</sup> RELATIONSHIP

I feel good to play with PMS Asterisk <sup>d7</sup> because they are friendly and <sup>d9</sup> work hard (Khor, 2011, l. 39).

<sup>d7</sup> RELATIONSHIP

<sup>d9</sup> EFFORT

**Subject P3: Support game role and democratic leadership style.** There was very little information about Subject P3's gameplay. The subject participated in minor competitions before eSports become popular; thus, keeping video records of gameplay was uncommon at that time. Consequently, no records of his competitions were published in the public domain. According to a telephonic interview, Thipairote — the team manager at the time — indicated that subject P3 was most skilled in the support game role (Thipairote, 2012). Accordingly, the subject was assigned to the support role position, where he was mainly responsible for supporting other team members (2012).

*Alternative perspective for decision making.* Subject P3 often made suggestions concerning alternative solutions (d2). He also valued working together as a team (d4). Subject P3's rationale was based on the openness of the decision-making process.

I want to say life is too short, <sup>d2</sup> why don't you try to go outside, get a life, meet more people and improve your social skills (RGN, 2011a, l. 20).

<sup>d2</sup> ALTERNATIVE

<sup>d2</sup> Gaming shouldn't be the whole picture you care about, so manage your time with games and other things (RGN, 2011a, l. 20).

<sup>d2</sup> ALTERNATIVE

<sup>d4</sup> They [iG.Y and iG.Z] always practice and analyze every game replay together (RGN, 2010, l. 12).

<sup>d4</sup> TOGETHER

*People orientation.* Subject P3 did not emphasize the results, but the enjoyment and excitement derived from competitions (d8). The subject also expressed empathy for others (d5) by

understanding their circumstance and opposing the use of force. These actions highlighted the people-oriented behaviors of subject P3.

... our goals are different. He [P6] wants to win all competitions and be the greatest player ever but don't, <sup>d8</sup> I just want to play to relax. By the way, I love to do it (RGN, 2011a, l. 6).

<sup>d8</sup> ENJOYMENT

<sup>d5</sup> We understand each other. I can't force her [P3's partner] to do what I want and I can't pretend to be what she wants all the time (RGN, 2011a, l. 16).

<sup>d5</sup> EMPATHY

<sup>d5</sup> Gaming is high priority for hardcore gamers. It's the most important thing in their life and they don't give a damn about how people look at them, how friends and family complain about them (RGN, 2011a, l. 12).

<sup>d5</sup> EMPATHY

*Responsible for group.* Subject P3 is considerate towards others and was willing to offer to manage matters for the team (d12). His act of kindness also reflected the prioritization of the group over personal attainment (d13). Hence, subject P3 felt a sense of responsibility for the rest of the group.

<sup>d12</sup> I asked Tnk [P6] to let me take care of managing matters (RGN, 2011a, l. 4).

<sup>d12</sup> CONSIDERATE

<sup>d13</sup> I could do anything for gaming no matter what, I could break up with my girlfriend, I'll talk back to anyone who underestimates gamers, I could spend the whole day gaming (RGN, 2011a, l. 12).

<sup>d13</sup> PRIORITIZE GROUP

*High level of trust.* Subject P3 was very supportive of the team he was fond of, and gave encouragement (d6) and support (d14) to others when faced with new challenges, and appreciated those who have supported him. Regardless of the size of the burden, subject P3 often expressed his appreciation of those who had assisted and been kind to his team (d16).

Moreover, he also praised the efforts and accomplishments of his opponents (d15). These actions reflected the high degree of trust he placed in those around him.

<sup>d14</sup> I was one of the fans who supported his [P6] team (RGN, 2011a, l. 4). <sup>d14</sup> SUPPORTIVE

<sup>d6</sup> <sup>d14</sup> Don't be afraid to do something new. Don't be shy to talk with others (RGN, 2011a, l. 20). <sup>d6</sup> ENCOURAGEMENT <sup>d14</sup> SUPPORTIVE

<sup>d14</sup> We prefer the WDC competition. <sup>d16</sup> They were the first competition to give us the opportunity on the international stage and the organizer impressed us. They took care of us so wonderfully (RGN, 2010, l. 16). <sup>d14</sup> SUPPORTIVE <sup>d16</sup> APPRECIATION

<sup>d16</sup> He [Danny] invited us and took care of everything since we arrived at the airport. He gave us a warm welcome. He is the one to organize this tournament and he didn't forget to invite us again (RGN, 2010, l. 18). <sup>d16</sup> APPRECIATION

<sup>d15</sup> They [iG.Y and iG.Z] are tough and determined. They always practice and analyze every game replay together (RGN, 2010, l. 12). <sup>d15</sup> PRAISE

*Summary.* Subject P3 expressed behaviors highly associated with a democratic leadership style. He valued alternatives in the decision-making process, was highly people oriented, possessed a higher degree of responsibility than rest of the group, and he had a high level of trust in those around him. These behaviors are interrelated with the behaviors of the support role at which he was best.

**Subject P4: Support game role and democratic leadership style.** Seven different competition replays of subject P4's gameplays clearly highlighted how the subject utilized the support game role in his gameplay (Mirin22thofmarch, 2012a, 2012b, PlayCyberGamesTV, 2012c, 2012e, 2012f, Thai eSport Streamer, 2012a, 2012b). His game behaviors corresponded to most of the support game role behaviors. The heroes that subject P4 chose were highly

appropriate for the support role because they were equipped with abilities used in assisting allies. Such heroes are strong throughout the game without the need to depend on items. Utilizing these heroes, subject P4 supported the team in various games; for example, he frequently purchased supporting items to make the overall gameplay easier for the team. As a result, his end-game statistics typically showed a low amount of gold and a high score for assisting kills. He also tended to be the player with the most deaths in the team. These behaviors in the game are significant evidence that subject P4 has a tendency to play a support game role in the team. Based on the characteristics that subject P4 displayed in an interview, it can be concluded that he possesses a democratic leadership style.

*Group decision-making process.* Subject P4 believed that his task for the team was to take care of the team and its members. The tasks may have included collecting ideas and the observation of each team member's gameplay (d3). Accordingly, subject P4 made decisions based on the circumstances of each member, as well as stressing their teamwork (d4).

<sup>d3</sup> My duties are to take care of the team in general, to oversee how the gameplay can be different, and <sup>d4</sup> to collect the remaining details that the players are lacking (buzzkinz, 2012b, l. 5).

<sup>d3</sup> INCLUSION

<sup>d4</sup> TOGETHER

<sup>d4</sup> I must bring them together (buzzkinz, 2012b, l. 25).

<sup>d4</sup> TOGETHER

*People orientation.* When asked about his goal for a competition, subject P4 did not stress victory or championship. He believed in placing emphasis on his team members, allowing them to gain experience and to improve through participating in competitions (d10). When faced with stressful situations, subject P4 decreased the pressure by motivating the team and periodically expressing encouragement to each team member (d6). These behaviors identify subject P4 as a people-oriented leader.

<sup>d10</sup> What I want most is my team players gain more experience and diverse (buzzkinz, 2012b, l. 15).

<sup>d10</sup> IMPROVEMENT

<sup>d6</sup> Shout out is my way to reduce stress by encouraging the team from time to time (buzzkinz, 2012b, l. 21).

<sup>d6</sup> ENCOURAGEMENT

<sup>d8</sup> The strength of our team is the fun. We play without any stress so although the game is tight, we are still relaxing (buzzkinz, 2012b, l. 25).

<sup>d8</sup> ENJOYMENT

*Group priorities, sense of responsibility and exercise of trust.* The subject believed that his duties were to help the team overcome its weak spots and derive new strategies that the team could work on together for greater improvement (d13). Accordingly, subject P4 felt a sense of responsibility that was focused on the team and its members, and not on himself.

In discussing the strengths and weaknesses of his team, subject P4's criticism was that his team members could be immature and have a low level of commitment to the team (a11). However, the subject explained these weaknesses in an understanding and tolerant way (d5). Subject P4 mirrored his understanding of the members and was willing to provide them with support (d13). He trusted his team members to a large extent with regard to the responsibilities with which they were entrusted.

<sup>a11</sup> Our weakness is the discipline <sup>d5</sup> because we are young and immature so we are sometimes hasty and do not practice. <sup>d13</sup> Therefore, I must bring them together (buzzkinz, 2012b, l. 25).

<sup>a11</sup> CRITICISM

<sup>d5</sup> EMPATHY

<sup>d13</sup> PRIORITIZE GROUP

*Summary.* The interview reveals subject P4's heavy emphasis on team collaboration and the fair treatment of team members. Furthermore, he prioritized his overall team and team members and not himself. He did not show the dictatorial quality of claiming exclusive decision-making rights, nor did he distrust his team members. These behaviors lead subject P4 to be categorized as a highly democratic leader, and this leadership style also corresponds with the support role he took on during gameplay.

**Subject P5: The support game role and the democratic leadership style.** In addition to the statement made by Thipairote — the manager of MiTH teams and the administrator of various game-related websites — via a telephonic interview (Thipairote, 2012), four competition replays of subject P5 were studied to identify his game role. According to these sources (HonthTv, 2012a, 2012b, 2012c, 2012d), he was evidently a supporter. Subject P5's gameplay

behaviors corresponded to the key characteristics of the support game role. The heroes subject P5 chose were appropriate for the support role, as they were equipped with abilities used to assist others. His gameplay behaviors are similar to those of P4 in that both emphasize providing assistance to the overall team. For example, subject P5 always purchased items that provided overall assistance to the team. Furthermore, the end-game statistics revealed that subject P5 earned minimal amounts of gold and had a high frequency of assists in terminating opponents. Subject P5 is therefore categorized as a support game role player according to the behaviors observed during his gameplay. Regarding the subject’s leadership behaviors, subject P5 potentially possessed a democratic leadership style.

*Decision-making process.* When requested to comment on the factors that led to the team’s current success, subject P5 stressed the achievements of his team members (d4). He also remarked that it was the team’s combined efforts that resulted in success (d9). Moreover, subject P5 expressed opinions that promoted alternative solutions (d2), particularly with regard to repositioning players. As he encouraged (d6) skill improvement (d10), he also insisted that other players should have the opportunity to perform (d2). This rationale not only reveals that subject P5 placed a high degree of emphasis on teamwork, but that he also values fair treatment.

- |  |   |
|--|---|
| <p><sup>d2</sup> The players should understand that repositioning does not mean that you will not be able to return to your original position again (Lafezter, 2012, l. 16).</p>   | <p><sup>d2</sup> ALTERNATIVE</p>  |
| <p>..., when we cannot perform well, <sup>d2</sup> we must allow other team members whose performance is better than us to take our place. <sup>d10</sup> Then, we should try to improve our game play, <sup>d6</sup> rather than just leaving the team when we don’t get to play (Lafezter, 2012, l. 16).</p> | <p><sup>d2</sup> ALTERNATIVE</p> <p><sup>d10</sup> IMPROVEMENT</p> <p><sup>d6</sup> ENCOURAGEMENT</p> |
| <p><sup>d4</sup> ..., teamwork is what makes the team successful (Lafezter, 2012, l. 16).</p>  | <p><sup>d4</sup> TOGETHER</p>   |

*People orientation.* When asked to speak to a newly formed eSports teams, subject P5 suggested that the players should not focus solely on the results. Subject P5 encouraged players

to understand that playing games involve practice (d9) and skills, as well as luck (d5), and losing does not mean the end of the team's career (d6). He also believed that players should never stop improving themselves (d10). Subject P5's comments reveal him to be highly people oriented. He expressed empathy for those who failed, and emphasized the process whereby players could improve.

<sup>d9</sup> I think what's driven us comes from our team members who have put their effort into practices and regularly watched and learned from the game replays (Lafezter, 2012, l. 14).

<sup>d9</sup> EFFORT

<sup>d10</sup> We want to overcome the limit to meet with international teams. All of this has driven us to the current stand point (Lafezter, 2012, l. 14).

<sup>d10</sup> IMPROVEMENT

<sup>d8</sup> I want everyone to have fun with the games and <sup>d5</sup> don't be too serious. You may win or lose at any time. It takes time and luck to prove, and you can't just become the best in a day or two. Everything takes times (Lafezter, 2012, l. 16).

<sup>d8</sup> ENJOYMENT

<sup>d5</sup> EMPATHY

<sup>d5</sup> I have seen many unsuccessful teams dispersing after the competitions and many of them were talented. I felt regretful for them (Lafezter, 2012, l. 16).

<sup>d5</sup> EMPATHY

*Exercise of trust.* Subject P5 showed appreciation (d17) of the efforts that the team members made regarding practicing (d9) and improving their skills (d10). Moreover, he was supportive when a team member failed to deliver (d14), and trusted that the member would improve and return to his/her position. This belief not only reveals that subject P5 put faith in others, but also shows that he appreciated their efforts and prioritized the team and its members over himself.

<sup>d16</sup> I think what's driven us comes from our team members ... (Lafezter, 2012, l. 14).

<sup>d16</sup> APPRECIATION

The players should understand that repositioning <sup>d14</sup> does not mean that you will not be able to return to your original position again (Lafezter, 2012, l. 16). <sup>d14</sup> SUPPORTIVE

*Summary.* The behaviors identified in the interview with subject P5 show that he values teamwork, trusts his teammates, and emphasizes team members' fair treatment. Subject P5 emphasizes the process rather than the result, and aims at the betterment of his team members through gameplay; therefore, he is also a people-oriented leader. All of these traits point to the fact that subject P5 should be categorized as having a democratic leadership style.

**Subject P6: The ganker game role and the autocratic leadership style.** Subject P6 stated clearly in his interviews that he played the ganker game role for the team (buzzkinz, 2012a, l. 7; RGN, 2010, l. 22). Furthermore, the study of eleven different competition replays also confirmed that subject P6 utilized the ganker game role (CompGamerTV, 2013; diesmiling666, 2011a; DocsDota, 2011; Dota 2, 2011a, 2011b; LuminousInverse, 2012; Ngazi, 2011; PlayCyberGamesTV, 2012e, 2012f, Thai eSport Streamer, 2012b, 2012a), as he utilized the ganker game role behaviors frequently. The heroes that subject P6 chose were highly appropriate for the ganker game role because they begin the games with various abilities that cause high damage, and abilities to disable the opponents. Subject P6 frequently roamed around the game map together with at least one team member to perform ambush attacks on the opponent. The end-game statistics regularly showed that subject P6 obtained the second most gold, just less than the team's carrier. He also had high assist and kill scores. Subject P6's ganker game role is evident, as hinted at by these in-game actions. With regard to real-world leadership characteristics, the statements made by subject p6 pointed toward an autocratic leadership style, but with a few indications of democratic leadership behaviors.

*Assertive decision making.* Subject P6 was very assertive when expressing his opinions or making decisions. He mentioned that he motivated his team members by offering them his ideas (a3). He tended to hope that others would agree and adopt his ideas. On the other hand, subject P6 also accepted input from others (d3), as he valued discussion (d1) and working as a team (d4).

<p><sup>a3</sup> Trust's starting to has competitions in global and I [P3] can communicate with foreigners that's why he [P6] asked me to join with him (RGN, 2011a, l. 6).</p>	<p><sup>a3</sup> ASSERTIVE</p>
<p><sup>a3</sup> I will try to come up with different ideas for myself and teammates and encourage the enjoyment in every competition. By doing this will reduce the pressure (buzzkinz, 2012a, l. 27).</p>	<p><sup>a3</sup> ASSERTIVE</p>
<p><sup>a3</sup> I want others to adopt this way of thinking [P6's]. I think we can build a better eSports community this way (Akkaravinej, 2011, para. 19).</p>	<p><sup>a3</sup> ASSERTIVE</p>
<p><sup>d3</sup> First thing for a team captain is to be calm and don't use temper to make decisions alone (Akkaravinej, 2011, para. 15).</p>	<p><sup>d3</sup> INCLUSION</p>
<p><sup>d4</sup> So I started thinking that if many people are playing, the teamwork system can be introduced and it happened to be true (Akkaravinej, 2011, para. 4).</p>	<p><sup>d4</sup> TOGETHER</p>
<p><sup>d4</sup> ..., Dota teams are similar to regular sport teams, that rely on coexistence and understanding the most (Akkaravinej, 2011, para. 15).</p>	<p><sup>d4</sup> TOGETHER</p>
<p><sup>d1</sup> We conduct bootcamps and discussions over the plans and strategies we practice (RGN, 2010, l. 28).</p>	<p><sup>d1</sup> DISCUSSION</p>
<p>One thing that I've learned from being the team captain ... was positive thinking and <sup>d2</sup> accepting opinion from others (Akkaravinej, 2011, para. 15).</p>	<p><sup>d2</sup> ALTERNATIVE</p>

*Task orientation.* Subject P6 stressed his one and only goal heavily — championship (a6). This emphasis was stated repeatedly in many interviews. In addition, subject P6 referred to himself numerous times when discussing the entire team's overall goal. In one of the competitions in which his team participated, it was placed third. Subject P6 said that he was not disappointed, but he was not satisfied either. In order to achieve the results that he hoped for, subject P6

stressed hard practice (a4) and commitment to the team (a5). The emphasis on results, as exhibited by subject P6, pointed toward the subject being highly focused on results.

<p>I will try to come up with different ideas for myself and teammates and <sup>d8</sup> encourage the enjoyment in every competition. By doing this will reduce the pressure (buzzkinz, 2012a, l. 27).</p>	<p><sup>d8</sup> ENJOYMENT</p>
<p><sup>a6</sup> He [P6] wants to win all competitions and <sup>a5</sup> be the greatest player ever but I [P3] don't, (RGN, 2011a, l. 6).</p>	<p><sup>a6</sup> RESULTS <sup>a5</sup> COMMITMENT</p>
<p><sup>a6</sup> No, I am not satisfied but not disappointed either. We wish we had done better (RGN, 2010, l. 14).</p>	<p><sup>a6</sup> RESULTS</p>
<p><sup>a6</sup> My only goal is to become the champion, and I will do the best to get it (buzzkinz, 2012a, l. 19).</p>	<p><sup>a6</sup> RESULTS</p>
<p><sup>a6</sup> Well, we always aim to be the champions. But I would say we're looking to get to the top four at least (W.-M. Lee, 2011, l. 14).</p>	<p><sup>a6</sup> RESULTS</p>
<p><sup>a6</sup> we are looking to improve on last year's results, but there will be many strong teams at the tournament, ... (Dexter, 2011, l. 20).</p>	<p><sup>a6</sup> RESULTS</p>
<p><sup>a6</sup> Well for me, it's to prove that both I and my team are good enough to be Thai Dota champion and world Dota champion in the future (Akkaravinej, 2011, para. 19).</p>	<p><sup>a6</sup> RESULTS</p>
<p><sup>a6</sup> The problem that Trust faces most is the team and players' performance drop, <sup>a4</sup> which can be dealt with regular practice and <sup>a9</sup> don't use emotion to solve the problem (Akkaravinej, 2011, para. 17).</p>	<p><sup>a6</sup> RESULTS <sup>a4</sup> PRACTICE <sup>a9</sup> CONTROL</p>
<p>If all we want is to win or expect to win by a no-show, <sup>a4</sup> then your team won't become any better (Akkaravinej, 2011, para. 19).</p>	<p><sup>a4</sup> PRACTICE</p>

<sup>a4</sup> It is our duty to study the unique strategies of the other teams as much as possible so that we know how to deal with it. At the same time we have to create brand new strategies for ourselves too (buzzkinz, 2012a, l. 23).

<sup>a4</sup> PRACTICE

<sup>a5</sup> Second is to be on time and be responsible (Akkaravinej, 2011, para. 16).

<sup>a5</sup> COMMITMENT

<sup>a4</sup> We train very hard and we keep on joining competitions, but we haven't been invited because our performance isn't good enough. <sup>a4</sup> This means that we have to push ourselves even harder (admin, 2013, l. 12).

<sup>a4</sup> PRACTICE

... we can't force others to live their life the way we want, <sup>a4</sup> but we can set up a strict practice time and control the amount of practice so it's up to standard (Akkaravinej, 2011, para. 17).

<sup>a4</sup> PRACTICE

<sup>a4</sup> We will keep on training hard <sup>a6</sup> to make sure that our performance will come back to what it was (admin, 2013, l. 8).

<sup>a4</sup> PRACTICE

<sup>a6</sup> RESULTS

I just have one question, how is the weather like in Wuhan? <sup>a6</sup> We came unprepared last year, and one of our teammates fell down with a cold (Dexter, 2011, l. 32).

<sup>a6</sup> RESULTS

The competition that includes teams from different countries provides the opportunity <sup>d12</sup> for Thai teams to <sup>d10</sup> improve their skills together with the leading teams in Southeast Asia (buzzkinz, 2012a, l. 11)."

<sup>d12</sup> CONSIDERATE

<sup>d10</sup> IMPROVEMENT

If we calm down and use reasons to talk with the team, the members will eventually understand each

other and <sup>d7</sup> stick together for a long time <sup>d7</sup> RELATIONSHIP  
(Akkaravinej, 2011, para. 16).

*Responsible, and a high level of trust.* Subject P6 tended to centralize control (a9), but for the sake of his team and the community (d13). He criticized the performance of his team (a11), but also proposed possible solutions (d18). These actions hint at how subject P6 took much of the responsibility himself. However, subject P6 also praised his team members frequently (d15), as well as the opponents. He often expressed his appreciation of the team members and those who had given him support (d16). Subject P6's gratitude hinted the high level of trust that he placed in the people around him.

<sup>a9</sup> If the captain cannot practice self-control, then how <sup>a9</sup> CONTROL  
can he/she possibly control others? (Akkaravinej,  
2011, para. 18)

<sup>d17</sup> ... the one thing that made what we are today, for <sup>d17</sup> TRUST  
Trust, it is the trusts we give among team members  
(Akkaravinej, 2011, para. 20).

One thing that I've learned from being the team <sup>d18</sup> OPTIMISTIC  
captain ... was <sup>d18</sup> positive thinking and accepting  
opinion from others (Akkaravinej, 2011, para. 15).

<sup>a11</sup> We lost to ourselves on GEST April. We did not <sup>a11</sup> CRITICISM  
prepare well. We lost focus in many matches. We  
tried to recover from our first loss but wasn't able to.

<sup>d18</sup> We will keep on training hard to make sure that <sup>d18</sup> OPTIMISTIC  
our performance will come back to what it was  
(admin, 2013, l. 8).

<sup>a11</sup> Another crucial problem is that our players are hot- <sup>a11</sup> CRITICISM  
tempered and aggression, <sup>d18</sup> which must be solved by <sup>d18</sup> OPTIMISTIC  
always being calm and using reasons in discussion  
(Akkaravinej, 2011, para. 17)."

<sup>d15</sup> All teams are a very talented, so anything could happen in WDC. They are all very competent team of Southeast Asia (RGN, 2010, l. 25).

<sup>d15</sup> PRAISE

<sup>d15</sup> They are all very talented players, and also they're the reason why we're able to compete with the other top teams (Dexter, 2011, l. 24).

<sup>d15</sup> PRAISE

I won't talk much into details, <sup>d16</sup> but I will try to credit these past players as much as possible ... (Akkaravinej, 2011, para. 7).

<sup>d16</sup> APPRECIATION

<sup>d16</sup> I would like to say thank you to everyone who support MiTH.Trust. We are prepared for improvement to our team, so that we can bring great reputation of Thailand to the world. <sup>d16</sup> Finally, we would like to show our appreciation to MiTH or Made in Thailand E-sport for the support during the past one year (buzzkinz, 2012a, l. 39).

<sup>d16</sup> APPRECIATION

<sup>d16</sup> Thank you to all our MiTH.Trust fans and we are so sorry for letting you down, that we can't make it to invited teams in TI3 (admin, 2013, l. 20).

<sup>d16</sup> APPRECIATION

*Summary.* Subject P6 displays a task-oriented tendency in that he only focuses on the goal at hand. He also exhibits signs of dictatorship qualities in terms of having exclusive decision-making rights, as he frequently refers to himself when discussing the team's goals. These behaviors point to subject P6 being an autocratic leader. On the other hand, subject P6 shows concern about the team and claims he motivates team members. The behaviors displayed by subject P6 are mainly categorized as autocratic leadership style behaviors; however, there are some hints of a democratic leadership style. This mixture of the two leadership styles is correlated with the ganker role he utilized during gameplay.

**Subject P7: The ganker game role and the democratic leadership style.** Subject P7 stated in the interviews that she was the ganker and supporter for the team. Her statements correspond

to the ganker role behaviors observed in the six different video recordings of her in gameplay (diesmiling666, 2011b, 2011c, 2011d, PlayCyberGamesTV, 2012a, 2012d; Thai eSport Streamer, 2012c). The features of the heroes that subject P7 chose are highly suited to the ganker game role. Her chosen heroes have the ability to disable or trap the opponents. Using these abilities, subject P7 frequently roamed around the game map and interrupted the enemy's farming process or eliminated the enemy when she had the chance. As subject P7 focused on the elimination of the opponents' heroes, she did not emphasize earning gold by last hits on creeps. The end-game statistics showed that the amount of gold earned by subject P7 was always lower than that of the team's carrier. She often assisted in ganking the enemy's heroes, but avoided administering the last hit herself. On the other hand, subject P7 also showed tendencies indicative of the support game role behaviors; for example, she often purchased items that assisted the team's overall gameplay. Therefore, subject P7 primarily utilized the ganker game role in her gameplay, and occasionally utilized the support game role, as shown in her competition replays. Three interview dialogues were used to identify subject P7's leadership personality. According to these dialogues, it is suggested that subject P7 is a democratic leader.

*Decision-making process.* Subject P7 valued the opinions of others. She exhibited the qualities of a good listener by learning from others and being able to provide feedback to other members. She was actively engaged in the conversation during the interview. Subject P7 also projected the qualities of a good observer who looked after all of her team members and gained in-depth understanding of each member's personality (RGN, 2011b, l. 8). Accordingly, subject P7 described one of her team members as her potential successor (d2). As if the subject were describing herself, she praised (d16) the member for understanding her priorities, being a good listener, and having a great sense of responsibility. Subject P7 also stated that there was no need to supervise this person regarding any tasks assigned to her (RGN, 2011b, l. 8). Accordingly, these are the qualities that subject P7 valued most as the team captain. These statements revealed the trust (d16), appreciation (d17), and support (d15) that subject P7 gave to others. As a result, subject P7 tended to incorporate the opinions and circumstances of others when making decisions.

..., being team captain has shown me the sense of reliability<sup>d3</sup> I learned from others (RGN, 2011b, l. 35).

<sup>d3</sup> INCLUSION

<sup>d3</sup> Agree with [P1]. There are a lot of differences when compared to us (RGN, 2011c, l. 31).

<sup>d3</sup> INCLUSION

However, the team's ganking strategy is yet ineffective due to the<sup>d4</sup> lack of teamwork. The team cannot come up with a counter strategy when it is in a disadvantage situation (buzzkinz, 2012a, l. 34).

<sup>d4</sup> TOGETHER

<sup>d3</sup> She always asks others for more opinions and she's a good listener. <sup>d2</sup> I think she can replace me and do everything for the team when the time comes (RGN, 2011b, l. 8).

<sup>d3</sup> INCLUSION

<sup>d2</sup> ALTERNATIVE

<sup>d10</sup> Second is the experience from competitions, problem solving, <sup>d2</sup> learning from the team members, and adoption of new ideas (RGN, 2011b, l. 35).

<sup>d10</sup> IMPROVEMENT

<sup>d2</sup> ALTERNATIVE

*People orientation.* There were many signs that subject P7 behaved in a people-oriented manner. She always discussed her friends, team members and other people she met in positive and respectful ways (d7), often showing appreciation (d16) for their kindness and efforts (d9). During one of the competitions overseas, although the manners and culture of the host country caused some unpleasant issues, subject P7 showed her understanding and support (d5) of the opponents. Regardless of the team losing this competition due to some technical difficulties, subject P7 expressed her empathy (d5) regarding unfairness (RGN, 2011c, l. 45). Subject P7 argued that the losing team was the true winner in her eyes (d15). Subject P7 valued the friendship (d7) that she experienced during the competitions. Moreover, subject P7 emphasized the improvement of each team member (d10), his or her effort (d9), fair treatment, and friendship (d7). These statements expressed subject P7's strong emphasis on people over tasks.

<sup>d6</sup> I think Trust was in the strongest group because they were in the same group with Na'Vi .... But in

<sup>d6</sup> ENCOURAGEMENT

fact, Trust wanted to be in the same group with Na'Vi since the start (RGN, 2011c, l. 3).

It is new to Thai people,<sup>d6</sup> but it should be utilized in the tournament because the Group-Play allows players to participate in more competitions therefore<sup>d10</sup> gain more experience (buzzkinz, 2012a, l. 14).

<sup>a5</sup> I will study every teams' game replay regularly to identify their weaknesses. If we find any techniques that can benefit our gameplay,<sup>d1</sup> then we will exploit the techniques with our gameplay style. <sup>a4</sup> And practicing regularly to find a new strategy to utilize (buzzkinz, 2012a, l. 22).

<sup>a6</sup> We have only one plan which is to become the 1<sup>st</sup> in DotA female team and provide entertainment to DotA society (RGN, 2011b, l. 10).

<sup>a6</sup> The target in every competition is the championship. <sup>d9</sup> But what more important than the championship is that the teammate have tried their best (buzzkinz, 2012a, l. 18).

<sup>d7</sup> the most important part for being MiTH-TRY is that I have made a lot of friends. I have met good people from doing this (RGN, 2011b, l. 35).

<sup>d5</sup> I think it's normal in China. They allow you to express your emotions and yell out dirty words (RGN, 2011c, l. 40).

<sup>d6</sup> ENCOURAGEMENT

<sup>d10</sup> IMPROVEMENT

<sup>a5</sup> COMMITMENT

<sup>d1</sup> DISCUSSION

<sup>a4</sup> PRACTICE

<sup>a6</sup> RESULTS

<sup>a6</sup> RESULTS

<sup>d9</sup> EFFORT

<sup>d7</sup> RELATIONSHIP

<sup>d5</sup> EMPATHY

*Group priority and sense of responsibility.* Subject P7's sense of responsibility revolves around the group. She tended to consider what was necessary for the community before her own wishes (d12). Subject P7 often made statements that emphasized the contribution to the eSports community. She was very considerate in that she promised to do her best not to disappoint the team founder and her fans (d12).

I have been the team leader since the foundation day. I'm playing the lead ganker and supporter ganker. I have the most experience in gameplay and competitions in the team, <sup>d12</sup> so I think I am appropriate for this role (RGN, 2011b, l. 8).

<sup>d12</sup> CONSIDERATE

<sup>d14</sup> being team captain has shown me the sense of reliability I learned from others (RGN, 2011b, l. 35).

<sup>d14</sup> SUPPORTIVE

When first I hear about GEST, it felt like the new challenge other than ESTC. <sup>d13</sup> It is a good addition to the E-Sports community (buzzkinz, 2012a, l. 10).

<sup>d13</sup> PRIORITIZE GROUP

We have only one plan which is to become the 1<sup>st</sup> in DotA female team and <sup>d13</sup> provide entertainment to DotA society (RGN, 2011b, l. 10).

<sup>d13</sup> PRIORITIZE GROUP

<sup>d12</sup> We promise we won't disappoint you [former team director] and <sup>d14</sup> we'll stay with you forever (RGN, 2011c, l. 58).

<sup>d12</sup> CONSIDERATE

<sup>d14</sup> SUPPORTIVE

<sup>d12</sup> We promise that we will do our best and <sup>a8</sup> will not disappoint you all (buzzkinz, 2012a, l. 38).

<sup>d12</sup> CONSIDERATE

<sup>a8</sup> SELF-CONFIDENCE

*High level of trust.* Subject P7 very frequently expressed her appreciation of her team members and those surrounding her (d16). The subject sometimes made subjective criticisms (a11), but she tried to give positive feedback (d15). Subject P7 often praised the efforts and accomplishments of her team members (d15). In addition to her supportive personality (d14), subject P7 was also optimistic and had faith in her team members (d18), knowing that the members and the team could improve (d10). These behaviors expressed during the interview hinted at the high level of trust that subject P7 placed in others.

<sup>d16</sup> She's so friendly to us. When we were there, she helped us out everything (RGN, 2011c, l. 14).

<sup>d16</sup> APPRECIATION

<sup>d16</sup> There were great staffs that took care of us. They were so impressive (RGN, 2011c, l. 25).

<sup>d16</sup> APPRECIATION

<p><sup>d16</sup> But I was impressed by DotA fans there (RGN, 2011c, l. 36).</p>	<p><sup>d16</sup> APPRECIATION</p>
<p><sup>d16</sup> it's going to be tough if she [tammy] wasn't there. I hope she will join us again. Next the friendliness from the staffs who took care of us, especially Mrs. Qianyangyang (RGN, 2011c, l. 54)</p>	<p><sup>d16</sup> APPRECIATION</p>
<p><sup>d16</sup> Thank you P'Bas (Team Director) for the opportunity to go there (RGN, 2011c, l. 58).</p>	<p><sup>d16</sup> APPRECIATION</p>
<p><sup>d16</sup> Thank you every one for continual support (buzzkinz, 2012a, l. 38).</p>	<p><sup>d16</sup> APPRECIATION</p>
<p>It started on the day PMS Asterisk came to Thailand for a friendly competition with Thai teams. ... <sup>d16</sup> PMS Asterisk inspired us to make this [forming a female DotA team] happen (RGN, 2011b, l. 2).</p>	<p><sup>d16</sup> APPRECIATION</p>
<p><sup>a11</sup> But most of the staffs are not good enough (RGN, 2011c, l. 31).</p>	<p><sup>a11</sup> CRITICISM</p>
<p><sup>a11</sup> When they [WDC staffs] knew we are not Chinese, they wouldn't help us (RGN, 2011c, l. 34)."</p>	<p><sup>a11</sup> CRITICISM</p>
<p><sup>a11</sup> Yes, the computers in WDC 2011 were too old and dirty (RGN, 2011c, l. 36).</p>	<p><sup>a11</sup> CRITICISM</p>
<p><sup>a11</sup> Tsu has no manners (RGN, 2011c, l. 42).</p>	<p><sup>a11</sup> CRITICISM</p>
<p><sup>d14</sup> ..., even if you have lost in the game, you have won my heart. Keep fighting! (RGN, 2011c, l. 54)</p>	<p><sup>d14</sup> SUPPORTIVE</p>
<p><sup>d14</sup> The changes are beneficial for the team as it has empowered Trust's gameplay style. This is due to the reinforcement of the items that are appropriate for the heroes which the team utilized, <sup>d18</sup> even though some heroes are weakened (buzzkinz, 2012a, l. 30).</p>	<p><sup>d14</sup> SUPPORTIVE</p>
<p><sup>d15</sup> They can't communicate with us in English, but they had tried so hard (RGN, 2011c, l. 27).</p>	<p><sup>d18</sup> OPTIMISTIC</p> <p><sup>d15</sup> PRAISE</p>

<p><sup>d15</sup> The strength of the team is in the carry [P1]; Trust has a very powerful carry (buzzkinz, 2012a, l. 34).</p>	<p><sup>d15</sup> PRAISE</p>
<p><sup>d15</sup> She's [P3] our strongest player. If she joins a competition, she'll give us a higher winning chance.</p>	<p><sup>d15</sup> PRAISE</p>
<p><sup>d17</sup> She knows basic skills well and she understands the features of the team. She is open minded for new ideas (RGN, 2011b, l. 8).</p>	<p><sup>d17</sup> TRUST</p>
<p><sup>d16</sup> I was lucky to have her [P10] in my team because she's very helpful to me. <sup>d15</sup> I don't have to tell her anything, and she always know what she has to do. She knows her part and duty. She always asks others for more opinions and she's a good listener. <sup>d17</sup> I think she can replace me and do everything for the team when the time comes (RGN, 2011b, l. 8).</p>	<p><sup>d16</sup> APPRECIATION <sup>d15</sup> PRAISE  <sup>d17</sup> TRUST</p>
<p><sup>d14</sup> I think she [P11] fits these game roles because she has low self-confidence. <sup>d15</sup> She's actually a good person. She's so very nice to everyone and she has high responsibility (RGN, 2011b, l. 8).</p>	<p><sup>d14</sup> SUPPORTIVE <sup>d15</sup> PRAISE</p>
<p><sup>d15</sup> She [P12] is very independent and has high self-confident. She can accomplish things on her own. She understands the team members, <sup>d18</sup> but there are more for her to learn (RGN, 2011b, l. 8).</p>	<p><sup>d15</sup> PRAISE  <sup>d18</sup> OPTIMISTIC</p>
<p><sup>d15</sup> She [P9] is calm and collected, and she can handle the climax of the competitions, <sup>a11</sup> but she also has a disadvantage. She doesn't spend time with us for practice. <sup>d18</sup> If she does, she can be better. She's youngest in our team. <sup>d14</sup> Sometimes I have to remind and warn her to watch her actions (RGN, 2011b, l. 8).</p>	<p><sup>d15</sup> PRAISE <sup>a11</sup> CRITICISM  <sup>d18</sup> OPTIMISTIC <sup>d14</sup> SUPPORTIVE</p>

*Summary.* The interview given by subject P7 showed many indications leading to her categorization as a democratic leader. Behavior such as her concern for people instead of tasks,

her emphasis on group collaboration and friendship over herself or her achievements point towards the tendencies of a democratic leadership style. Furthermore, subject P7 placed significant trust in other team members, even to the point of reacting positively to the idea of someone taking over her position in the team. According to these behaviors, subject P7's democratic leadership style can be determined. The democratic leadership style also correlates with the ganker and support roles that subject P7 utilized during competitions.

In addition, subject P7 introduced her team members and their positions in the team (P2, P9 – P12). She described the members' game roles and briefly discussed their personalities. It is interesting that many of the personality traits parallel the proposal of the correlation between game roles and leadership styles in Section 6.1.1. Their leadership behaviors will be discussed in a later section.

**Subject P8: The jungler game role and the laissez-faire leadership style.** Subject P8 utilized a game role that most resembled the jungler game role. According to the subject's statement, "my position is farming" (buzzkinz, 2012b, l. 6). In addition, the video replays of subject P8 (buzzkinz, 2012b; Thai eSport Streamer, 2012a, 2012b) confirmed the in-game actions. The subject often utilized heroes with strong abilities and higher survivability. Subject P8 mainly spent his time farming in the early stages of the matches. The subject tended to detach from other game players and to focus his game play on personal tasks.

Regarding subject P8 leadership behaviors, the interview with the player hints at a laissez-faire leadership style. Furthermore, the subject showed no sign of autocratic or democratic leadership behaviors.

*Avoidance of making critical decisions.* During the interview, the subject tended to avoid group discussion. He did not attempt to participate in the decision-making process (11), or to give critical opinions (13). Subject P8 did not share any critical thoughts when he was asked to introduce himself and his position as part of the team. The subject did not share objective views regarding to compete with other teams (15), but gave highly abstract and playful views that provided no direction for the team.

<sup>11</sup> my duty is only to eat (buzzkinz, 2012b, l. 6).

<sup>11</sup> DETACHMENT

It is not difficult. <sup>13</sup> I will play like them, but we should be better. We should use their plans and fight back more brutal (buzzkinz, 2012b, l. 17).

<sup>13</sup> IRRELEVANT

<sup>13</sup> I have to eat only. <sup>14</sup> When I'm full I will be a bit sleepy. This feeling is so good for me to play (buzzkinz, 2012b, l. 20).

<sup>13</sup> IRRELEVANT

<sup>14</sup> INDOLENT

*Task oriented with a low sense of responsibility.* The subject is task oriented and exhibited some sense of responsibility, although only as a requirement of his role in the team (16). Subject P8 tended to focus his in-game actions solely on his assigned tasks. The subject claimed to provide necessary recourses for the team (16). He did not express concern about or comment on other members' tasks (17).

<sup>16</sup> I'm responsible for collecting money as much as possible to acquire the greatest <sup>19</sup> advantage in terms of items in the late game (buzzkinz, 2012b, l. 6).

<sup>16</sup> PROVIDER

<sup>19</sup> RELYING

*High level of trust.* Subject P8 gave infrequent praise and criticism. He did not make any comments about the team members, neither praising nor criticizing them during the interview. As hinted by the act of detachment from all critical decision making and discussion of team strategies, subject P8 has placed a high level of trust on his team members. Assuming that the player also hopes to win the competition, he is relying heavily on his team members to deliver the performance (19), provided that the subject will supply resources as needed (16). In this case, the resources are gold and items.

*Summary.* Subject P8 frequently made statements that were irrelevant to the subject of the interview, and which were also disconnected from the comments of other team members. The subject acted as part of the team only to fulfil the missing role. These actions correspond to the laissez-faire leadership style, which is linked to the subject's jungler role position.

**Subject P9: The carry game role and the autocratic leadership style.** Subject P9's team captain (P7) noted that the subject played the carry role game for the team (RGN, 2011b, l. 8). However, there were no gameplay records of subject P9 to confirm this statement. Despite

being the youngest member of the team, subject P9 appeared to be the most self-centered (a7) and was resolute in expressing her opinion (a2, a11). The subject's actions hint at her possession of an autocratic leadership style.

*Decision-making process.* The statement by P7 hinted that subject 12 may have exhibited poor listening skills (a7) and was reluctant to comply with the team's rules (11). Moreover, the subject also exhibited aggressive behavior if criticized and was resolute in the expression (a2) of her standpoint.

Sometimes I [P7] have to remind and warn her to <sup>a7</sup> watch her actions (RGN, 2011b, l. 8). <sup>a7</sup> SELF-CENTERED

Males sometimes ask why I play games, and why don't I do something else. <sup>a2</sup> This ends with an argument and things get messed up (RGN, 2011b, l. 33). <sup>a2</sup> ABSOLUTE

*Sense of responsibility.* As described by P7, subject P9 handled climax situations in a calm and collected way. Accordingly, this is a quality of an autocratic leader. She was capable of controlling the situation well (a9) without the help of the others. Subject P9 tended to detach from the team (11), perhaps as a result of the age gap among members.

She [P9] is calm and collected, and <sup>a9</sup> she can handle the climax of the competitions ... <sup>11</sup> She doesn't spend time with us for practice (RGN, 2011b, l. 8). <sup>a9</sup> CONTROL <sup>11</sup> DETACHMENT

*Lack of trust.* Although this was a brief conversation, subject P9 expressed harsh criticism of the mainstream view of women's gameplay (a11). She provided positive comments infrequently. Subject P9's criticism and the infrequent positive comments mirrored the lack of trust in others.

Men can spend more time for practices. ..., <sup>a11</sup> while females have to take care of their beauty, go for haircuts wondering how she looks (RGN, 2011b, l. 19). <sup>a11</sup> CRITICISM

<sup>a11</sup> Specifically, women in general think that gaming is bullshit and ridiculous (RGN, 2011b, l. 26).

<sup>a11</sup> CRITICISM

*Summary.* Subject P9 revealed behaviors corresponding to an autocratic leadership style, particularly those behaviors related to being absolute, having a self-centered sense of responsibility, and a lack of trust, although there is no information about her orientation towards tasks or people. The subject's autocratic leadership behaviors match the carry game role she utilized.

**Subject P10: The carry game role and the democratic leadership style.** Unfortunately, as no competition replay was found for subject P7, it was not possible to examine the subject's behavior in games. However, she was described as the semi-carrier by subject P7, her team captain (RGN, 2011b, l. 8). Note that the characteristic of the semi-carry game role is closer to that of the ganker than it is to the carry game role. The semi-carry role has the responsibility of the carry role, but the attributes and abilities are those of ganker heroes. The semi-carry role gradually transforms into a supportive role in the later stages of the game ("Role," 2015); thus, the role functionality resembles the ganker game role more closely. A few statements made by subject P7 hinted at some leadership behaviors of subject P10 that reflected a democratic leadership style.

*Inclusive decision making and a strong sense of responsibility.* Subject P7 specified that P10 had the qualities to entrust her with succeeding in the team's captain position (RGN, 2011b, l. 8). According to P7, subject P10 often exercised inclusive decision making in that she welcomed other members' opinions and suggestions (d3). Moreover, P10 most likely prioritized the group over herself, as suggested by her willingness to take care of team matters (d14).

<sup>d3</sup> I [P7] don't have to tell her anything, and she always knows what she has to do. She knows her part and duty. <sup>d3</sup> She always asks others for more opinions and <sup>d3</sup> she's a good listener. <sup>d14</sup> I think she can replace

<sup>d3</sup> INCLUSION

<sup>d3</sup> INCLUSION

<sup>d14</sup> PRIORITIZE GROUP

me and do everything for the team ... (RGN, 2011b, l. 8).

*People orientation.* Subject P10 valued relationships, as indicated by her concerns over the lack of time with her partner. This indicates that the subject wished to look after her partner more often (d7).

There's an effect on the time we [P10 and her partner] have where <sup>d7</sup> we have less time so we can't look after <sup>d7</sup> RELATIONSHIP each other like we should (RGN, 2011b, l. 29).

*Summary.* The brief dialogue by subject P10 and a few of her characteristics as described by her captain (P7) highlighted her potential for a democratic leadership style.

**Subject P11: The support game role and the democratic leadership style.** According to the team captain's (P7's) statement, subject P11 was positioned as the team's supporter (RGN, 2011b, l. 8). Six competition replays also showed the subject's gameplay style resembled the support game role (diesmiling666, 2011b, 2011c, 2011d, PlayCyberGamesTV, 2012a, 2012d; Thai eSport Streamer, 2012c). Subject P11 frequently chose heroes with strong defensive attribute and abilities. Her gameplay did not focus on resource mining, but emphasized protecting other team players, particularly the team's carry. Thus, it can be concluded that subject P11 utilized the support game role in games. With regard to her leadership behaviors, although there is very little information, subject P11 hinted at a few democratic leadership behaviors during the interview.

Subject P11 was described as having low self-confidence. However, this personality trait hints at the act of seeking opinions and/or approval from other team members (d1, d3). Subject P11 was also complimented for her kindness (d12) and high level of responsibility (d13). The subject avoided criticism by praising the positive aspects instead (d15, d18). These actions reveal her optimism and trust placed in others. The behaviors exhibited by subject P11 hint at the ideal characteristics of a democratic leadership style. Her actions match the support game role she utilized.

I [P7] think she [P11] fits these game roles because<sup>d7</sup> she's has low self-confidence. ...<sup>d12</sup> She's so very nice to everyone and she has high responsibility (RGN, 2011b, l. 8).

<sup>d7</sup> RELATIONSHIP

<sup>d12</sup> CONSIDERATE

<sup>d15</sup> Men are quicker in decision-making<sup>d18</sup> but females have their own unique styles that men do not (RGN, 2011b, l. 18).

<sup>d15</sup> PRAISE

<sup>d18</sup> OPTIMISTIC

**Subject P12: The ganker game role and both autocratic and democratic leadership styles.**

Subject P12 was responsible for the ganker position in the team (RGN, 2011b, l. 8). According to her video games replays (diesmiling666, 2011b, 2011c, 2011d), subject P12 frequently chose heroes with powerful active abilities. She often roamed around the map with one or more allies, searching for the enemy in the hope of interrupting or eliminating them from the game. Accordingly, it can be concluded that subject P12 was the ganker game role user.

The leadership behaviors of subject P12, as described by P7, are independence and a high level of self-confidence (a8). At the same time, she also had empathy for other team members (d5). These were a few behaviors that hinted at both the autocratic and democratic leadership style of the subject. However, a clear conclusion cannot be drawn due to the lack of meaningful dialog.

<sup>a8</sup> She [P12] is very independent and has high self-confident. She can accomplish things on her own.<sup>d5</sup>

<sup>a8</sup> SELF-CONFIDENCE

<sup>d5</sup> EMPATHY

She understands the team members, ... (RGN, 2011b, l. 8).

**Overall summary.** Most of the subjects exhibited leadership behaviors related to decision-making processes, task or people orientation, a sense of responsibility, and trust that corresponded to the game roles they exercised. Firstly, the professional eSports players who played the carry game role tended to exhibit behaviors that hinted at an autocratic leadership style (except for subject P2). Secondly, the players who utilized the support game role strongly demonstrated behaviors that corresponded to a democratic leadership style. Thirdly, the players who played the ganker game role displayed either the behaviors of autocratic or democratic

leadership styles, or a combination of both. Finally, the player who played the jungler game role revealed behaviors that hinted at a laissez-faire leadership style. Hence, the null hypothesis  $H_0$  of this study can be rejected, although some cases failed to conform to the hypothesis. The alternative hypothesis  $H_1$ , which theorized that the roles in games parallel the players' leadership behaviors, cannot be rejected.

### **6.3 Discussion**

This chapter has provided evidence of a relationship between how games are played and the leadership styles that game players possess. The study used three different roles recognized in the MOBA games — the carry, support, and ganker roles — with the addition of the jungler role and non-assigned players. The three major leadership styles defined by Lewin (1939), namely autocratic, democratic, and laissez-faire, were quantitatively tested for correlations with the game roles. In addition, the interviews given by professional Thai eSports players and their video gameplay replays were analyzed qualitatively for in-depth explanations of the quantitative results. According to the results of both quantitative and qualitative analyses, the relationship between leadership styles and game roles can be established. This relationship is explained by the commonality of traits and behaviors between a particular game role and its corresponding leadership style. These traits and behaviors particularly concern the decision-making process, task or people orientation, the level of trust in others, and the sense of responsibility.

The theoretical framework was based on each leader having a specific style of leadership, and each game player also having a specific role in the team. Just as leaders are restricted by the given problems or situations to be resolved, game players are restricted by the rules and the game environment in which they are placed. Therefore, leadership styles and game roles share similar situational control scenarios, within which they also share similar traits and behaviors. The relationship between leadership styles and game roles was established through these links between shared scenarios and behaviors. Thus, it is concluded that game roles are interconnected with leadership styles. Individuals practicing a given role in MOBA games are more likely to exhibit the leadership style corresponding to that game role. This finding supports the studies by Yee (2006b) and Jang and Ryu (2011), which noted the positive relationships between real-world leadership and online gameplay.

The establishment of a linkage between roles in MOBA games and leadership styles implies that reality and virtual reality connect at a deeper level within each individual. The behaviors that in which game players engage when playing games are similar to the behaviors they show as potential leaders. Most importantly, game players' fundamental behaviors and characteristics — those that define them as individuals — remain consistent whether they are heroes in an online game or leaders in the real world.

### **6.3.1 The Carry Game Role**

According to the results of both the quantitative and the qualitative analyses, carriers displayed a higher tendency to have an autocratic leadership style. As previously explained, this tendency makes sense because the carry game role and the autocratic style share similar behaviors, such as dictating the decision-making process and/or maintaining excessive control, self-centered, or distrust of other members. In addition, these correlations in behaviors are also revealed in the interviews with the professional eSports player who used the carry game role. The professional eSports player was found to be highly self-centered and task-oriented, rarely mentioning his teammates during discussions. In fact, he only mentioned other members in the light of more critical opinions. Such behavior is strong evidence that proves the autocratic leadership style is associated with those who play the carry game roles.

By contrast, carriers are less likely to have a laissez-faire leadership style due to the contradictory characteristics of the two identities. Carriers do not display a laissez-faire leadership style since the behaviors associated with the two roles do not correspond with each other. Whereas carriers emphasize themselves and their overall control of the team, laissez-faire leaders do not consider themselves to be a significant part of the team and/or do not have any intentions of controlling the team.

It must be noted that a positive correlation was found between the carry game roles and a democratic leadership style, despite their contrasting characteristics and optimal situational control environments. This phenomenon may be explained by the gravitation of game role utilization. Game players are not restricted to a single game role. In the case of professional eSports players, for example, many players performed more than one game role for their teams. This role gravitation may be more common among non-professional game players.

Nevertheless, the correlation between the carry game role and the democratic leadership style requires further investigation.

### **6.3.2 The Support Game Role**

Both quantitative and qualitative results pointed at supporters' higher likelihood of having democratic leadership styles and a lower likelihood of having autocratic and laissez-faire leadership styles. This result can be explained by supporters and democratic leaders sharing similar traits and behaviors, such as placing a large amount of trust in others, emphasizing group decision making and collaboration, and being willing to assist other members. Interviews with professional eSports players who were responsible for the support game role also revealed a similar pattern of leadership behaviors. All the professional eSports players using the support role exhibited qualities that categorized them as democratic leaders.

On the other hand, the support role correlates negatively with autocratic and laissez-faire leadership styles because its behaviors differ from those of these two leadership styles. Whereas the support role emphasizes teamwork, autocratic leaders place the highest priority on themselves, and laissez-faire leaders show detachment from team collaboration. In addition, the support role's highly people-oriented tendency contrasts with autocratic leaders' highly task-oriented behaviors and the laissez-faire leaders' lack of people- or task-oriented behaviors. Therefore, it is evident that the support game role is positively related to the democratic leadership style, and negatively to autocratic and laissez-faire leadership styles.

### **6.3.3 The Ganker Game Role**

The results of the quantitative analysis showed that gankers were more likely to have both autocratic and democratic leadership styles, although there is a weaker correlation with the democratic leadership style. Such a finding can be explained by the fact that the ganker role shares some features with the carry role, such as having similar responsibilities during the games and being task-oriented. Thus, the ganker role would be associated with the autocratic leadership style because the carry role behaviors mirror those of the autocratic leadership style.

In accordance with the results of the quantitative analysis, it is widely known among Thai DotA and HoN players that, during most gameplay in which players are not familiar with each other, the game strategies are not executed effectively. Major issues arise in gameplay as a

result of playing on a team with strangers, such as the imbalance in the game roles used and a lack of teamwork. Consequently, such teams are usually weaker when faced with teams with players who are familiar with each other. Subsequently, this imbalance in team strength causes the games to end quickly. The short game sessions make the carry role a less appealing role choice because the role only becomes strong toward the later stages of the game, and short game sessions restrict their late-blooming capabilities. Alternatively, the flexibility of the ganker role allows players to use it in place of both carry and support roles. Therefore, in shorter game sessions, it is common for many game players to abandon the carry role and adopt the ganker role instead.

In response to this phenomenon, the objectives of the ganker role may have become distorted, and the ganker role has come to replace the carry role in shorter games. The ganker role is thus associated with the autocratic leadership style, as evidenced by the positive correlation with the style and because the ganker role is commonly used in place of the carry role. This phenomenon corresponds with other sources that actually categorize the ganker role as a subcategory of the carry role (Rodriguez, 2011b). Therefore, the quantitative results of the ganker role's correlation with the autocratic leadership style provide a rationale for this emerging transformation in the use of the ganker role among Thai game players, as well as in other studies.

The aforementioned phenomenon in which the ganker role is used in place of the carry role also provides an explanation for the ganker role's weaker correlation with the democratic leadership style. The ganker game role, which is proposed to be a combination of the support and carry game roles, is practiced more as an offensive strategy in reality, and less as a supporting role. Hence, gankers exhibit behaviors that are more similar to those of carriers than they are to those of supporters. As a result, gankers appear to be correlated with the democratic leadership style at a lower level, as their function is less of a supporting role.

Other than sharing features with the autocratic leadership style, the ganker game role also shares some features with the support game role. This is especially true because both the ganker and the support game roles prioritize collaborative decision-making processes. Since the support game role correlates with the democratic leadership style, it follows that the ganker game role also resulted in a positive correlation with the democratic leadership style. The qualitative analysis of interviews with professional gankers revealed tendencies towards

democratic leadership styles. The professional ganker game players displayed democratic leadership characteristics such as emphasis on group collaboration, empathy, and the relative ease of entrusting other members. Although some players appeared to be highly task oriented, many of the behaviors exhibited were inclined towards a mixture of both autocratic and democratic leadership styles.

Many of these players, particularly those who used the ganker role in place of the carry role, emphasized their own characters strongly and dictated team strategy, which is similar to carriers' behavior. From another point of view, those gankers who utilized the ganker game role emphasized the contribution to the team, and required some level of dependence on the part of the team members. When using the ganker role in place of the carry or support roles, their traits still conflicted with laissez-faire leadership characteristics, thus explaining why a negative correlation between gankers and the laissez-faire leadership style is revealed in the quantitative analysis.

In summary, there are mixed findings regarding the relationship between the ganker game role and leadership styles. On one hand, the hypothesis posited that the ganker game role correlated with the democratic leadership style, and this hypothesis was indeed confirmed through the qualitative analysis of interviews revealing professional ganker players' tendency for a democratic leadership style. On the other hand, the quantitative analysis shows that the ganker game role correlates strongly with the autocratic leadership style, and this can also be explained by ways in which the ganker role's purposes have been distorted, as observed in the actual gameplay of Thai game players. To explore this finding further, studies directed specifically at the ganker game role could be conducted.

#### **6.3.4 Junglers and Non-Assigned Players**

The quantitative analysis revealed that respondents allotted to the carry, support, or ganker game roles all have a negative relationship with the laissez-faire leadership style. In other words, those who do not fall under the carry, support, or ganker category show a lack of consciousness of gameplay and a detachment from the game. These game players are therefore referred to as the non-assigned players, because they do not show the defining behaviors or characteristics that would allocate them to any game role. The same detachment from the activity in which

they are engaged and their lack of motivation point to their association with the laissez-faire leadership style. Laissez-faire leaders also exercise “hands-off” habits and minimize group participation. Similarly, non-assigned players do not exhibit any objectives or sense of responsibility during their gameplay.

According to the qualitative analysis of the professional jungler, although there is very little evidence, the evidence hinted at the jungler player possessing the traits of laissez-faire leadership style. As mentioned previously, each game role within the games has particular features and responsibilities that require players to engage in group participation and behave in specific ways. However, the jungler player exhibited behaviors in contrast to such a concept. He did not share his objectives, and make numerous irrelevant comments that did not serve to communicate with other team members.

Game players who did not recognize the roles in the games, or those who exhibited detachment from the team, may have played the game solely for personal enjoyment. This manner of gameplay falls under the style of laissez-faire leaders, therefore resulting in its relationship with this particular leadership style.

### **6.3.5 Gender**

The gender of game players proved to be a significant predictor of the laissez-faire leadership style. The result of the quantitative analysis revealed that male game players were more likely to possess a laissez-faire leadership style. This finding is partially analogous to the findings in other literature on the relationship between gender and leadership, in that female leaders are generally more effective and the laissez-faire leadership style is more common among males (Bass et al., 1996; Eagly et al., 2003). However, it should be noted that the number of female respondents in the sample was less than 2%. It is therefore unknown whether this number is sufficient to represent the overall population of female game players. Nonetheless, this finding of gender differences in leadership styles remains a significant point that is interesting for further studies.

### **6.3.6 Age, Education and Income**

The demographics of game players (age, level of education, and income) were found to be insignificant predictors of leadership styles. This result may be interpreted in many ways, one

of which is that how individuals behave in a game is a more meaningful predictor of leadership behaviors, thus hindering the effects of other factors that are less directly associated with the individuals' behaviors.

### **6.3.7 Game Choice (DotA or HoN)**

The choice of video games — DotA, HoN, or both — is an insignificant predictor of game players' leadership styles. Therefore, the usage of two video games for this study did not result in a selection bias, and is thus deemed appropriate.

### **6.3.8 Game Experience**

The amount of time spent on MOBA gameplay was positively correlated with an autocratic leadership style. This result can be interpreted as revealing more hours and stronger commitment that game players put into practice when aiming to master the gameplay. This approach is highly task oriented and result focused, which are fundamental qualities of the autocratic leadership style.

According to professional eSports players, team performance is highly dependent on the amount of time spent on practice. Professional eSports players play games as a career for a monetary reward. The players pay extra attention to their gameplay, analyzing and criticizing the gameplay strategies to be employed. Overall, professional eSports players put a significant amount of effort into their gameplay and are eager to improve. This rationale also applies to amateur game players who are committed to improvement rather than to entertainment.

Therefore, it was not surprising that the findings showed that the amount of hours spent on gameplay resulted significantly in the adoption of autocratic leadership styles. The implication of this is that the extra hours that game players spent practicing reflected the task-oriented behaviors of the game players. Nonetheless, the more important predictor of leadership styles is not the hours spent playing the game, but the consistency with which one plays a specific game role or how an individual plays games.

### **6.3.9 Gameplay Locations**

The findings showed an intriguing result with regard to the location in which the game players played the games. Those who played games in more private settings — such as in their own

home or at a friend's house — show a tendency towards a democratic leadership style, and a decreased tendency towards an autocratic leadership style. It is speculated that this relationship is the result of socio-economic and environmental factors to which game players are generally subjected; for instance, the level of control game players has over the real-world environments to which they belong. Gameplay at home or at a friend's house locations are presumed to be controlled by various occurrences, such as family members' interference, mealtimes or pressure to do homework or household chores. These normal interferences force game players to become more aware of events happening in their surroundings (Dishion, Patterson, Stoolmiller, & Skinner, 1991; Leithwood & Jantzi, 1999; Patterson & Dishion, 1985; Patterson & Stouthamer-Loeber, 1984). Playing the games under such circumstances causes game players to be more responsible, and to respect the opinions and actions of others — fundamental traits of a democratic leadership style. Moreover, such behaviors are in contrast to the characteristics of an autocratic leadership style, which explains why the democratic leadership behaviors triggered by private settings would hinder the behaviors associated with an autocratic leadership style. However, the evidence and explanation that could provide a clear understanding of gameplay location and its effects on leadership style remains limited. It is suggested that aspects related to this linkage be researched and studied further. Future studies could provide a deeper analysis and understanding of the external factors that stimulate or hinder the development of leadership behaviors.

#### **6.4 Conclusion**

There is no doubt that there is a connection between how games are played and the leadership styles that the game players possess. This relationship was established using three different roles recognized in eSports in the MOBA genre — carry, support and ganker game roles — with the addition of the jungler role and non-assigned players. Three major leadership styles — autocratic, democratic and laissez-faire leadership styles — were tested for correlation with the game roles.

Using the multinomial logistic regression analysis, this chapter has successfully established the correlation between game roles in MOBA games and leadership styles. It is concluded that the carry game role correlates positively with the autocratic leadership style, the support game role correlates positively with the democratic leadership style, and the ganker game role

correlates positively with the autocratic leadership style. At the same time, all game roles are negatively correlated with the laissez-faire leadership style, except for the jungler game role, which hints at a potential, positive relationship with the laissez-faire leadership style. This implies that game players who practice these roles in games may possess and exercise the corresponding leadership styles in the real world. These correlations are explained by the common behaviors that describe the decision-making processes, the prioritization of task- or people-oriented issues, the susceptibility to trusting others, and the sense of responsibility that is shared by the game role and its correlated leadership style.

In summary of the findings and the theoretical grounds, it can be said that, just as leaders have specific styles, game roles entail specific abilities. Leaders are restricted by the given problem or situation to be resolved, and game roles are also restricted by the game rules and the game environment in which they are placed. Both leaders and game roles, therefore, share very similar situational control scenarios. Within these scenarios, leadership styles and game roles also share overlapping traits and behaviors. The correlation of leadership and game roles was established through the links between the shared scenarios and behaviors. This chapter concludes that the roles adopted by game players are correlated positively with their leadership styles.

Recognizing the leadership styles that individuals possess is essential for achieving effective leadership. In this sense, gameplay can act as a predictor of individuals' potential leadership styles. The established relationship between gameplay and leadership styles implies that certain behaviors displayed during gameplay can be used to identify the leadership styles of the players. This relationship thus hints at the potential for leadership development through online gameplay. If a game player plays games with the awareness of leadership factors in mind, he/she may be able to discover his/her leadership potential and further cultivate his/her leadership style. Therefore, games may be a tool for individual growth that can be used to maximize one's leadership abilities. Instead of being condemning games, this creates a new dimension in the study of video games by repositioning games as an enhancement of individuals in society.

## **Chapter 7**

### **Gameplay Effects on Leadership Behaviors**

MOBA games have a complex platform that exposes players to various in-game environments that resemble real-world circumstances (Barnett & Coulson, 2010). Under the competitive circumstances provided in eSports, game players' in-game characteristics are interconnected with their real-world behaviors. This relationship between leadership in the two worlds has been established evidentially in Chapter 6. However, whether the leadership practice in video gameplay influences real-world leadership behaviors remains the primary question that needs to be answered. Exercising in-game actions, particularly those associated with leadership, or executing teamwork strategies, may contribute to the development of real-world leadership behaviors. The investigation of this potential causality is thus the most important focus of this study.

This chapter aims to analyze online gaming's multifaceted influence on leadership behaviors (RQ<sub>3</sub>). In a non-experimental setting, game players' characteristics in MOBA games and their real-world leadership behaviors were examined using the self-report questionnaire data obtained from Section 6.1.3, The Demographics of Respondents with No Work Experience. More importantly, this chapter also aims at finalizing the theoretical framework for the development of leadership through online gameplay. The theoretical framework of this chapter is based on the frameworks established in Section 3.1.1 (Figure 3.3, Shared Behaviors and Situational Control between Real-world Leadership Styles and Roles in Games). The current framework was based on the contingency model of leadership effectiveness (Fiedler, 1964, 2006). Correspondingly, the establishment of the relationship between roles in games and leadership styles may enable game players to develop leadership through the priming of in-game leadership behaviors and the learning of social values. This chapter incorporates the situational priming and social learning theories into the existing framework, and further investigates the observational data using a statistical matching technique known as propensity score matching (PSM), together with a doubly robust estimation to estimate the effects of the predominant game role utilization. The findings will validate this study's theoretical

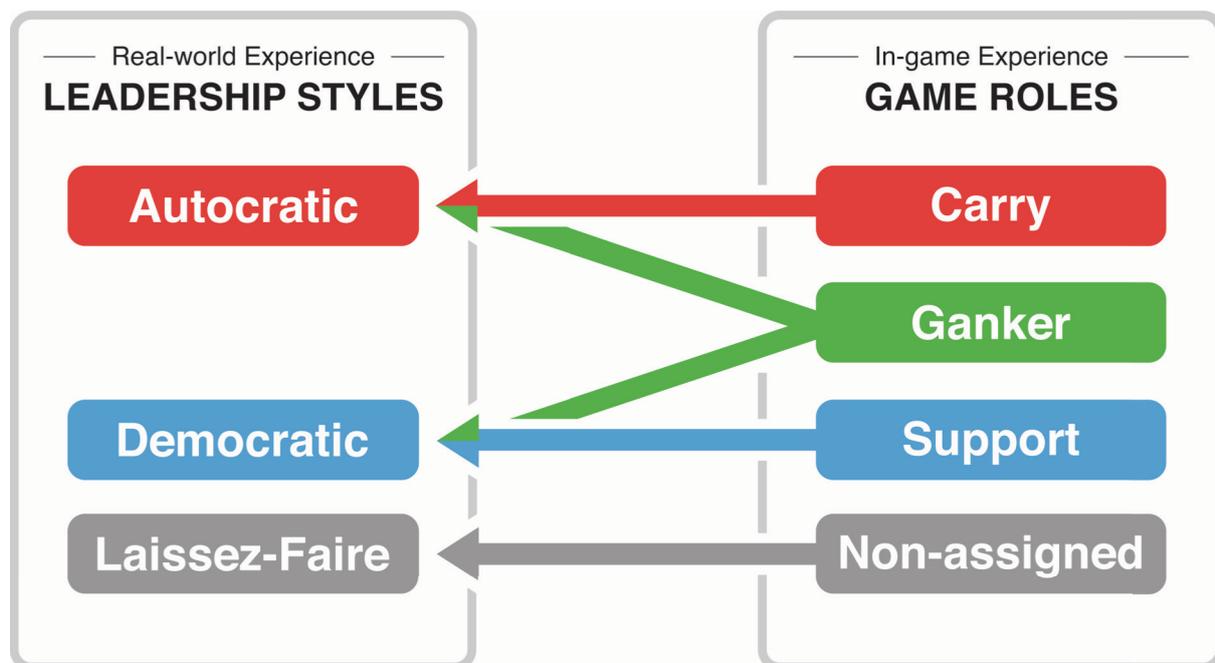
framework, and will highlight video games' potential as a didactic tool, as well as providing answers concerning how gameplay can contribute to the development of leadership behaviors.

### 7.1 Hypotheses

The overarching hypothesis of this study is that playing MOBA games can influence game players' leadership behaviors. Mastering a specific game role consequently contributes to the development of leadership. Through the relationship between leadership styles and game roles established in Chapter 6 and the framework proposed in Section 3.3 (Figure 3.4, Gameplay Influences Leadership Behaviors through Situational Priming and Social Learning), it follows that the roles chosen by game players will influence the development of leadership behaviors and will subsequently form their leadership styles. Figure 7.1 proposed the effect of game role utilization on leadership style. The specific hypotheses to be quantitatively tested are summarized as follows:

H<sub>0</sub>: Gameplay has no influence on leadership behaviors.

**Figure 7.1 Influence of Each Game Role on Leadership Styles**



Source: Designed by the author.

- H<sub>1</sub>: Game players who predominantly practice the carry role exhibit stronger autocratic leadership behaviors.
- H<sub>2</sub>: Game players who predominantly practice the support role exhibit stronger democratic leadership behaviors.
- H<sub>3a</sub>: Game players who predominantly practice the ganker role exhibit stronger autocratic leadership behaviors.
- H<sub>3b</sub>: Game players who predominantly practice the ganker role will exhibit stronger democratic leadership behaviors.
- H<sub>4</sub>: Game players who practice any of the game roles exhibit weaker laissez-faire leadership behaviors.

## **7.2 Methodology: PSM, Sensitivity Analysis, and Doubly Robust Estimation**

This study utilized the data derived from Chapter 6 (Section 6.1.3, The Demographics of Respondents with No Work Experience). The respondents' age range was 12 – 27 years old. This age group is highly suitable for studies on the influence of gameplay because younger game players are found to have learned leadership values via video games (Yee, 2006a).

This study used a non-experimental research approach to infer the effects of gameplay on players' leadership behaviors. The hypotheses were tested using quantitative statistical analyses, including PSM, a sensitivity analysis, and a doubly robust estimation. The PSM was used to estimate differences in leadership behaviors among players in various roles. A sensitivity analysis and a doubly robust estimation with interaction variables were then employed to confirm the results of the PSM's estimations and implications. The details of these methodologies were discussed in Section 4.5, Propensity Score Matching (PSM).

## **7.3 Results**

The balance diagnostic of the PSM yielded well-balanced results for all predominance levels (top 50%, 40%, 30%, 20%, and 10%), and the estimation of the matching bias was reduced to less than 10%. The t-statistics reported no significant imbalance ( $p > 0.10$ ) between the treated group of predominant role players and the control groups of underperforming game players. These results are consistent with various studies using an observational method (Austin, 2009; Cohen, 1988; Normand et al., 2001). Therefore, it is possible to continue to the fourth step of

the PSM — ATT estimation. The results of the ATT estimation, in addition to sensitivity analysis and doubly robust estimation, are reported in Table 7.1.

### **7.3.1 Predominant Carry**

According to Table 7.1, the outcomes of the PSM reveal that game players who demonstrated carry role behaviors at the 50% level or above — or the predominant carriers — displayed significantly stronger autocratic leadership behaviors (ATT = 1.10 to 2.26,  $\Gamma$  = 1.51 to 2.20). Note that the highest ATT for autocratic leadership behaviors is reported at the top 10% level (ATT = 2.26,  $\Gamma$  = 2.20), which is approximately 17% stronger than the non-carriers' average autocratic leadership behaviors. The doubly robust estimation also confirmed that predominant carriers displayed stronger autocratic leadership behaviors as the gaming experience increases (Coef. = 0.30 to 0.64,  $p < 0.001$ ). Thus, predominantly practicing the carry game role resulted in stronger autocratic leadership behaviors; therefore, hypothesis H<sub>1</sub> cannot be rejected.

It remains inconclusive whether playing the carry role influences democratic behaviors (ATT = 0.41 to 1.48,  $\Gamma$  = 1.06 to 1.62) or laissez-faire leadership behaviors (ATT = -0.56 to -1.59,  $\Gamma$  = 1.14 to 1.78). The uncertainty arises because the PSM estimates for both leadership styles are highly sensitive, regardless of the significant doubly robust estimates for the democratic (Coef. = 0.10 to 0.39,  $p < 0.001$ ) and laissez-faire leadership styles (Coef. = -0.14 to -0.43,  $p < 0.001$ ).

### **7.3.2 Predominant Support**

The PSM outcomes and the doubly robust estimation reported in Table 7.1 showed that game players who predominantly played the support role displayed significantly stronger democratic leadership behaviors (ATT = 2.16 to 3.48,  $\Gamma$  = 2.55 to 4.44). The peak ATT is reported at the top 10% level (ATT = 3.48,  $\Gamma$  = 4.38), which is approximately 21% stronger in democratic leadership behaviors when compared to non-supporters. The doubly robust estimation also confirmed that there are significant increases in democratic leadership behaviors as predominant supporters' gaming experience increases (Coef. = 0.62 to 1.01,  $p < 0.001$ ). It can be concluded that the predominant practice of the support role resulted in stronger democratic leadership behaviors; thus, hypothesis H<sub>2</sub> cannot be rejected.

**Table 7.1 PSM, Sensitivity Analysis, and Doubly Robust Estimates: Predominant Game Role Adoption**

Game Role	Autocratic		Democratic		Laissez-Faire		Matched Pairs (n)	
	<i>PSM</i>	<i>Doubly Robust</i>	<i>PSM</i>	<i>Doubly Robust</i>	<i>PSM</i>	<i>Doubly Robust</i>		
	<i>ATT/Γ</i>	<i>Coef. / (t)</i>	<i>ATT/Γ</i>	<i>Coef. / (t)</i>	<i>ATT/Γ</i>	<i>Coef. / (t)</i>		
Carry	50%	1.0953	0.3022 ***	0.4145	0.1034 ***	-0.5575	-0.1440 ***	1,679
		1.51	(8.20)	1.06	(2.89)	1.14	(-4.01)	
	40%	1.2819	0.3548 ***	0.8360	0.2325 ***	-0.9449	-0.2587 ***	1,433
		1.61	(9.10)	1.31	(5.85)	1.39	(-6.55)	
	30%	1.7085	0.4781 ***	0.7866	0.1995 ***	-0.8231	-0.2095 ***	1,012
		1.88	(9.81)	1.24	(4.16)	1.27	(-4.35)	
Support	20%	1.8446	0.5344 ***	1.0321	0.2839 ***	-1.1138	-0.3099 ***	624
		2.00	(8.91)	1.35	(4.77)	1.43	(-5.31)	
	10%	2.2604	0.6427 ***	1.4820	0.3935 ***	-1.5900	-0.4296 ***	361
		2.20	(7.69)	1.62	(4.80)	1.78	(-5.24)	
	50%	0.7276	0.2211 ***	2.1685	0.6272 ***	-2.1583	-0.6215 ***	1,674
		1.29	(6.25)	2.59	(18.50)	2.53	(-18.55)	
Ganker	40%	0.6750	0.2061 ***	2.1573	0.6175 ***	-2.0651	-0.5968 ***	1,443
		1.24	(5.35)	2.55	(16.78)	2.48	(-16.41)	
	30%	0.8125	0.2450 ***	2.5000	0.7101 ***	-2.4416	-0.6933 ***	976
		1.31	(5.27)	3.04	(16.70)	2.97	(-16.33)	
	20%	1.0308	0.3187 ***	3.2688	0.9491 ***	-3.1113	-0.9035 ***	584
		1.37	(5.38)	4.44	(17.60)	4.06	(-16.77)	
Ganker	10%	1.0195	0.3137 ***	3.4821	1.0074 ***	-3.3029	-0.9601 ***	307
		1.27	(3.65)	4.38	(13.09)	4.05	(-12.59)	
	50%	2.0234	0.5785 ***	2.2506	0.6473 ***	-2.4499	-0.7067 ***	1,796
		2.37	(17.20)	2.64	(19.77)	2.97	(-21.77)	
	40%	2.4516	0.7085 ***	2.3903	0.6866 ***	-2.6528	-0.7587 ***	1,158
		2.74	(17.11)	2.94	(17.42)	3.41	(-19.46)	
Ganker	30%	2.8383	0.8136 ***	2.8371	0.8120 ***	-3.0888	-0.8819 ***	878
		3.40	(17.34)	3.71	(17.91)	4.43	(-19.78)	
	20%	3.0568	0.8597 ***	2.864	0.8033 ***	-3.2033	-0.9030 ***	669
		3.49	(15.49)	3.58	(15.41)	4.22	(-17.54)	
	10%	3.5695	1.0347 ***	3.4542	0.9543 ***	-3.6712	-1.0289 ***	295
		4.12	(12.27)	4.72	(11.80)	5.63	(-12.82)	
	N	3,330						

**Note:**  $\Gamma$  reported at the 95% confidence level.

Robust t-statistics shown within parentheses.

\*  $p < 0.05$ , \*\*  $p < 0.01$ , \*\*\*  $p < 0.001$

Source: The influences of online gaming on leadership development (Nuangjumng, 2016, p. 153).

Playing the support role has a negative causal relationship with laissez-faire leadership behaviors. The PSM outcomes concluded that game players who predominantly played the support game role exhibited significantly weaker laissez-faire leadership behaviors (ATT = -2.07 to -3.30,  $\Gamma = 2.48$  to 4.06). The weakest outcome was reported at the 10% level (ATT = 3.30,  $\Gamma = 4.06$ ), and indicated approximately 28% weaker laissez-faire leadership behaviors for supporters compared with non-supporters. These results parallel the results of the doubly robust estimation, which revealed that predominant supporters display weaker laissez-faire leadership behavior as their gaming experience increases (Coef. = -0.60 to -0.96,  $p < 0.001$ ).

However, the PSM yielded inconclusive results for autocratic leadership behaviors. Although the doubly robust estimation reported a significant increase in autocratic leadership behaviors (Coef. = 0.21 to 0.32,  $p < 0.001$ ), the PSM reported highly sensitive outcomes (ATT = 0.68 to 1.03,  $\Gamma = 1.24$  to 1.37).

### **7.3.3 Predominant Ganker**

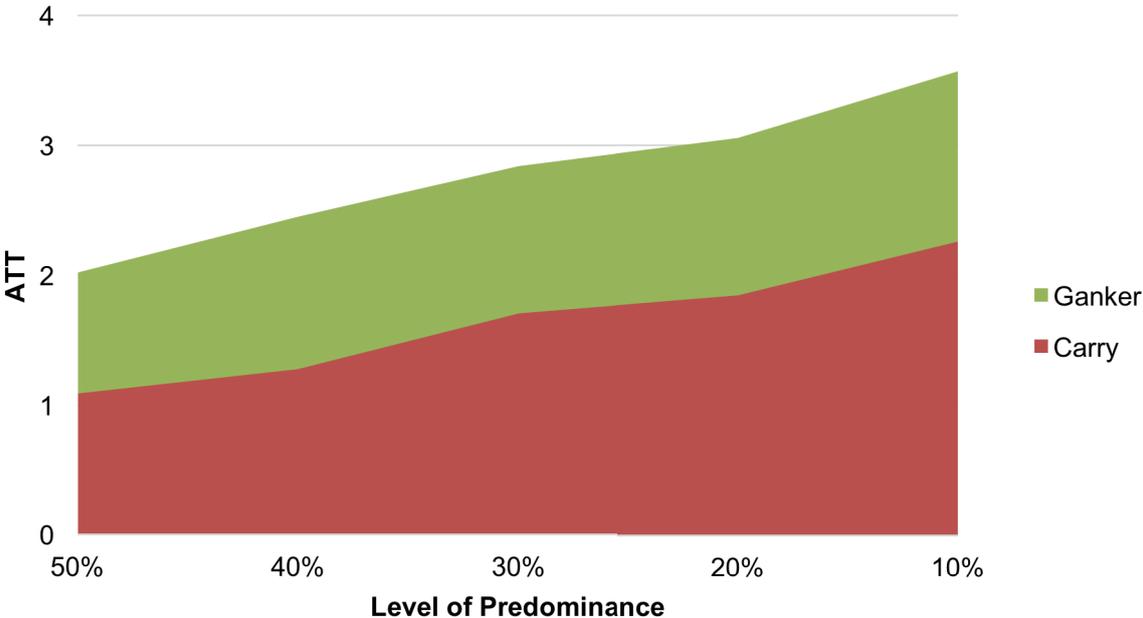
The PSM and doubly robust estimation yielded interesting results in relation to the ganker game role. According to Table 7.1, the estimates for the ganker role yielded positive outcomes for both autocratic and democratic leadership behaviors. The PSM outcomes reported that game players who predominantly played the ganker role displayed significantly stronger autocratic leadership behaviors (ATT = 2.02 to 3.57,  $\Gamma = 2.37$  to 4.12). The highest ATT for autocratic leadership behaviors was reported at the 10% level (ATT = 3.57,  $\Gamma = 4.12$ ), approximately 26% stronger than that of the non-gankers. The doubly robust estimation also confirmed the results that the players' autocratic leadership behaviors became significantly stronger as the predominantly ganker gaming experience increased (Coef. = 0.58 to 1.03,  $p < 0.001$ ). These results also pointed out that the predominant gankers achieved much higher growth in autocratic leadership behaviors when compared to the predominant carriers.

The PSM outcomes reported that the predominant gankers also displayed significantly stronger democratic leadership behaviors (ATT = 2.25 to 3.45,  $\Gamma = 2.64$  to 4.72). The highest ATT for democratic leadership behaviors was reported at the 10% level (ATT = 3.45,  $\Gamma = 4.72$ ) — approximately 21% higher than for the non-gankers. Compared to predominant supporters, predominant gankers showed a similar increase in democratic leadership behaviors. The doubly

robust estimation also confirmed the results that democratic leadership behaviors (Coef. = 0.65 to 0.95,  $p < 0.001$ ) are significantly stronger as predominantly ganking gaming experience increases. Hence, hypothesis H<sub>3</sub> cannot be rejected because game players who predominantly practiced the ganker role exhibited stronger autocratic and democratic leadership behaviors.

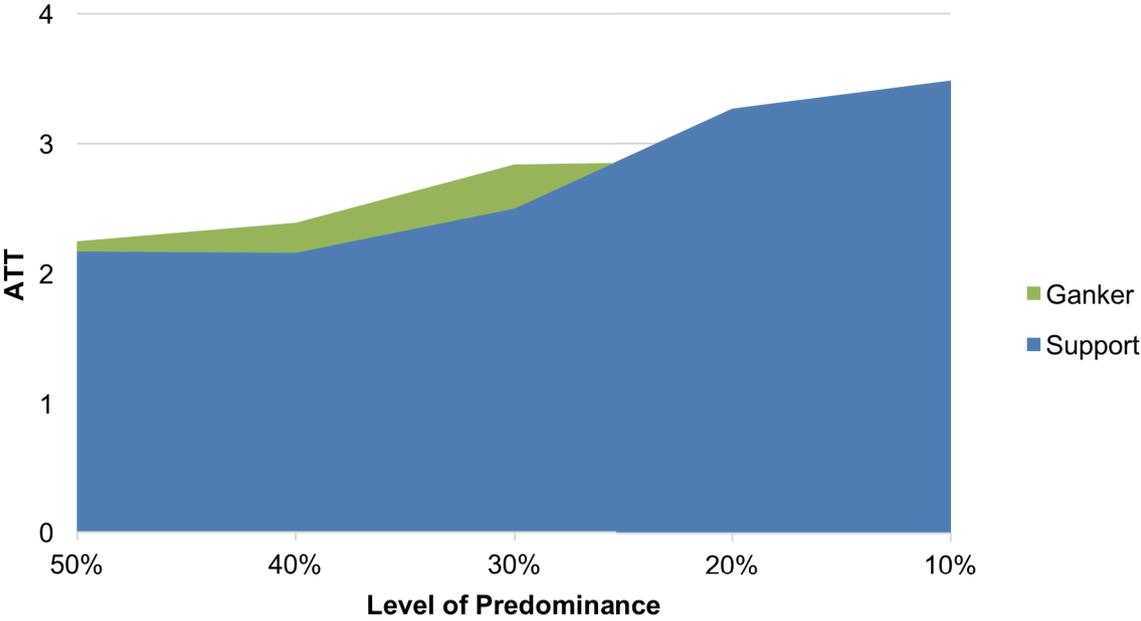
By contrast, both the PSM outcomes and the doubly robust estimation reported a negative influence of the ganker role on laissez-faire leadership behaviors. According to the PSM results, predominant gankers displayed weaker laissez-faire leadership behaviors (ATT = -2.45 to -3.67,  $\Gamma = 2.97$  to 5.63). The weakest ATT was reported at the 10% level (ATT = -3.67,  $\Gamma = 5.63$ ), or approximately 31% weaker than the non-gankers' average laissez-faire leadership behaviors. The doubly robust estimation also confirmed the decrease in laissez-faire leadership behaviors as predominantly ganking gaming experience increased (Coef. = -0.71 to -1.03,  $p < 0.001$ ).

**Figure 7.2 ATT for the Autocratic Leadership Style**



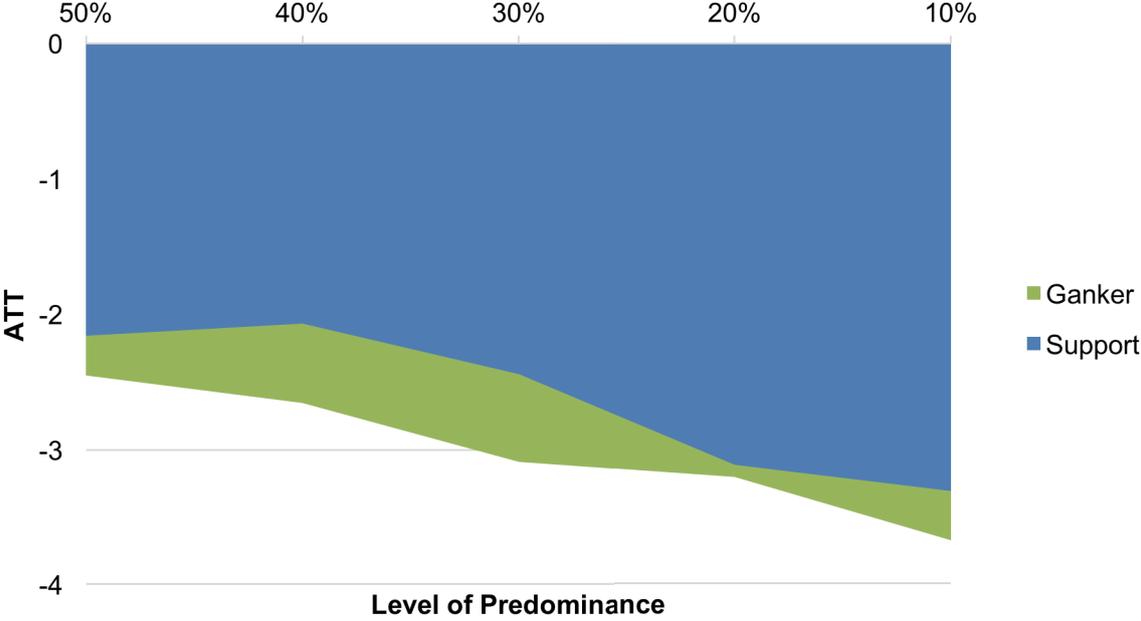
Source: Designed by the author.

**Figure 7.3 ATT for the Democratic Leadership Style**



Source: Designed by the author.

**Figure 7.4 ATT for the Laissez-faire Leadership Style**



Source: Designed by the author.

## 7.4 Discussion

The results of the quantitative analyses have provided statistical evidence that playing MOBA games influences the development of leadership behaviors. Through the similarity of the core behaviors and situational control scenarios shared between the two worlds, game players are offered the opportunity to practice and learn leadership skills under the situational priming and social learning framework.

In particular, game players can strengthen their autocratic leadership behaviors by continuously playing the carry or ganker roles. Notably, the ganker role yields more effective results than does the carry role. However, predominantly playing the carry role may impede the development of democratic leadership behaviors because these behaviors contrast sharply with the carry role. By contrast, democratic leadership behaviors can be enhanced by playing the support and ganker roles, with the support role yielding more effective results. Although none of the game roles studied promotes the development of the laissez-faire leadership style, predominantly playing the support and ganker roles can impede the development of laissez-faire leadership behaviors. The rationale behind this phenomenon is the laissez-faire leadership style's unique characteristic of being detached from the group (Eagly et al., 2003; Goodnight, 2004; Lewin & Lippitt, 1938; Lewin et al., 1939), or the absence of leadership (Avolio et al., 1999; Derue et al., 2011; Einarsen et al., 2007). Laissez-faire leadership is not congruent with the design of the game since it requires solid teamwork. Therefore, game roles that require team interactions and attachment to the team do not promote — and may hinder — the development of laissez-faire leadership behaviors. This implies that MOBA games are more useful for cultivating tighter team awareness in immature teams.

Leadership development occurs through learning and adapting leadership behaviors from continuous practice of specific game roles in a virtual leadership environment similar to that of the real world. At a minimum, game players should achieve a moderate level of game skills to benefit from gameplay, whereas the quantitative estimates suggest that playing roles at the expert level (at approximately the top 10% level) is most effective for leadership learning.

The sustainability of one single leadership style has been significantly challenged in the modern world, and some have argued that mixed leadership qualities make for better leaders (Goleman, 2000). In this regard, a combination of leadership styles is potentially achievable

through gameplay. For instance, prominent autocratic leadership style holders may challenge their usual gameplay habits by playing the support role rather than either the carry or the ganker roles. In this way, game players can experience the characteristics of different leadership styles through gameplay, and learn to adopt the shared traits and behaviors gradually in reality.

It should also be noted that this positive causal relationship between gameplay and leadership development was derived from game players who were probably unaware of the in-game leadership environment or its relationship to real-world leadership styles. If game players played games not only for entertainment, but also recognized them as a didactic tool, they might enhance their leadership behaviors more effectively. Mindfully practicing leadership through games should yield better results than unmindful gameplay (Bandura, 1971; Gackenbach & Bown, 2011).

## **7.5 Conclusion**

This observational study on the effects of gameplay on leadership development has concluded that gameplay has positive influences on players' leadership behaviors, particularly with regard to those with autocratic and democratic leadership styles. This conclusion supports Yee's (2006b) statement that game players can derive leadership skills from virtual environments. The findings also extended the understanding of in-game role-playing's effects on players' behaviors (Yoon & Vargas, 2014), because this study explored specific leadership behaviors more deeply. The leadership development benefits achievable through gameplay are feasible because online games offer a simulated leadership environment that is similar to that in the real world (Reeves et al., 2007). The in-game leadership environment allows players to interact with other human players, which increases their opportunities to practice leadership skills by using the characteristics that the game environment shares with the real world. Therefore, online games can be used as didactic tools to provide their players not only with a leadership environment, but also with a stage on which to explore and practice their leadership skills, ultimately contributing to their developing leadership behaviors and styles.

This chapter has explored and deepened the understanding of real-world leadership factors that coexist in video games, such as leadership environments, leadership styles, and game roles. The chapter's findings have also supplemented the limited knowledge concerning how

leadership behaviors can be developed, and have shed light on new possibilities for enhancing individuals' leadership behaviors in the modern world. It should be noted that the games studied in this research were not games designed specifically for leadership development. Nonetheless, they still offer players potential benefits. Thus, video games deserve further academic attention, particularly regarding their potential benefits for human behaviors. This study's findings were made only in connection with MOBA games. It is highly recommended that future studies expand research into less-studied game genres, namely genres other than MMORPGs. As online gaming continues to exert influences, its potential gains can be emphasized and improved in future generations of video games using the finalized theoretical framework of this study. Thus, video games will not be a negative influence, but will be a valuable investment for society.



## Chapter 8

### Video Games as a Didactic Tool

The three phases of empirical analyses — the applicability of leadership behaviors, the relationship between leadership styles and game roles, and the development of leadership behaviors through game roles — have produced positive results that provided an insight into how video gameplay impacts on game players' leadership behaviors. The key findings of this study have provided answers to the research questions proposed in Section 1.1. These answers contribute to the gamification and social scientific knowledge. It has also derived implications for mainstream game players, video game developers, and a provided a peek into the future trends in the video gaming evolution. The findings of this study and its theoretical framework will be most valuable as a foundation for the future development of beneficially oriented video games.

#### 8.1 Discussion of Key Findings

The empirical analyses conducted in Chapter 5 – Chapter 7 have reported promising results that suggest the potential of video games as a didactic tool for influencing leadership behaviors. This study has explored the behaviors associated with the leadership of Thai game players in both real and MOBA game environments.

##### 8.1.1 Behaviors Associated with Leadership Are Applicable Across Cultures and Platforms

An investigation of the applicability of leadership behaviors in real worlds in Chapter 5 affirmed that MOBA game players in Thailand recognized the leadership styles defined by Western literature; thus, RQ<sub>1.1</sub> is confirmed. This is in line with Yukongdi's (2010) conclusion that leadership behaviors are transferable across different cultures, and supports the proposition that leadership is a universal phenomenon (Bass, 1996). Such an implication also extends to leadership behaviors in the virtual environment of MOBA games, observable via game roles. It was found that game players in Thailand use MOBA games roles in the same way that Western game players do. Therefore, RQ<sub>1.2</sub> can be confirmed, and MOBA game roles recognized by Western game players are indeed applicable to Thai game players. It is also empirically evident

that behaviors associated with leadership are applicable across cultures and platforms, thereby resolving RQ<sub>1</sub>.

These findings support the proposal that leadership is a universal phenomenon (Bass, 1996; Dorfman et al., 1997; Yukongdi, 2010). This conclusion, however, differs from the works of Bass and Yukongdi, as it has extended the implication of leadership universality beyond the real world into the online environment. Furthermore, this study also differs from the aforementioned studies since it focuses on a much younger demographic with no working experience, and is not business or corporation oriented.

### **8.1.2 There Are Positive Correlations between Leadership Styles (Autocratic, Democratic, and Laissez-faire) and MOBA Game Roles (Carry, Support, and Ganker) Exhibited by Thai Game Players with No Work Experience**

The applicability of the leadership behaviors in both the real world and in the MOBA game environment in Thailand has made it feasible to examine the connections between leadership styles and game roles. The positive correlations between game roles and leadership styles reported in Chapter 6 have established the relationship between the two worlds. It was found that game players who adopted carry role were more likely to possess the autocratic leadership style (RQ<sub>2.1</sub>). Game players who use support roles are more likely to possess the democratic leadership style (RQ<sub>2.2</sub>). Game players who adopted the ganker roles potentially retain both the autocratic and the democratic leadership styles (RQ<sub>2.3</sub>). In addition, game players who adopted jungler roles, as well as those who did not adopt any particular roles, were more likely to possess the laissez-faire leadership style. Hence, the answer to RQ<sub>2</sub> can be confirmed — there is a positive relationship between the game roles adopted and the leadership styles that are identified within the sample data. This relationship is explained by the similarity of in the key leadership behaviors of both the real-world and the MOBA game environments. Game players exercise these common key behaviors during game play under the in-game situational control scenarios that are similar to those in the real world. Therefore, game players are provided with opportunities to experience and practice leadership behaviors that share common traits with real-world circumstances that require leadership skills. This cycle of practicing leadership behavior through gameplay therefore fosters an individuals' leadership development in the real world.

The findings regarding the relationship between specific styles of leadership and game roles are added to the literature by Yee (2006b) and Jang and Ryu (2011), who discussed the in-game leadership experience in a more general sense. This study was able to explore the more specific behaviors associated with leadership because of the video game genre it examined. Unlike the mainstream academic focus on MMORPG, this study chose the MOBA game genre, which has a more defined leadership environment and a clearer identification of leadership roles.

### **8.1.3 The Use of MOBA Game Roles (Carry, Support, and Ganker) Can Strengthen Leadership Behaviors (Autocratic, Democratic, and Laissez-faire) of Thai Game Players with No Work Experience**

Building on the established relationship between game roles and leadership styles, Chapter 7 conducts an extensive non-experimental study of the effect of game role practice on leadership behaviors. The findings have provided empirical evidence, which concluded that predominant role users exhibited leadership behaviors more strongly than those who did not. Specifically, predominant carriers exhibited autocratic leadership behaviors significantly more strongly than did underperforming game players (RQ<sub>3.1</sub>). Predominant supporters exhibited democratic leadership behaviors that were significantly stronger than were those of underperforming game players (RQ<sub>3.2</sub>). Predominant gankers exhibited autocratic leadership behaviors significantly more strongly than did underperforming game players (RQ<sub>3.3</sub>). Note that the use of the ganker role showed more pronounced results for autocratic leadership behaviors relative to the carry role. Predominant gankers exhibited democratic leadership behaviors significantly more strongly than did underperforming game players (RQ<sub>3.4</sub>). All of these predominant role users (carriers, supporters, and gankers) exhibited laissez-faire leadership behaviors to a significantly lesser extent than did underperforming game players (RQ<sub>3.5</sub>). These findings led to a conclusion for RQ<sub>3</sub> that the use of MOBA game roles can strengthen the leadership behaviors of the sample studied.

Although these findings cannot deny the possibility that video games have negative influences affecting aggression (C. A. Anderson & Bushman, 2001; Sherry, 2001), it is evident through the findings of this study that beneficial aspects of playing video games do exist, particularly in those games categorized as eSports. The video games examined in this study have complex mechanisms that can be used to argue claims that video gameplay is anti-social

and causes social anxiety (C. A. Anderson, 2003; S.-K. Lo et al., 2005). The findings regarding these potential benefits can help to prevent the aforementioned deleterious effects of video gameplay by placing the spotlight on the didactic features of online games.

#### **8.1.4 Validation of the Theoretical Framework for Leadership Development through Online Gaming**

The results of the empirical analyses have answered the research questions and, most importantly, have justified the theoretical framework that explains the process of leadership development through online gaming. The framework has confirmed that leadership is universal, and that leadership in the real world can be characterized by leadership styles. Similarly, leadership behaviors presented in MOBA games can be identified as game roles (first phase). The MOBA game environment has situational control scenarios that foster the development of leadership. In these scenarios, game players are connected to their leadership behaviors through the use of game roles. The common key behaviors associated with leadership styles and game roles establishes the relationship between game players' behaviors exhibited in the two worlds (second phase). This relationship allows game players to adopt the key leadership behaviors through repetitive use of their game roles, thereby becoming familiar with particular leadership styles through the situations provided in the games. The game players will experience actions that result in victory as well as in failure that causes their defeat. Accordingly, successes are cultivated and continuously exercised, while they learn to avoid failures. Game players learn the prosocial values in MOBA game play through trial and error. Consequently, game players are primed with the successful behaviors they experienced via the game roles chosen. These behaviors overlap with specific traits in the leadership style corresponding to the game role; therefore, game players are in fact adopting and practicing certain leadership styles through their behavior in the games. It is through such a process that leadership can be developed by continual practice in gameplay (third phase). These three phases of the framework rationalize the results of the empirical analyses, and lead to the conclusion that video gameplay has a beneficial effect on players' leadership behavior and styles. Most importantly, one can also conclude that games can potentially be used as didactic tools for leadership training.

In fact, these findings are reinforced by studies in the field of neuroscience. A study published in the *Journal of Neuroscience* discovered that the more stimulating environment in

video games — known as virtual environmental enrichment — can improve game players' hippocampus-associated cognition (Clemenson & Stark, 2015). One of the video game genres that the neuroscientists experimented with included MOBA. The study concluded that video gameplay might provide meaningful stimulation for the players' brains. Another recent study used functional magnetic resonance imaging (fMRI) to examine game players' brain activity. This experiment concerning the effects of video gameplay on the use of strategy and the neural correlates of probabilistic learning discovered that game players demonstrate stronger performance in integration and higher cognitive control demands than do non-game players. The study concluded that video game players are better at processing their implicit memories (Schenk, Lech, & Suchan, 2015). The literature has explained scientifically that playing games repeatedly may allow us to maintain a stronger sense of cognition.

The findings of this study have added to the body of literature in that video games have remarkable potential as didactic tools for leadership development by truly developing our physiological abilities. Therefore, it is suggested that more research can be directed towards the study of how game designs may lead to the effective transformation of video games into a didactic tool. To this end, this study hopes to contribute these key findings as a point of departure for the discussion of future video game designs that should be aimed at benefiting personal character development and social advancement.

## **8.2 Developing Leadership Behaviors through Online Gameplay**

The final causal relationship established in this study concludes that game players can learn leadership behaviors from the game roles they play in DotA and HoN. By committing to one of the roles in games, players are exposed to an environment that forces them to bring out the best in these roles' abilities and, since these abilities coincide with leadership abilities in reality, the game players are repeatedly practicing leadership abilities while playing online games. Through this process, game players will learn the actions performed by the game role that are successful, thus being primed by these successful actions and results.

The game players may have been subconsciously practicing only the particular game role in which they feel most confident. Hence, they are only experienced in the behaviors of the leadership style that corresponds to the particular game role. This decision does not promote

diversity, and may promote a single style of leadership that the individuals already possess. However, modern society requires leaders with multiple or combined leadership qualities in order to cope with people who have different backgrounds and personalities, and with various competitive situations in the real world. As previously deliberated in the discussion in Chapter 7, *Gameplay Effects on Leadership Behaviors* (Section 7.4), developing a secondary leadership style is achievable (Gill, 2015) through practice and commitment to a different game role that corresponds to the desired leadership style. Shifting between leadership styles is not impossible, as the Great Man and trait theorists may have argued. Studies conducted by Fiedler and many other scholars have hinted that leadership styles may be adjusted depending on the individuals' given situations (Fiedler, 1967; Hersey, Blanchard, & Johnson, 2007). An example is the famous co-founder, chairman, and chief executive officer of Apple Inc. — Steve Jobs (1955 – 2011). Jobs founded the company as a laissez-faire leader, then exercised an autocratic leadership style as Apple experienced rapid growth. Regrettably, this leadership style was ineffective and consequently forced the company's board of directors to request his resignation. Nevertheless, Jobs returned to Apple with a revised democratic leadership style (Gill, 2015), and revolutionized the animation, digital publishing, music, personal computing, phones, and mobile computing industries (Isaacson, 2011). Other successful leaders with multiple leadership styles include Thomas Jefferson (1743 – 1826) — the third president of the United States, who possessed both autocratic and democratic leadership styles (Gill, 2015), and John F. Kennedy (1917 – 1963) — the 35th President of the United States — who possessed both laissez-faire and democratic leadership styles (Gill, 2015).

However, there were real-world cases in which extreme leadership reinforced violence. In other words, leadership skills are not automatically prosocial. In this regard, multiplayer online gaming is a social activity and there will be social consequences if excessive aggressiveness is displayed. If a game player were to exercise his/her leadership skills wrongfully and became too aggressive, the other team members may reject his/her leadership by ignoring the commands or simply quitting the game. These video game mechanisms allow players to abandon the excessive aggressive leader, which then result in a boring match or team loss.

Accordingly, game players are provided with the opportunity to practice behaviors associated with leadership in the environment of MOBA games. Online gameplay contributes

to leadership development through trial and error, as game players are encouraged to experiment. The players can choose to play their predominant game role to enhance the leadership style that they potentially possess. They may also challenge themselves by playing a game role in which they are inexperienced, and become familiar with the concepts and behaviors of the leadership style that associated with the game role. Nevertheless, regardless of the games they play, these benefits may only be achievable if the players can identify the aspects associated with leadership in video games.

### **8.3 Responses to Video Game Controversies**

It must be acknowledged that there are certain pitfalls in the design of MOBA games, which may cause toxic behaviors and short-term aggression. Team cooperation in MOBA games can turn into competition among teammates for the limited resources (Makuch, 2014a). Game players tend to react negatively to teammates' unexpected actions (LeJacq, 2015). The frustration that develops when facing difficulties or failure to overcome the challenges in games can provoke aggressive thoughts and behaviors on the part of the players (Przybylski, Deci, Rigby, & Ryan, 2014). However, these issues can be resolved through the future development of video games (Makuch, 2014b), as beneficial findings regarding games can turn video games into a valuable medium for social development.

In response to in-game violence, unlike shooter games (Counter-Strike, Battlefield, and Grand Theft Auto), which focus solely on killing in a realistic environment mimicking real-world behaviors (Gentile & Anderson, 2003; Lemmens, Bushman, & Konijn, 2006), MOBA games promote strategic thinking and team collaboration to achieve a mutual goal. They discourage solo playing and individual accomplishment, thereby having the characteristics of prosocial games (Gentile, 2011). Moreover, MOBA games are theoretically less addictive because the features that cause addiction, such as curiosity, role playing, belonging, obligation and collective rewards, are not the highlights of these games (Hsu, Wen, & Wu, 2009; Yee, 2006a). Furthermore, the game players themselves largely determine the games' circumstances because team cooperation and decision making are limited to the team's five members. Accordingly, cheating is highly discouraged, if not made impossible by the administration of other game players, thereby reducing the risk of players adopting cheating habits as a result of gameplay (Aboukhadijeh, 2011; Consalvo, 2007; Cooper, 2015; Information Solutions Group,

2011). Other negative aspects of gameplay, such as cyberbullying (Reuters, 2007) or aggression (C. A. Anderson et al., 2007), are serious concerns that prevent video games from being entirely beneficial. According to the theories of social learning and situational priming, game players adopting bullying behaviors and tormenting other players, or exhibiting aggression in gameplay, are not impossible. In this regard, recent studies have pointed out that cyberbullying is unlikely in online games (Mesch, 2009), and that in-game aggression is caused by players' frustration resulting from their incapability to win the games (Przybylski et al., 2014), not from the game content. Therefore, MOBA game content is not a direct cause of aggression. Nevertheless, MOBA gameplay may be an indirect trigger for players' frustrations. In MOBA games, players may not choose to play an easy, normal, hard, or brutal difficulty levels. Game players are not obliged to pass a particular obstacle or stage to reach the next level. Instead, players are encouraged to find alternative solutions by devising cognitive strategies to tackle the in-game obstacles. The possible frustrations are thus not a result of the outrageous difficulty of the games or the unreasonable gameplay mechanics. By contrast, challenges in MOBA games are highly contingent on the combination of each player's skill set and the effectiveness of team building in order to defeat his or her opponents.

Despite the fact that MOBA gameplay incorporates the characteristics of warfare, it has a closer resemblance to team sports (Riout et al., 2014). The MOBA game environment can be perceived as a sporting team with well-defined tasks and a clear mutual goal. The players are left to determine each other's skills and distribute roles accordingly. In a similar paradigm, MOBA gameplay revolves around balancing elements such as abilities and attributes of each game character. Regardless of the potential harm, these prosocial features give MOBA games the highest potential as didactic tools for leadership development.

#### **8.4 Play It Right**

Video games offer real-world benefits, including but not limited to attention and concentration (Greenfield, DeWinstanley, Kilpatrick, & Kaye, 1994; McGonigal, 2015), creativity (Jackson et al., 2012), critical thinking, problem solving (Rieber, 1996), social learning (Coyne, Padilla-Walker, Stockdale, & Day, 2011; Silvern & Williamson, 1987; Tear & Nielsen, 2014), team building, and leadership (Ellis et al., 2008; Nuangjumnon, 2014). Although it is evident that online games can play an important role in leadership development, there are important points

that must be highlighted with regard to how online games should be played to enhance the learning experience while avoiding negative effects. Online games are one of many sources of leadership experience, and can be the first experience in which leadership skills to emerge. Nonetheless, this study does not conclude that individuals will become great leaders in society merely by playing video games. It is strongly advised that game players be aware of the potential harm video games may cause, as well as the feasible benefits of gameplay.

#### **8.4.1 Manage Frustration**

Researchers have discovered that game players' feelings of frustration regarding difficulties in video game are the cause of aggressive behaviors (Przybylski et al., 2014). Being completely stuck in a stage, in a battle with a particular opponent, or being unable to achieve quests in games are typical examples of challenges that intensify frustration. These obstacles are built into gameplay to provide a certain level of player engagement and to give meaning to in-game victory (Paul, 2010; Stuart, 2013). Frustration is an equally valuable part of the gameplay experience, and players must be aware of it and learn to overcome it. Game players should be able to enjoy even the most difficult challenges and be open-minded regarding alternative solutions as they master aggression control during the process. Reality is replete with frustrating situations with real consequences. In this regard, video games provide an early opportunity, especially for young game players, to practice coping with frustration without severe consequences. Just as failure exists in the real world, each and every loss in a video game opens doors to learning opportunities and compelling life lessons (Brasco, 2015; Dimitrijevic, 2015).

#### **8.4.2 Mindful Gameplay**

Playing games with the awareness of their potential harm allows game players to benefit more from gameplay through self-observation. This study highlighted how game players can gain deeper knowledge about themselves via their gameplay behaviors. For instance, a mindful gameplay enables players to identify their most competent game role (Gackenbach & Bown, 2011), which is linked to their potential leadership style. They may also discover which game role works to their disadvantage and gain insight about the lacking (leadership) skill set that needs to be practiced. In this way, they can learn the key contributing factors that led them to victory or defeat. Video games can teach such lessons, as they allow individuals to explore their

real-world behaviors, strengths, and weaknesses through game characters inside a secure, simulated environment. This is an example of the potential benefits that can be reaped from video games if players are equipped with a desire to improve and a mindset that can learn from the success or failure of their actions.

The potential benefits of video games are not limited solely to its players. Observers may also experience video game benefits that are similar to those of the players (Yoon & Vargas, 2014). In addition, parents can take advantage of video games via an in-depth observation of how their little ones play in order to better comprehend their children's personalities. Researchers insist that parents should play video games with their children (Crawford, 2013; Needleman, 2015). Playing games together creates opportunities for parents to insert teaching moments (Shapiro, 2013b) and to bond more closely with their children (Coyne et al., 2011; Crawford, 2013). In the case of MOBA games, parents can learn more about their children's leadership orientations by observing the roles they adopt in games. A child may frequently play a carry game role and rarely show supportive actions. Accordingly, the child has a tendency to have an autocratic leadership style, while lacking democratic leadership skills. Parents can provide guidance to strengthen the child's predominant leadership style, or can assist with the development of democratic leadership qualities. Learning processes in both real and virtual worlds require breaking out of a comfort zone (Brown, 2008; Henry, 2013; McCauley, Van Velsor, & Ruderman, 2004; Pink, 2011). It is thus essential that parents encourage their children to experiment by using different game roles. Exploration of the in-game challenges can stimulate the development of (leadership) skills that are necessary to master each game role.

It is highly recommended that parents take advantage of children's playtime, instead of forbidding them to play video games altogether. Parents should spend some time playing games with their children, either cooperatively or competitively. In this way, parents can gain insight into video game content and mechanics, thereby allowing them to evaluate the appropriateness of the games that their children play. The effectiveness of game-based learning can be maximized if parents join their children's world.

### **8.4.3 Business Management**

Patanapongchai — a successful co-founder and COO of Thailand’s leading online game service provider — claimed that he was able to bond more closely with his subordinates through video gameplay. Observation of in-game behaviors is his strategy to get to know more about the subordinates’ personalities and critical thinking skills. Patanapongchai stated that he permits all employees to play collaborative games during working hours. This is not only to relieve stress, but also to create opportunities for him to observe interactions among employees during gameplay. Patanapongchai explained that he looks for improvement in communication, group collaboration, strategy execution, decision-making processes and other observable factors that might provide insight into the employees’ competencies. Subsequently, he would implement his learnings into real-world work situations, such as team building and task delegation. Patanapongchai concluded that utilizing video gameplay as a means of communication is an effective strategy for his company, and this can apply to any game players (Patanapongchai, 2012).

Contemporary multinational workplaces increasingly execute virtual teaming; thus, personnel equipped with leadership skills under virtual environments are highly valued. In this sense, multiplayer online game players are better prepared for. In fact, game players are already being recruited as future drone pilots by the US officials. This is because game players have a skillset, unique to a conventional military physique, that are required to be drone pilots (Breedon II, 2013; Hendrickson, 2015).

### **8.4.4 Choose the Right Games**

As with other types of mass media such as books, music, or movies, video games come in various genres, with a wide range of qualities and ratings. There are good video games among the worst, and they are rated for everybody to adults only. Choosing an appropriate game to play, either for oneself or for loved ones, is the imperative step in order to benefit from a video game. The MOBA games examined in this study, DotA and HoN, are small examples of the better games. MOBA games provide opportunities for players to implement critical and strategic thinking skills, as well as team building and leadership-skill practice. One way to spot beneficial game content is to identify the level of intellectual challenge required during

gameplay. Video games that engage players' intellect via analytic and strategic thinking, problem solving, or team building are potential candidates for beneficial games (Shapiro, 2013a). On the other hand, if the games only promote nudity and graphic violence, yet fail to trigger critical thinking, then such games probably offer nothing more than mere entertainment. It is advised that game players should never sacrifice their social life for temporary enjoyment. The choice of whether to play intellectually challenging or entertainment-oriented video games is ultimately up to the players. Nonetheless, game players must be mindful of what they are playing, and ensure that they are not being played by the video games.

### **8.5 Game Developers' Social Responsibility**

Game developers have a social responsibility, as they are increasingly important drivers of the mass media (Yousafzai, Hussain, & Griffiths, 2014). It is crucial that game developers are aware that their audiences are younger and more diverse than ever before. The Entertainment Software Rating Board (ESRB) attempted to address the age diversity by assigning ratings to video game content. However, the existence of the rating assignment has not solved problems regarding inappropriate game content falling into the wrong hands (Dill & Dill, 1998; J. B. Funk & Buchman, 1995); furthermore, it does not address online interactions (ESRB, n.d.). Games rated adults only are unfortunately played by children, either through lack of awareness, carelessness, or illegal means (Gan, 2014; Hill, 2007). Therefore, the development of video games that present extreme violence or provoke negative social values should be halted. Game developers must be more careful of the impact their products can have on future generations, and make contributions with a commitment to social responsibility.

Game developers should also bear in mind that the virtual world is connected to the real world with regard to both negative and positive aspects. Many researchers have emphasized video games' tendency to cause negative behaviors, such as frustration (Przybylski et al., 2014), addiction (Grüsser et al., 2007), anger, aggression, and violence (C. A. Anderson & Bushman, 2001). Nevertheless, gameplay has also proven to be beneficial for the development of crucial real-world skills, such as innovativeness (Jackson et al., 2012; Manninen, 2001), problem solving (Rieber, 1996), decision-making competency (Blank, 2010; Dawson & Caird-Daley, 2009), and leadership. Therefore, taking such potential benefits into consideration, together with choosing the appropriate guidelines for video games (8.4.4 Choose the Right Games),

game developers should make more effort concerning the research and development of video game content, placing heavy emphasis on the potential benefits instead of entertainment value or commercial profitability.

This study has contributed a leadership development framework (Figure 3.4, *Gameplay Influences Leadership Behaviors through Situational Priming and Social Learning*) that can be implemented in video game design. Similarly, academia has provided knowledge capital dedicated to gamification (Rice, 2010), of which developers can take advantage. Game developers thus have the capability to design video games that are intellectually challenging and promote social learning. A successful game design "... involves system-based thinking, problem solving, collaboration, art, storytelling, and digital media literacy" (Gamestar Mechanic, n.d., para. 2). Video games may not have addressed social issues effectively in their current state, but they can be improved to become a highly effective tool for game-based learning following continuous dedication. The advancement of video game technology can potentially offer players risk-free virtual platforms that encourage trials and failure, thereby generating limitless learning opportunities and environments in which leadership can emerge. If video games are designed and developed using a benefit-oriented approach, they could become sustainable didactic tools for social advancement. Video games can revolutionize the way individuals learn, instead of being a genre that society condemns.

## **8.6 The Future of Video Games**

The popularity of eSports has attracted heavy criticism with regard to its impact on game players and on society. Many existing video games have glamorized infamous games mechanics such as excessive violent actions (Carnagey & Anderson, 2005), sexual themes, women as prizes (Sarkeesian, McIntosh, & Petit, 2015), drug use as a reward (Booker, 2008), and addiction (Grüsser et al., 2007). However, these are not essential mechanics that need to be incorporated in future game designs. The video game industry is immature and lacks social responsibility (Conditt, 2015a), but it is advancing rapidly, and in a positive direction. Many indie game developers have become more aware of the social controversies and negative criticism. Accordingly, they are working on revolutionizing the industry by designing video games that reflect real-world social issues ("Games for Change," 2004; Weiss, 2015).

Examples are free-to-play video games, such as *Decisions That Matter* (2015), which aim to send messages that counter sexual harassment (Carnegie Mellon University, 2015), and *Final Girls* (2015), which portrays real-world traumatic events and how each game character overcomes the trauma (Jones, 2015). Similarly, *Long Story* (2015) is about surviving the teenage years, as the game characters go through difficulties and experience building relationships (Gross et al., 2015). In this video game, players can experience traditional relationships between a boy and a girl, and debatably non-traditional relationships between two boys or two girls. *Tampon Run* (2014) attempts to de-stigmatize menstruation by replacing weapon battles and gun fights with the throwing of tampons (Gonzales & Houser, 2014). *Parable of the Polygons* (2014) is a uniquely designed puzzle game that promotes diversity in society. The game mechanics were based on the segregation model of the Nobel Prize-winning game theorist, Thomas Schelling (Hart & Case, 2014). These titles are a few examples of video games that discarded negative game mechanics while making contributions to society; consequently, they are brightening the future of the video game industry.

The rapid growth of the video game industry, together with the advancement of wearable technology, has expanded video game territory beyond the monitor screen. Virtual reality (VR) concepts and VR headsets were first introduced in the 1990s, but failed to resonate with the gaming community due to the large size and expense (Edelson, 2014). However, the years 2015 – 2016 are set to be exciting years for VR in terms of augmented reality (AR) and mixed reality (MR) wearable technologies. The immersive multimedia have excited game players and technology enthusiasts around the world. The announcements about HTC Vive (HTC Corporation, 2015), Oculus Rift (Oculus VR, 2015), and PlayStation VR (Sony Computer Entertainment, 2015) have prompted anticipation of how these head-mounted VR displays will revolutionize all industries, especially education, entertainment, and (electronic) sports. (Blin, 2015). VR technologies enable users to explore and interact with a 360-degree virtual environment. Users are offered a realistic, first-person perspective of being a virtual character. “Developers are attempting to create an experience beyond 3D glasses, headsets or wearables – they are creating the most vivid 3D experience that engages at a tactile and interactive level” (Edelson, 2014, para. 6). The VR headsets are “designed in such a way that users would find it difficult to tell the difference from what is real and what is not” (McKalin, 2014, para. 5). The

realistic experiences derivable from VR have delivered immense enjoyment as an educational tool (Buckley, 2014). However, it has also escalated concerns regarding how dissociative individuals may have difficulties distinguishing virtual reality from the real world (Aardema, O'Connor, Côté, & Taillon, 2010; Foreman & Korallo, 2014).

A general concept of VR is that it pushes users deeper into the virtual world, whereas AR technology attempts to blend virtual and real worlds by projecting animated content onto real-world objects. MR is the combination of both VR's and AR's key features (Johnson, 2015). Augmented- and mixed-reality products, such as Pokémon GO, a world-renowned role-playing game (The Pokémon Company, 2015), and HoloLens (Microsoft, 2015) engage users' interactions with a real-world environment. For instance, Pokémon GO attempts to bring Pocket Monsters, or the Pokémon, into reality via AR. Game players can search for Pokémon in real-world physical locations, then initiate battles and catch them all using smartphones (Ashcraft, 2015). Similarly, HoloLens will enable game players to use physical spaces and objects in the real world as stages or weapons in video games. Virtual-, augmented-, and mixed-reality technologies are expected to change how individuals interact with physical spaces and real objects, as well as revolutionizing social interactions. The innovations are without doubt a major technological breakthrough of the modern era (Edelson, 2014; Epstein, 2015). However, as the virtual world advances a step closer to colliding with the real world, it has raised concerns about the applications and digital contents that supplement the immersive multimedia. The utilization of VR-AR-MR as video game consoles can theoretically have a greater impact on players than ever before. The realistic experiences derived from immersive gameplay could intensify players' sense of presence in virtual environments (Hoffman et al., 2004; Schuemie, van der Straaten, Krijn, & van der Mast, 2001). Therefore, playing video games via VR, AR, or MR may escalate both the favorable and unfavorable effects of video gameplay on the players. Hence, video game developers must pay extra attention to the content of their future products. The same mistake of making video games that could lead to negative outcomes must never be repeated. The advancement of immersive technology is a valuable opportunity for game-based learning platforms. Video game developers could take advantage of players' sense of presence and engagement to maximize immersive learning opportunities by designing video games with an emphasis on its potential benefits, and an awareness of its hazards.



## **Chapter 9**

### **Conclusion**

This extensive study serves as evidence of an intricate relationship between video games and the leadership characteristics that game players possess. Online games have established a portal for game players to discover their potential leadership styles and to work towards developing effective leadership in everyday life. Through the use of an elaborate theoretical framework with multiple leadership styles, this study also extended beyond the general concept of leadership as a singular definition within the virtual world. Each unique game role generates different leadership styles for various individuals, and the way they act in the virtual world reflects their unlimited potential in reality.

The most important aspect of this study is the confirmation that MOBA games such as DotA and HoN are didactic tools waiting to be utilized by society. This sheds light on new possibilities for enhancing leadership development for adolescents by incorporating educational practices into the video games that are already part of their lives. Throughout the chapters, this study has established a framework for developing better video games tailored to the enhancement of real-world leadership skills.

Chapter 5, *Applicability of Leadership Behaviors in Real-world and Virtual Environments*, confirmed that the styles of leadership are universal; thus, these leadership styles are applicable to the socio-cultural environment of Thailand. Similarly, the game roles as defined through tasks, responsibility, and gameplay strategy, are also universal. Just as leadership styles can be applied to both Western and Thai populations, Thai game players adopt the game roles and their strategies in the same way that Western game players do.

Chapter 6, *Relationship between Game Roles and Leadership Styles*, established the relationships between autocratic, democratic and laissez-faire leadership styles and the carry, support, and ganker game roles, with an addition of the jungler game role. The games DotA and HoN and the real world are interconnected because of the common traits in both leadership styles and game roles, and the similarity between the situational control in the two worlds. The result of the empirical analyses has confirmed this relationship, and has shed light on the potential of gameplay as didactic tool for leadership development.

Correspondingly, Chapter 7, *Gameplay Effects on Leadership Behaviors*, explored the model established in Chapter 6 in more depth, but identified the causal effect that playing online games may have on leadership. The chapter finalized the theoretical framework for the causal relationship by incorporating the situational priming and social learning theories into the model. This framework for a causal relationship between leadership style and online gameplay was tested using a non-experimental method of treatment-effect estimation (predominant role utilization). The propensity score matching (PSM) produced a significant and positive result, thereby revealing that gameplay does indeed influence the development of leadership behaviors.

### **9.1 Limitations**

This study has explored micro-level leadership within MOBA game environments. Its implications do not extend to leadership in an organization (macro) or in a society (meta), due to the limited functionality of MOBA games. The framework of this study has been tested, albeit limitedly, in the socio-cultural setting of Thailand. The framework may need adjustment if it is to be implemented in international settings.

Although the video games studied highlighted potentially beneficial aspects, it is not implied that other games are equally beneficial. Video gameplay is one aspect of many areas that influence leadership behaviors. Therefore, this study does not suggest that individuals will become better leaders simply by playing video games. Potential benefits derivable from the existing games that were designed for entertainment purposes remain limited. Therefore, the games should not be directly implemented for leadership development in their current state. Moreover, the most efficient and effective hours of game consumption for the purpose of leadership development remains undetermined. The performance of each leadership as a result from being trained in eSports is still unknown. Excessive game playing may lead to addiction and interrupt fundamental aspects of social experience, whereas too little gameplay may not benefit leadership development at all. Hence, the findings of this study must not be overstated. A great deal of research is necessary to identify the most effective and efficient ways to utilize video games as a didactic tool for leadership development, but gameplay should never replace real-world social interactions.

### **9.1.1 Data Availability**

At present, eSports are gaining in popularity and attracting research interest, but it is still a burgeoning academic field that has not been fully developed. There is thus a limit to the scholarly resources that one can use as references. Many video games referenced in this study, such as the interview scripts published on the Internet, are non-academic and are written in relatively casual language. Moreover, many game players share their experiences and thoughts over the Internet while using aliases to maintain their anonymity. Accordingly, one could argue the reliability and validity of these sources.

Further difficulties arose from the data availability and the extremely limited number of recognized Thai professional eSports players, particularly those adopting the jungler game role. Although this study has found key commonalities in gameplay and leadership behaviors, the qualitative analyses were based on only six study cases, and only one case of the jungler role. Its implications are limited to professional eSports players because they are more strategic and have a stronger desire for in-game victory than do amateur or typical game players.

The targeted demographic of this study limits its implications to Thai individuals who are familiar with eSports. Respondents were younger individuals who were experienced with regard to globalization and who were familiar with modern technology. This study may produce different outcomes for individuals in a different age group or from another culture. Moreover, the involvement with adolescents and the self-report questionnaire may have affected the accuracy of the information obtained, because objective measures of gameplay and leadership behaviors are difficult to achieve. Future measurements of leadership and gameplay behaviors and the framework of this study must continue to be improved for even greater reliability while keeping up with the rapid advancement of video game content and changes in game mechanics.

### **9.1.2 Validity of Measurement**

The questionnaire designed for this study primarily targeted adolescent individuals. It was a self-report measure that was simplified to address the respondents' shorter attention span and patience. Word choices and the circumstances described in this questionnaire considered the maturity levels of the potential respondents. Questions that were formerly aimed at workplaces, businesses, and/or military settings (such as Fiedler's LPC scale and Bass's MLQ) were

amended for greater suitability for this study. Although it addressed the younger demographic appropriately, this approach came at the cost of the validity and reliability of the measurement. Although this study does not intend to conclude an exact estimation of behavioral changes, it is highly encouraged that the questionnaire be improved so it can serve as a precise measurement of leadership behaviors in both real and virtual worlds. This questionnaire, as well as other measurement instruments, should continue to be improved and updated to keep pace with the rapid changes in technology and in society.

### **9.1.3 Female Game Players**

There is a limitation regarding both the quantitative and qualitative data sets' gender representation, since only two percent of the respondents were female. While the majority of game players were male (Griffiths, Davies, & Chappell, 2004), the socio-demographic of the sample data does not proportionately represent a fair and unbiased view of female MOBA game players in Thailand. Unfortunately, it remains quite difficult to represent a truly proportionate population of online game players, especially with regard to gender diversity. This is complicated by the fact that many game players falsify their online identities, and their genders, during account registration (Griffiths, Davies, & Chappell, 2003; Patanapongchai, 2012). Thus, implications for females are not fully understood. Conclusions must be drawn with caution when female game players are discussed. It is crucial that future research seeks possible solutions to ensure the sample has a balanced gender distribution.

### **9.1.4 MOBA Game Genre**

Due to the limitation of the video games subjected to this study, the implications of the research findings are limited to the games categorized as belonging to the MOBA genre. This limitation arises because MOBA games offer unique gameplay experiences that favor leadership development. According to the theoretical framework of this study, these experiences include the game roles that parallel the characteristics of real-world leadership styles, situational control scenarios, prosocial interactions among game players, and encouragement of trial and error. However, video games in the other genres may be theoretically applicable if the games' mechanics offer the aforementioned leadership experiences. In this regard, video games that have fewer pro-leadership gameplay mechanics may be less beneficial for leadership

development. On the contrary, video games that expose their players to more intense leadership experiences may deliver more effective leadership development.

The carry, support, and ganker roles discussed in this study are merely major game role categories. MOBA players commonly possess multiple roles such as jungler, initiator, pusher and many other minor roles. However, these minor game roles are subcategorized under the umbrella of the three major game roles. The subcategory of game roles generally has more specific and strictly defined tasks when compare to the main roles. Those who exercise these game roles are typically advance or more experienced MOBA game players. Accordingly, there are limited literatures or gameplay guidelines discussing these minor roles. The definition of these roles are still ambiguous at this stage; thus, it is difficult to identify players of these minor role. However, minor game roles do not contradict with the theoretical framework developed in this study. All game roles should fit in the framework, provided that they share common traits and behaviors with real-world leadership styles.

#### **9.1.5 Scope of the Study**

The scope of this study focused on the Thai gaming culture, and the theoretical framework has only been tested in Thailand. It is highly encouraged that future studies extend their research scope to the rest of the Southeast Asian countries, such as Indonesia, Malaysia, the Philippines, Singapore, and Vietnam. These countries are considered the most important drivers of gaming revenue (Gaudiosi, 2015a). Southeast Asia is experiencing a rapid increase in the rate of high-speed Internet adoption (Internet World Stats, 2015; Magdirila, 2014), which facilitates the growth of the video game industry (Hause, 2013). It is expected that the region's video game market will double its revenue and will mirror China's growth (Hause, 2013; M.-A. Lee, 2014) in the foreseeable future.

#### **9.2 Recommendations for Future Research**

The findings of this study have concluded empirically that multiplayer online gameplay can be beneficial for leadership development. Thus, video gameplay is not necessarily a bad influence on game players. Exposure to unpleasant aspects — such as violence, aggression, addiction, and antisocial behaviors — can be controlled by choosing video games with prosocial content and limiting the hours of gameplay (McGonigal, 2011; Przybylski, 2014). Hence, the scale of

this debate is extensive and multifaceted. The potential benefits of video games discovered in this study open up new possibilities for future research. A possibility is identifying the optimal effectiveness of leadership development using video games. This aim is achievable with longitudinal data or an experimental research design.

While obtaining reliable longitudinal data was problematic for this study, this issue will become less pronounced as the rapid growth of the video game industry and the trend for big data continue. Accordingly, future studies can focus on collecting rich longitudinal data. Researchers should collaborate with the business sector (such as video game developers and online game service providers) to obtain longitudinal data on game players' virtual behaviors. Such collaboration would provide an opportunity to collect a richer data set and allows for more nuanced and sophisticated research models. This is evident from the article "The Untapped Potential of Virtual Game Worlds to Shed Light on Real World Epidemics" (Lofgren & Fefferman, 2007). Although this is not a collaboration, researchers were able to learn greatly from an unintentional in-game flaw triggered by the game developer's error. Valuable scientific data can be leveraged if researchers were to cooperate with game developers to recreate a similar incident intentionally for academic research purposes. This certainly concerns the research on video games and in-game leadership behaviors. More valid and reliable measurements for in-game behaviors can be achieved, thereby enabling comprehensive research in the field of gamification and social science.

Another approach is to develop a standalone video game based on the theoretical framework of this study, or to incorporate the framework into video game design. In addition to obtaining the longitudinal data, this would allow researchers to conduct experimental research or an observational study of game players' behaviors. Regarding the unethical research concern, the findings of the potential benefits of video gameplay have eased the concerns about the ethical issues in experimental research design. Potential physical or psychological harm can be decreased if the experiment were to be conducted using prosocial or benefit-oriented video games, along with controlling the duration of exposure. Accordingly, it is more acceptable for future studies to conduct experimental research on the effects of video gameplay. Future research could advance the present study by experimenting with the effect of game role utilization on game players' leadership behaviors. Researchers can recruit volunteers and

instruct them to play a certain role in MOBA games for a specific period while the researchers keep track of the changes in the subjects' behaviors. In this way, a realistic video gameplay effect can be assessed, and the most effective video game exposure could be quantified.

There is undeniably a need for more case studies to satisfy the claims associated with video game benefits. All future studies, particularly experimental research, should emphasize the potential benefits while being aware of the potential harm. Whereas this present study has succeeded in pinpointing video games' potential as didactic tools for leadership development, future studies should aim at answering the question of how to leverage video gameplay. It is recommended that researchers target the acquisition of richer and more valid data. Note that these data must be up to date, and must keep up with the rapid changes in video game design.

### **9.3 Overall Conclusion**

This dissertation has answered the question of how video gameplay can contribute to leadership development. It has shed light on the potential of using video games as didactic tools. Due to the interdisciplinary nature of this study, a contribution can be made to various academic fields. For instance, the findings contribute to the field of gamification in video game design and its positive impact on the industry of eLearning. It also contributes to the field of sociology through the findings, which confirm that leadership behaviors are universal within a small group or a simulated environment. Throughout the process of developing the theoretical framework, this study has explored the real- and virtual-world leadership characteristics in depth. It has affirmed that leadership and leadership styles are universal phenomena. Accordingly, the study has established the relationship between these leadership styles and game roles through the commonality of behaviors associated with leadership and the scenario control that the two worlds share. With close observation, game players may be able to identify their leadership orientation at a young age. Building on this established relationship, a comprehensive study discovered that video gameplay also influences the development of leadership behaviors through the situational priming of game roles and in-game social learning.

The most significant contribution that this study has achieved is the final theoretical framework for utilizing eSports as a possible way of developing and practicing one's leadership abilities. This framework has shed light on how SEL skills can be taught by highlighting the

beneficial features associated with leadership behaviors in the environment of MOBA games. Nevertheless, the application of the framework is not limited by the games tested. It may potentially be applied to other games in the MOBA genre, or video games that incorporate mechanics such as group collaboration, role assignment, and task delegation. Moreover, this framework can be used as a guideline for video game developers to follow. Considering the functions addressed in this framework, such as the characteristics shared with the real world, the similarity in the situational control, and encouraging social learning through situational priming, game developers will be able to develop video games that are specifically aimed at learning opportunities.

It must be stressed that not all games available today are equal. This study does not advise that all kinds of video games can be associated with one's personal character development or leadership style. Similar to a game of chess, the games that were studied in this study require rigorous and logical strategic planning for successful gameplay to occur. Chess is considered to be an intellectually challenging activity that has been proven to improve the player's logical thinking skills and to be beneficial for everyday life (Online College Courses, 2012; Weinhouse, 2001). The selected game genres in this study are also intellectually challenging games, in that they require strategic thinking similar to that in chess. Therefore, the concept that gameplay can be associated with influencing human development or behavior does not come as a surprise.

These conclusions contradict the currently available literature, which tends to present a comparatively negative view of video games and players' unpleasant behaviors. The development of educational video games aimed at personal character development is key to preventing negative controversies from giving video games a bad reputation. Too many children today have effortless access to various kinds of video games, regardless of their content. Therefore, the video game industry must realize its responsibility to society. The industry should take full advantage of this booming digital generation to promote intellectually beneficial video games in the market, instead of producing potentially harmful games. Without having to risk irreversible damages in real life, video gameplay can encourage in-game risk taking, and trial and error, which are fundamental aspects of the social learning process (Bandura & Walters, 1963). Further development of the theoretical framework for leadership

development through online gameplay may unlock the potential to mass-produce great leaders by triggering their sense of leadership from a young age. By adopting the proposed framework as an initial guideline, the video game industry can design a new genre of games to start a revolution in eLearning in the name of leadership development and social advancement.



## Interview Archive 1

### Meet Pongpan Deepromsuk — MiTH.Trust's Manager

Interviewee: Pongpan Deepromsuk

Interviewer: Rapture Gaming Network (RGN)

Date: January 9, 2011

Source: Meet Pongpan Deepromsuk - MiTH.Trust's manager (RGN, 2011a).

What's up guys! Today, I would like to present a variety interview with the manager of MiTH.Trust, one of the famous DotA teams in Thailand about his lifestyle and views. Check it out!

[1] RGN: Like everyone does, please introduce yourself :D

[2] Executionel2: Yeah, I'm Pongpan Deepromsuk just call me "Nuzz", 25 years old, manager of MiTH.Trust and "Executionel2" that's my log-in name.

[3] RGN: How did you become the manager of this team?

[4] Executionel2: In the first place, I know "Tri" (also known as TnK, team leader of Trust) and I was one of the fans who supported his team. When "P'beer" left the team for studies in university in another country, I asked Tnk to let me take care of managing matters.

[5] RGN: So this was when you started finding more media attention, as well as looking for sponsors for the team?

[6] Executionel2: Yeah, that's right. Trust's starting to has competitions in global and I can communicate with foreigners that's why he asked me to join with him. Actually we always play together but our goals are different. He wants to win all competitions and be the greatest player ever but I don't, I just want to play to relax. By the way, I love to do it.

[7] RGN: Now that you are always so busy, do you have time for gaming?

- [8] Executionel2: Sure, I do. I spend more time with other games like Team Fortress 2 and Football Manager and lots of game in PS3 and PSP such as a Monster Hunter.
- [9] RGN: If you aren't playing games. What else do you do?
- [10] Executionel2: I always exercise. I spend time improving my fitness and now I look good in photos. I love a car, actually I like Bigbike I was in a Biker Gangs (just joking lol I have some community about Bigbike). But I don't like night clubs.
- [11] RGN: Such a good man, really nice. What do you think about how different about average gamers and Hardcore Gamers?
- [12] Executionel2: Ohh, I'm no longer a hardcore gamer like I used to be. I could do anything for gaming no matter what, I could break up with my girlfriend, I'll talk back to anyone who underestimates gamers, I could spend the whole day gaming. Gaming is high-priority for hardcore gamers. It's the most important thing in their life and they don't give a damn about how people look at them, how friends and family complain about them. That's the perspective of hardcore gamers.
- [13] RGN: I realized you talked about love. What do you think is a reason why hardcore gamers don't have a girlfriend?
- [14] Executionel2: Like I said, they pay too much attention and spend a lot of time gaming and don't give a shit about other things. So the girls who fall in love with gamers should have to understand what kind of person her boyfriend is. A lot of gamers do not care about their looks and personality as well. That's why girls don't want to be with them.
- [15] RGN: And do you ever have this problem with your girlfriend?
- [16] Executionel2: I had some with my ex-girlfriend. She wasn't a gamer and didn't understand this but now my girlfriend is a gamer also lol. We understand each other. I can't force her to do what I want and I can't

pretend to be what she wants all the time, there's pros and cons about having girlfriend who is a gamer also. But if your girlfriend doesn't play games you will be ridiculous like kids.

- [17] RGN: You are no longer a hardcore gamer. So from your perspective, what does a hardcore gamer look like to you now?
- [18] Executionel2: It's just another activity like sporting, driving a car. They just love to do it like you love fishing, it's acceptable.
- [19] RGN: Do you have any advice or something to say with kids who are addicted to games?
- [20] Executionel2: I want to say Life is too short, why don't you try to go outside, get a life, meet more people and improve your social skills. I just want you to look for a future what's about 10 years later, 30 years later. If you've got nothing and no one else. No checkpoint, no restart, no exit in "LIFE". Don't be afraid to do something new. Don't be shy to talk with others. Gaming shouldn't be the whole picture you care about, so manage your time with games and other things. Good luck.



## **Interview Archive 2**

### **A Message from Captain Tnk of MiTH.Trust**

Author: Trai Akkaravinej [Tnk]  
Date: April 11, 2011  
Source: A message from captain Tnk of MiTH.Trust (Akkaravinej, 2011).

#### **I2.1 Hello I'm Trai Akkaravinej or Known in DotA Gamer Community as MiTH-Trust.TnK**

What I'm about to write concerns the story of setting up the Trust team and my history when playing DotA. There may be some mistakes or statements that may not satisfy you. I would like to take this opportunity to apologize.

I started playing DotA when it was Version 5.84c, which could be the version that only few of you have a chance to play.

#### **I2.2 How I Started to Play DotA**

I personally am a fan of the games with battle plan and have played many games such as Red alert, Warcraft I, II, and III. What makes it fun is the new Map Customs, relaxingly played until I came across a game name "DotA".

#### **I2.3 The First Time I Played**

The first thought that popped up in my head was this game is hard to play. The fortress attacked violently, and it only takes three to four hits to die. Since it's a game that required the players from both side, controlling unit with just one hero may cause terrible headache. So I started thinking that if many people are playing, the teamwork system can be introduced, and it happened to be true.

I then started playing it with a small group of about six to eight friends and not everyone can be playing every day leaving it unsatisfied. So I tried using Warcraft III online system to play the game and came across Battle.net during which time Dome[Th] developed it to access DotA with 50% of the Battle.net are DotA players playing public games started then.

Until The news of the launch of the DotA competition in the Kasetsart university area (there's an Internet cafe that I and my friends frequent) I don't remember where the competition was being held but I've heard that top teams in Thailand; nllg.Lf, nllg, gz, AGG will be attending and if not mistaken it's for AGG championship.

The light bulb in my head sparked that what place would I end up at if I complete and incidentally, I joint with someone I knew in a team called "siMz.Bkk" established by siMonz (Ake) I won't talk much into details, but I will try to credit these past players as much as possible (past players: IDEADl, Sunio, Tee, Jibz, TrInaKuB, Absencez). That was the start of my competition in DotA community.

When I entered the first online tournament, I was very eager with newly gained knowledge with the fin's craft collection skill second to none with the opportunity to play in the position of Center or as Solo Middle lane for the first time with really cool hero such as Sniper against Lone Druid of Nada (Four) Team Agg with me being out the first round from the competition of siMz team but I have to admit that it was exciting, pressuring and fun at the same time.

About a year after that, siMz team started to compete in many online competitions with the result keep getting better reaching the top with 16 teams completing offline. The first time I completed offline, I had a chance to see lots of good players at the front-row seat jaxkung, eqq, kssr of nllg.Lf or makgi, p0ng, terranz of nllg, gz or Takumaz, Nada of agg. The competition was extremely fun even though I was out during the last eight teams.

My first offline championship competition was on DotA at an internet cafe in the *Sarm yarn* area with popular teams attending. That time I was with my buddy's team "EFFC team" with Doy.stubborn, Super\_Skill, Lakelz, GonaZ, and TrInaKuB as the player at the time.

The system was established by Chrisza, if I remember correctly it was the first and only offline competition that was really fun. The first phase was with single elimination a Knock out game and the second phrase with only four teams left with a system similar to the league system.

Including my team, EFFC, being in the last four teams; nllg.Lf, nllg.gz, EFFC, and another team that I can't remember the name the competition result was all teams; lf, gz, effc having the same score. It was the first competition that I looked at myself beating team like nllg.gz and

finally, due to the limited time, we decided to split the price and end the competition resulting in all three teams being the champion of the competition.

Then the Trust team was established and led by BkEeEaR or Beer. Before Beer stopped competing, he had left good reputation for the team becoming a legend in the DotA circle which was the first Thai team winning up to 10 online championships for 10 months (with one competition being held per month).

Before leaving the competition to study and work abroad, he assigned Trust team to me TrInaKuB. At the time I was leaving siMz to join Trust after the invitation from Lakelz until Trust is what it is now.

#### **12.4 Team Establishment Guideline**

“One thing that I’ve learned from being the team captain after BkEeEaR was positive thinking and accepting opinion from others. Of course, DotA teams are similar to regular sport teams, that rely on coexistence and understanding the most. First thing for a team captain is to be calm and don’t use temper to make decisions alone.”

If we calm down and use reasons to talk with the team, the members will eventually understand each other and stick together for a long time. Second is to be on time and be responsible. Well I admit that I can’t even do this part well. I just happen to be a little too good at this good and that but I’d like to say that keeping the time is important because in competition and practice.

#### **12.5 Problems and Obstacles**

The problem that Trust faces most is the team and players’ performance drop, which can be dealt with regular practice and don’t use emotion to solve the problem. There are also problems with online games of course if we do not start competing seriously. Finding time to play games online seriously affects the lifestyle and the team organization. Many teams may have players experiencing the same thing. There’s no solution for this problem because we can’t force others to live their life the way we want, but we can set up a strict practice time and control the amount of practice so its up to standard, which might help a little. While the players in the team are

being crazy, another crucial problem is that our players are hot-tempered and aggression, which must be solved by always being calm and using reasons in discussion.

PS. If the captain cannot practice self-control, then how can he/she possibly controls others?

## **12.6 And It Will Be Little Tips for Players That Are Starting a DotA Team**

From my own thoughts and practice starting a DotA team to enter a competition, try asking yourself why complete in DotA game? Well for me, it's proving that both I and my team are good enough to be Thai DotA champion and world DotA champion in the future. Therefore, Trust team overlooks little issues such as times and rest to really compete. I want others to adopt this way of thinking. I think we can build a better eSports community this way. If all we want is to win or expect to win by a no-show, then your team won't become any better.

Finally, I'd to leave the answer to a question that I had been asked so many times, how did I make it to the championship this long? many of you may have heard the answer but believe it, it's the truth and the one thing that made what we are today, for Trust, it is the trusts we give among team members.

## Interview Archive 3

### Team MiTH.TRY: Girls Can DotA

Interviewee: Pinkle, GiiZ-, Byul\_, Jinny, Aunjii, and NV  
Interviewer: Rapture Gaming Network (RGN)  
Date: October 6, 2011  
Source: Team MiTH.TRY - Girls can DotA (RGN, 2011b)

Nowadays, games aren't just games anymore. It's a kind of activities. Anyone can participate no matter who you are. You guys have seen the inside scoop of PMS|Asterisk, the famous female DotA team from Singapore. So today I present you another female DotA team from Thailand, MiTH.TRY.

- [1] RGN: Hi, Let's get it started. Please introduce your team :)
- [2] Pinkle: Okay. Hi, I'm MiTH-TRY|Pinkle, the team leader. MiTH.TRY was founded on December 25th, 2009. It started on the day PMS|Asterisk came to Thailand for a friendly competition with Thai teams. The organizers of the event were seeking for female teams, so we participate. We won the competition two months ago and decided to form up a new DotA team, only for females. Many months have passed and some members have left the team for certain reasons. I had to find new players. Some members were introduced to us through friends. Then they were trained by members from MiTH.Trust. PMS|Asterisk inspired us to make this happen.
- [3] RGN: I found out "Jinny" (One of the famous Thai female gamers) was in your crew when it started.
- [4] Pinkle: That's right, but Jin mostly liked FPS rather than RTS. By the way, Jinny will be joining us in the competitions next month as a MiTH-TRY member.
- [5] RGN: To make things more interesting. I heard PMS|Asterisk'll be there for matches, is that true?

[6] Pinkle: Yes, they had just asked me if we are going to be in the competition. I want to compete with them. I think they will go to the exhibition (Big Festival) everyday but I'm not sure. They obviously have competitions in the first two days so if you guys want to see them, go to the event on October 6th to 7th.

[7] RGN: Nice. Can you tell us about your team members, their styles and personalities?

[8] Pinkle: Sure. MiTH-Try|Giiz (Nanny) plays semi-carry and solo mid style. I was lucky to have her in my team because she's very helpful to me. I don't have to tell her anything, and she always know what she has to do. She knows her part and duty. She always asks others for more opinions and she's a good listener. I think she can replace me and do everything for the team when the time comes.

MiTH-Try|Aunjii (Kook Kai) plays support and follow ganker. I think she fits these game roles because she's has low self-confidence. She's actually a good person. She's so very nice to everyone and she has high responsibility.

MiTH-Try|Byul (Tidtee) is solo and follow ganker player. She is very independent and has high self-confident. She can accomplish things on her own. She understands the team members, but there are more for her to learn.

MiTH-Try|NV (Var), Carry role player. She is calm and collected, and she can handle the climax of the competitions, but she also has a disadvantage. She doesn't spend time with us for practice. If she does, she can be better. She's youngest in our team. Sometimes I have to remind and warn her to watch her actions.

MiTH-Try|Jinny (Jin) people know her because she's so famous. She's our strongest player. If she joins a competition, she'll give us a higher

winning chance. She knows basic skills well and she understands the features of the team. She is open minded for new ideas.

MiTH-Try|Pinkle (Waii) It's me (laugh). I have been the team leader since the foundation day. I'm playing the lead ganker and supporter ganker. I have the most experience in gameplay and competitions in the team, so I think I am appropriate for this role. Lastly, I love cats (laugh).

- [9] RGN: What's your plan this year and in the future?
- [10] Pinkle: We have only one plan which is to become the 1st in DotA female team and provide entertainment to DotA society.
- [11] RGN: I remember you mentioned you wanted to do some league for DotA female team?
- [12] Pinkle: Yes, in fact Thailand has online leagues for female teams but I think it should be offline competitions. Guys want to see us in a real person, not virtually, isn't it?
- [13] RGN: What would you think the difference is from female and male gamers?
- [14] Pinkle: From the gaming perspective, I think there's no difference because we share the same goal. We want to become the winner. The difference is that females benefit from their body shape, patience and sensitivity. But men have more consciousness and agility comparing to than us. This could cause variations in gameplays.
- [15] GiiZ-: Males take it more seriously and look more professional than females. Females spent more time playing casual games just for entertainment.
- [16] Byul\_: I think men can do well in decisions-making.
- [17] Jinny: There's no difference in gender. It's the effort you put into a gameplay that matters.
- [18] Aunjii: Men are quicker in decision-making but females have their own unique styles that men do not.

- [19] NV: Yes, there are a lot of differences. Men can spend more time for practices. They always watch game replays, analyze and adapt them with their gameplay styles, while females have to take care of their beauty, go for haircuts wondering how she looks.
- [20] RGN: And how different are you from women who don't play games?
- [21] Pinkle: A lot. Nothing is the same. Normally women would spend time shopping, walking down the street, doing various activities, and spending more time chatting with friends, but that is not us. Female gamers are thinking of their life style, enjoying the games and having a good time with friends who understand and play games together.
- [22] GiiZ-: Anyway, we all are still women
- [23] Byul\_: I think it's the gaming we that do but women in general don't.
- [24] Jinny: Women in general are playing games for enjoyment only when they have free time or have nothing else to do but we are not.
- [25] Aunjii: I feel the same way as Byul\_
- [26] NV: Specifically, women in general think that gaming is bullshit and ridiculous.
- [27] RGN: So let's talk about love. Does gaming give u trouble with love?
- [28] Pinkle: It depends on you. People should have to fall in love with the ones who like anything you like. If not, then it means that you don't fit together and it's going to be troublesome one day.
- [29] GiiZ-: There's an effect on the time we have where we have less time so we can't look after each other like we should.
- [30] Byul\_: I do not play games 24 hours. So I don't have this problem.
- [31] Jinny: Love depends on the understanding of you and your lover.
- [32] Aunjii: I only felt screwed when he beats me in game, but in fact we never have this problem before.

- [33] NV: Males sometimes ask why I play games, and why don't I do something else. This ends with an argument and things get messed up.
- [34] RGN: What did you learn from being in MiTH-TRY?
- [35] Pinkle: Firstly, being team captain has shown me the sense of reliability I learned from others. Second is the experience from competitions, problem solving, learning from the team members, and adoption of new ideas. Thirdly, the most important part for being MiTH-TRY is that I have made a lot of friends. I have met good people from doing this.
- [36] GiiZ-: Cordiality, friendliness and much more.
- [37] Byul\_: We feel like sisters in the same family, and that is a good thing I've learn.
- [38] Jinny: I have gained new experience and getting to know a lot of good people.
- [39] Aunjii: Friends, friendship, family. Carefulness and domination in games
- [40] NV: I really like this question (laugh). I've earned the happiness and friendship from team members. Thank you everyone in team who have always taking care of me and teach me a lot of lessons. I will never regret being with MiTH.Try. Again, thank you.
- [41] RGN: Lastly, do you have anything to say to your fan club and supporter?
- [42] Pinkle: ESTC, Big festival in October 6th to 9th at Siam Paragon. We will have competitions with PMS|Asterisk and EVE, the leading teams from Singapore and China. There'll be a lot of cute gamers. If you want to meet us and MiTH.Trust, don't miss it!



## Interview Archive 4

### Interview with Tnk from MitH.Trust

Interviewee: Tnk

Interviewer: GosuGamers

Date: October 21, 2011

Source: Interview with Tnk from MitH.Trust (Dexter, 2011).

The only international team to grace the E-Sports Champions League (ECL), MitH.Trust is arguably Thailand's most prominent team in the scene with appearances at Gamescom, ESTC and this week's ECL. Talking on behalf of the team is their captain Tnk in a special interview live from the event.

- [1] GosuGamers: Hello, I am indeed very honored to conduct this interview with your team. Why don't you give us a short introduction?
- [2] Tnk: I'm happy to accept this interview from the DotA 178 crew. Hi, I'm MitH.Trust's captain Tnk
- [3] GosuGamers: How did you guys receive the invitation from the tournament organizers to attend ECL?
- [4] Tnk: Well, I met Danny previously at ESTC as he was accompanying Eve to the tournament. We had a small chat and ECL popped up in one of our conversations. With his help later, we managed to get the opportunity to attend the competition.
- [5] GosuGamers: Since you mentioned ESTC, what happened with your loss to Neolution in the semi-finals?
- [6] Tnk: Well, during that match, we had to play with a drop so it became 4v5. Regrettably, we lost.
- [7] GosuGamers: So do you still consider yourselves as Thailand's number one team?
- [8] Tnk: Yes. \*smiles\*
- [9] GosuGamers: Is this your first time in Beijing? What was your first impression?

- [10] Tnk: Indeed, it is my first time here, and I am very excited to say the least. Well, my first impression would have to be the temperature in Beijing — it's rather cold, haha.
- [11] GosuGamers: The World DotA Championships will follow ECL in a few week's time. Will the team camp in China until the competition?
- [12] Tnk: We won't. We chose to return to Thailand and wait for WDC to near us before we make another trip to China.
- [13] GosuGamers: What's your goal for ECL?
- [14] Tnk: We're looking to be champions, of course.
- [15] GosuGamers: Who will your strongest competitor be then?
- [16] Tnk: These two, obviously... \*points to the iG teams playing a training match on stage\*
- [17] GosuGamers: Have you heard about China's recent juggernaut team DK who took down three titles in a row?
- [18] Tnk: No, we have not. \*reveals startled expression\*
- [19] GosuGamers: Last year, your team managed a top eight at WDC. How about this year?
- [20] Tnk: Definitely, we are looking to improve on last year's results, but there will be many strong teams at the tournament, so all I can say is - we'll give it our best.
- [21] GosuGamers: Is your roster still the same as last year's?
- [22] Tnk: No, we have replaced three members. The only two members remaining from last year would be LK and myself.
- [23] GosuGamers: What are your thoughts on the new players?
- [24] Tnk: They are all very talented players, and also they're the reason why we're able to compete with the other top teams.

- [25] GosuGamers: I notice that your team members have all worn your Dota 2 jackets from Gamescom. Have you guys decided to make a complete switch to Dota 2?
- [26] Tnk: No, our practice depends on whatever competition comes next. Since WDC is right up after ECL, we will be concentrating on playing DotA instead.
- [27] GosuGamers: Who do you guys usually practice with?
- [28] Tnk: We mainly play against the Malaysian powerhouse duo MUFC and Orange.
- [29] GosuGamers: Are you willing to reveal your win rate with these teams?
- [30] Tnk: It's roughly 50%.
- [31] GosuGamers: Any last words?
- [32] Tnk: I just have one question, how is the weather like in Wuhan? We came unprepared last year, and one of our teammates fell down with a cold.
- [33] GosuGamers: I think it'll be colder than Beijing, so I would advice you guys pack heavy.
- [34] Tnk: Haha, thank you. Shoutout to all our friends, and we promise to play some good matches at this tournament.



## Interview Archive 5

### MiTH.Trust: Ready to Clash in World DotA Championship 2011

Interviewee: Nuzz and Tnk

Interviewer: Rapture Gaming Network (RGN)

Date: November 5, 2011

Source: MiTH.Trust - Ready to clash in World DotA Championship 2011(RGN, 2010).

RGN brings you an interview with Nuzz – the manager of MiTH.Trust, and Tri (aka Tnk) – their captain. RGN managed to catch them online just as they've returned from China. Let's see how they've prepared for the World Cup of DotA.

[1] RGN: Hi Nuzz, last time you said that MiTH.Trust team was packing for traveling to China from 10th to 26th October. Where did they go?

[2] Nuzz: It was ECL tournament, which had just finished couple of days ago. There were 4 participating teams (iG.Y, iG.Z, EVE and MiTH.Trust).

[3] RGN: Could you tell me more about this tournament? What was TRUST's achievement in this tournament?

[4] Nuzz: We win 3rd place by defeating iG.Z in the first game but then lost to iG.Y. This tournament was like an open house of iG.Y team. We were invited to the tournament only a week before it started.

[5] RGN: Hi Tri, how was your trip in China?

[6] Tnk: It was great. I always love going to China. The eSports atmosphere was so good there.

[7] RGN: How do you think of their facilities for competition? Anything different from Thailand?

[8] Tnk: A little different. In China, they have an eSports center for broadcasting and a lot of other things that Thailand does not have. But the competition atmosphere is the same.

- [9] RGN: In a few days, the WDC will kick off. How will the experience from ECL tournament help your team for WDC?
- [10] Tnk: ECL event certainly helps a lot. We have had a good competition with the 2 iG teams. They were very strong, but we have learned many lessons from those couple of games with them. It was a good preparation for us.
- [11] RGN: What do you think of the performances of iG.Y and iG.Z?
- [12] Nuzz: They are tough and determined. They always practice and analyze every game replay together.
- [13] RGN: Are you satisfied with the 3rd place title in ECL?
- [14] Tnk: (Laugh) No, I am not satisfied but not disappointed either. We wish we had done better.
- [15] RGN: I've heard that MiTH.Trust decided to compete in WDC 2011 instead of WCG AC 2011. Why did the team make this decision?
- [16] Nuzz: We prefer the WDC competition. They were the first competition to give us the opportunity on the international stage and the organizer impressed us. They took care of us so wonderfully. May I mention his name?
- [17] RGN: OK, sure.
- [18] Nuzz: He's Danny. He invited us and took care of everything since we arrived at the airport. He gave us a warm welcome. He is the one to organize this tournament and he didn't forget to invite us again.
- [19] RGN: Have you decided the roster for competing in WDC yet?
- [20] Nuzz: Yes, it's the same as ECL. I think our roster is stable, and we have found the right ingredients (laugh).
- [21] RGN: Could you tell me more about them, like names and their roles?

- [22] Nuzz: Tnk (captain) gank/support  
Lakelz carry  
l3nu solo/semi carry  
aabBAA semi carry  
ffy gank/support
- [23] RGN: Orange, Mineski and MYG.sg are also invited to WDC. What do you think of their chances in WDC?
- [24] Nuzz: Every team has a chance. It depends on their drafting. Orange team, for example, has always made surprising acts. But like I said, every team has the potential to become the champion of WDC.
- [25] Tnk: All teams are a very talented, so anything could happen in WDC. They are all very competent team of South East Asia.
- [26] RGN: How does your team prepare to face the strongest DotA teams in the world?
- [27] Nuzz: We try to practice more often with the international teams such as MUFC, Orange and others in RGC. We work harder and analyze more game replays.
- [28] Tnk: Just continue doing the same as we always do. We conduct bootcamps and discussions over the plans and strategies we practice.
- [29] RGN: Who do you think will dominate the WDC 2011?
- [30] Nuzz: iG.Z. They have always played well. They are determined and their strategies adaption is so fast since they are able to analyze all of their opponents.
- [31] Tnk: Most likely DK.
- [32] RGN: Right now, there are many games considered as the DotA 'next-generation' like LOL, HoN, Dota 2, and the closest is Blizzard DotA. What do you think of the future of DotA?

- [33] Tnk: Yes, since the Blizzard DotA has not released yet, Dota 2 will be the world's next generation of DotA. But in South East Asia, we still don't know, because HoN and LoL are growing here.
- [34] RGN: So if the upcoming tournaments will replace DotA by Dota 2, will you be happy with this change?
- [35] Tnk: No, but we can play both games, so we will be ready for any upcoming tournaments.
- [36] RGN: Do you believe your team will get a good result in the WDC?
- [37] Tnk: Yes of course I believe so.

## Interview Archive 6

### Dota 2 Malaysia Invitational: Pre-tournament Interview with MiTH.Trust Captain TnK

Interviewee: Tnk

Interviewer: Wei-Meng Lee

Date: December 16, 2011

Source: Dota 2 Malaysia Invitational: Pre-tournament interview with MiTH.Trust captain Tnk (W.-M. Lee, 2011).

I managed to catch up with Thai DotA team MiTH.Trust's captain Trai "Tnk" Akaravinak as they were checking into their hotel at the Kuala Lumpur Convention Centre this afternoon. It was a short, impromptu interview, but I managed to hear a little about the team's thoughts and feelings about the Dota 2 Malaysia Invitational tournament this weekend.

- [1] Lee: Which teams do you think will be your biggest challenge in this tournament?
- [2] Tnk: Mineski, Orange and MUFC, these three teams will be our biggest challenges.
- [3] Lee: Are you worried about Mineski because of their performance at last weekend's SMM?
- [4] Tnk: Yes, we actually just lost to them at SMM. As for Orange and MUFC, they have very strong lineups that are very effective. I think it will be very hard for us to handle them.
- [5] Lee: Did your team face any challenges in the preparation for this tournament?
- [6] Tnk: We did not have enough time to train a lot, but I think it's OK. We did have a bit of time to train together, we had a training camp too.
- [7] Lee: So how long did you manage to train for?

- [8] Tnk: Since we get back from SMM (last weekend), we had to take care of our home affairs and our studies in university. We only had time to train for about one week, but it was really a lot less than that.
- [9] Lee: Are you tired from last week's SMM? It was a major tournament after all.
- [10] Tnk: Yes, we are a bit tired.
- [11] Lee: Do you think that will affect your performance in this tournament?
- [12] Tnk: No, it will not affect our performance of course.
- [13] Lee: So tell us, what are you aiming for this weekend?
- [14] Tnk: Well, we always aim to be the champions. But I would say we're looking to get to the top four at least.

## Interview Archive 7

### MiTH.Trust and MiTH.TRY: Experience in WDC 2011, China

Interviewee: Lakelz, Pinkle, and Aunjii  
Interviewer: Rapture Gaming Network (RGN)  
Date: December 22, 2011  
Source: MiTH.Trust and MiTH.TRY - Experience in WDC 2011, China (RGN, 2011c)

MiTH.Trust and MiTH.TRY, two Thailand DotA groups, were invited to join in one of the biggest DotA competitions in the world, the World DotA Championship 2011 (WDC 2011) which was held in China last month. So RGN tried to keep them closer to make a new interview. Unfortunately, we had to do the interview at night before they went to Malaysia for SMM, so we had not much time and TnK couldn't join into this interview. Today, we're going to show you the interview with Lakelz, one of the famous DotA players from Thailand, joining along with us are Pinkle and Aunjii from MiTH.TRY DotA female players.

[1] RGN: Hi, you guys are so famous, so I think we don't need to do the introduction part anymore. Let's get started! Can you tell me about competitions in WDC 2011?

[2] Lakelz: First, I have to tell you that WDC 2011 only sent invitations to the great teams from around the world. Every team that got invited is so strong and has individual styles. Sometimes their gameplay styles and tempos seem similar, but their choice of heroes determines the differences. I wanted to play with DK, event though they were split after WDC 2011. I just want find out who will be the winner if we were to compete with one another. We can't underestimate other teams as well. Like I told you, they're all so strong.

[3] Pinkle: I think Trust was in the strongest group because they were in the same group with Na'Vi (Na'Vi is the world champion of Dota 2 The International) and iG.Z — the team they have met before in ECL. But in fact, Trust wanted to be in the same group with Na'Vi since the start.

- [4] Aunjii: I think our team was in a strong group too because we know nothing about our opponents.
- [5] Pinkle: Yes, we know nothing. But they know a lot about us because they were able to watch our replays from ESTC 2011 and analyze our gameplay style. Honestly, I think we are going to have to get through this with our confidence.
- [6] Aunjii: That's right.
- [7] Lakelz: We gained nothing from these matches. We knew our weakness spots and we knew why we lost, but we just can't figure it out. We can't eliminate these weaknesses, and we don't know how to improve our teamwork.
- [8] RGN: I notice Tammy Tang from PMS.Asterisk\* had come to play with TRY in this event. Why is that?
- [9] Pinkle: Giiz- was facing problems caused by the flood and her parents were worried about her, so she was not able to join us. We didn't have much time, so I asked Tammy to join us. She was fine with it.
- [10] Aunjii: Obviously, Tammy has played with us a few times.
- [11] RGN: I think she looks like such a nice girl.
- [12] Pinkle: Yes.
- [13] Aunjii: She's so nice.
- [14] Pinkle: She's so friendly to us. When we were there, she helped us out everything.
- [15] Aunjii: She helped translated everything into English and translated our words into Chinese to cope with the understanding issues. At the moment, she is trying to learn the Thai language too.
- [16] Pinkle: Yes, she's good at it.
- [17] RGN: How about this trip in China?

- [18] Pinkle: I felt so excited at the beginning because it was our first time to participating in an event taking place in a foreign country. We arrived there when the weather was so cold. The food was good.
- [19] Lakelz: We have learned things from every competition we were part of. We learned new lessons and experiences. It was worthwhile to go there.
- [20] Aunjii: I felt excited too. I have learned new things. Right now, China reminds me of noodle.
- [21] Pinkle: Chinese food is so delicious. Toilets in China were like what Note Udom described in one of his stand-up comedy.
- [22] Aunjii: I think crossing the road in China was so exciting but too dangerous.
- [23] Pinkle: You will feel like you get one level up when you have done that.
- [24] Aunjii: Do you know that every time I cross the road, I always had to have someone to lead me.
- [25] Pinkle: There were great staffs that took care of us. They were so impressive.
- [26] Aunjii: Agreed.
- [27] Pinkle: They can't communicate with us in English, but they had tried so hard. When we walked around or wanted to go somewhere, they always brought us to the places we wanted to go.
- [28] Aunjii: They also taught us Chinese.
- [29] RGN: How about the event in comparison with our country, Thailand?
- [30] Lakelz: Very different from our country. There were a lot of supporters. I heard they spent lot of money as well. Their players spent more time to practice and they took the game more seriously than us. After they lost, I saw them analyzing why they have lost and how to improve their gameplay. Trust me, DotA will be popular in China for a long time.
- [31] Pinkle: Agree with Lakelz. There are a lot of differences when compared to us. But most of the staffs are not good enough.

- [32] Aunjii: It was so great.
- [33] RGN: Why? They can't understand in English?
- [34] Pinkle: That's a part of it. When they knew we are not Chinese, they wouldn't help us.
- [35] Aunjii: I think the computers used for the competitions in Thailand are better than the ones they supplied.
- [36] Pinkle: Yes, the computers in WDC 2011 were too old and dirty. But I was impressed by DotA fans there. When we arrived, some fans came to us and asked for pictures taken together with us. They drew a picture of Silk and Maiden for us. A guy asked me to sign on his shirt. He has idolized a lot of DotA players. Lakelz is so famous there as well.
- [37] RGN: Like football players in England or StarCraft players in South-Korea.
- [38] Pinkle: Something like that.
- [39] RGN: I saw a lot of comments about Chinese player's manners in a bad way.
- [40] Pinkle: I think it's normal in China. They allow you to express your emotions and yell out dirty words.
- [41] Aunjii: I think it was expressed from their inner.
- [42] Pinkle: Tsu has no manners.
- [43] Aunjii: They have made us all shocked.
- [44] RGN: Why?
- [45] Pinkle: It was the beginning of the competition between MiTH.TRY and Tsu, they always yelled at us and said things like "is that the best you can do?", but we don't give a damn about it. After that, the event experienced an electrical issue, but they cannot find the solution. They simply blamed the protocol and forced us to compete in 3 versus 5. It didn't make any sense. Then they defeated EVE in the final round.
- [46] Aunjii: Oh my god!

- [47] Pinkle: Oh my god! One of them stood up and ran to the front of the stage. EVE was bullied and screamed at. Then they all started to yelled at each other. It looked weird. By the way, EVE started to cry at the time.
- [48] Aunjii: I knew that the world has lot of things to show me.
- [49] RGN: Anything else is different from Thailand, except the event?
- [50] Aunjii: They treat gamers like sport players.
- [51] Pinkle: They are taking the gaming business more seriously.
- [52] RGN: What's the most memorable story for you in this trip?
- [53] Aunjii: I gained new experience, wisdom, and perspective. When I came back here, I just wanted to practice more and make myself stronger. It's such a nice trip being with friends.
- [54] Pinkle: Firstly, about Tammy, it's going to be tough if she wasn't there. I hope she will join us again. Next the friendliness from the staffs who took care of us, especially Mrs. Qianyangyang, I want to meet them again. Lastly EVE girls, even if you have lost in the game, you have won my heart. Keep fighting!
- [55] Lakelz: It's the event. I hope someday Thailand will have such a big event too.
- [56] RGN: Okay guys... any shout?
- [57] Lakelz: I would like to say thank you to our partnership ASRock, SteelSeries, TN Accessories and everyone who supported us all this time. I promise we won't let you down and we'll do our best. We believe that someday we'll stand on the top, among the great teams. "In Trust, We Trust". Thank you guys.
- [58] Pinkle: Thank you P'Bas (Team Director) for the opportunity to go there. We promise we won't disappoint you and we'll stay with you forever. We love MiTH.

[59] Aunjii: I would like to say thanks to P'Bas too. Thanks for the new experiences. Thank you for those who took care of us in foreign countries and thank you MiTH.

## Interview Archive 8

### Behind the Mask of JinNy

Interviewee: JinNy  
Interviewer: JoinDOTA  
Date: December 27, 2011  
Source: Behind the mask of JinNy (Khor, 2011)

The Christmas break is over and JoinDOTA is back to business as usual. Today, we have a treat for you jD fans as we are bringing you our latest “Behind the Mask” series where we will provide you an interview which gives you an insight of your favourite gamers' personal and gaming life.

Today we have for you, Sarindhorn ‘JinNy’ Wanothayarnchai, one of the prominent lady of the famous MiTH.TRY. JinNy recently attended ESTC 2011 and WDC in China where the team played with Tammy ‘furryfish’ Tang as a stand-in. She went on to sub for PMS Asterisk during SMM Grand Final 2011 playing the hard carry role. JinNy is a well known personality in Thailand for games like DotA and Sudden Attack.

Without further ado, here’s Behind the Mask of JinNy.

#### 18.1 Bio

Name: Sarindhorn Wanothayarnchai  
Age: 20  
Date of Birth: March 9, 1991  
Location: Bangkok, Thailand  
Origin: Thailand  
Height: 164cm  
Weight: 44kg

##### 18.1.1 Favourites

Food: Thai food  
Movie: Comedy, Romance  
Music: Pop

Singer: Girl's Generation (SNSD)  
Book: Harry Potter  
Car: Mini Cooper  
Player: Dendi  
Sport: Basketball  
Game: DotA, FPS  
Hero: Windrunner  
Map side: Sentinel (Radiant)

## 18.2 Personal

- [1] JoinDOTA: For all your fans out there, please give a short introduction of yourself.
- [2] JinNy: Hi I'm JinNy. I'm glad to have a chance to introduce myself. I started playing online games about 4 years back, both DotA and FPS games. I played DotA in 2008, but I stopped playing in 2009 and turned my attention towards FPS games instead. Recently, I returned to DotA and am currently playing for MiTH (Made in Thailand E-sports).
- [3] JoinDOTA: For the past few months, I have had a chance to go to WDC in China and SMM in Malaysia where I played as a stand-in for PMS Asterisk. Although we did not win any of the games, I am glad that I obtained precious experiences from them to become a better player! Or at least I hope so (smiles).
- [4] JoinDOTA: How did the nickname JinNy came about?
- [5] JinNy: Because JinNy has always been my real life nickname.
- [6] JoinDOTA: What is a typical day for you?
- [7] JinNy: Right now, I spend most of my time playing games but once in a while, I go out to meet my friends. Just like every other people. That's pretty much it for now.
- [8] JoinDOTA: Apart from gaming, do you go to school or work?

- [9] JinNy: I am not studying or working at the moment. However, I will be going to university next year studying Mass Communication at Ramkhamhang University or Bangkok University.
- [10] JoinDOTA: On average, how many hours per day do you spend on games or generally DotA?
- [11] JinNy: I would say more than 6 hours per day.
- [12] JoinDOTA: Do your parents and friends know about you being a pro gamer? If yes, what did they say? Are they supportive of you?
- [13] JinNy: They told me that I can do anything as I want and most of them do know that I play games professionally. So yeah they are quite supportive of me being a pro gamer.
- [14] JoinDOTA: Tell the viewers about your marital status. Are you seeing anyone at the moment?
- [15] JinNy: Honestly, I enjoy playing games at the moment. Yes, there is someone special in my life but right now we are just good friends until we come to know each other (smile).
- [16] JoinDOTA: Listening to footsteps in Sudden Attack?!

### **18.3 Gaming and Dota**

- [17] JoinDOTA: Tell us the story of how you got into gaming? Who introduced you to it and what was the first game that you played?
- [18] JinNy: I went to Cyber Cafe for the first time by myself. Slowly, my friends introduced me to DotA and I was lucky enough to meet pro players and they helped me in tuning my skills.
- [19] JoinDOTA: What would you say is your biggest achievement in gaming?
- [20] JinNy: No doubt that it is placing first in ASGF Sudden Attack in Singapore. My team trained really hard for this event before we flew to Singapore. Besides that, we also met a lot of other teams, so I was really happy."

- [21] JoinDOTA: You mentioned that you played Sudden Attack and DotA. These 2 games are very different in all aspects. Do you think the skills involved are related?
- [22] JinNy: The skills required in these games are very different and skills are obviously very very important. However, the way you obtain these skills is very dependent on how much effort you put in and how sincerely you practice."
- [23] JoinDOTA: Of all possible tactics i.e., pushing/ganking/turtling, which is your favourite and why?
- [24] JinNy: I prefer ganking and turtling tactics. I love the turtling strategy because I love farming.
- [25] JoinDOTA: Moving on to the lighter side, which hero did you play when you first started DotA and how badly did you feed?
- [26] JinNy: Bone Fletcher was the first hero I played. It is so hard to kill him and at the same time, is able to kill heroes quite easily. I remember my friend asking me to pick that hero and said if anything goes wrong, you just have to press "W" (laughs). Though with that, I was quite confused on what to get for him. The good thing is that, I remember having a positive score at the end of the game
- [27] JoinDOTA: How long did it take you to get used to the game and become a competitive player? What made you comeback to DotA again?
- [28] JinNy: It took me a year to become a competitive player and this happened way back in 2008 before I stopped playing DotA. I played Sudden Attack from there on and only got back to Dota recently after being invited to play with MiTH.TRY in ESTC 2011. From there on, I rekindled my feelings for DotA and haven't stopped playing it since.
- [29] JoinDOTA: What do you think about Dota 2? Will it be the successor of DotA 1?

[30] JinNy: I think Dota 2 will succeed DotA because the user interface, graphics and system are just way better. Dota 2 however, is a little harder to play due to Internet delay and lag issues. The South East Asia servers are fine but there is still some notable lag though

#### **18.4 MiTH.TRY**

[31] JoinDOTA: Give us an introduction to your own team and the members in it. How did you become a part of MiTH.TRY and when?

[32] JinNy: Pinkle (captain and lead ganker)  
Aunji (Support)  
JinNy (Main carry)  
Pepopoi (Solo)  
Dolly (Solo mid)

[33] JoinDOTA: The first time I got involved with MiTH.TRY team members were during 2009 when they asked me to play with them in a showmatch. After the showmatch, MiTH.TRY was officially formed but I was not a part of it until recently in 2011, they invited me to play with them again in ESTC 2011.

[34] JoinDOTA: Are MiTH.TRY members mostly playing Dota 2 or are they still practicing in DotA 1? How often do the girls practice?

[35] JinNy: We are mostly playing DotA 1 right now. In fact, we play quite regularly together in pub games and normal scrims. We tend to train harder as tournament approaches.

[36] JoinDOTA: What is the relationship between your team and PMS Asterisk?

[37] JinNy: We are basically good friends. We met each other in ESTC 2011 and we hit it off well. Ultimately, we were one down for WDC so we decided to invite Tammy to sub for us.

- [38] JoinDOTA: In SMM Grand Final 2011, you were invited to play with PMS Asterisk. How do you feel about the team? What is different between them and MiTH.TRY?
- [39] JinNy: I feel good to play with PMS Asterisk because they are friendly and work hard. In fact, I feel happy with both teams but their playing style is completely different.
- [40] JoinDOTA: Assuming that there is an all-girls tournament and both the teams are invited, who will you be playing for?
- [41] JinNy: MiTH.TRY (laughs) because I'm MiTH player after all."
- [42] JoinDOTA: Is MiTH.TRY participating in any tournaments at the moment?
- [43] JinNy: We will be attending Thailand Game Show (TGS) in January 2012.

## **18.5 Conclusion**

- [44] JoinDOTA: What are your future plans? Do you think being a DotA pro gamer is a viable career choice for life?
- [45] JinNy: I intend to study while gaming until I graduate. I will be happy if I have a career as a professional DotA player.
- [46] JoinDOTA: Any last shoutouts?
- [47] JinNy: I WANNA BE A DOTA PRO!

## Interview Archive 9

### An Interview with MiTH.Trust: Getting Ready for the GEST IDC 2012 Battle

- Interviewee: Pinkle, Tri, and Lakelz  
Interviewer: PlayCyberGames (PCG)  
Date: January 30, 2012  
Source: An interview with MiTH.Trust: Getting ready for the GEST IDC 2012 battle (buzzkinz, 2012a).
- [1] PCG: Say something to your fan club.
- [2] Pinkle: Hi all gamers.
- [3] Tri: Hello, I'm Tnk or Trai Akkaravinej.
- [4] Lakelz: Hello, all DotA friends and MiTH-TrusT fan clubs.
- [5] PCG: Introduce yourself and position.
- [6] Pinkle: MiTH-TRY!pinkle, people know me as Pinkle the captain of MiTH-TRY. I am actually the manager of the team MiTH-TrusT as well.
- [7] Tri: I'm MiTH-TrITnk, the captain of MiTH-TrusT. My position in the game is Ganker and Support.
- [8] Lakelz: I use "MiTH-TrLaKelz" as my log-in name. My nickname is "Best". I played the carry position.
- [9] PCG: What do you think about the Gigabyte GEST International DotA Cup 2012?
- [10] Pinkle: When first I hear about GEST, it felt like the new challenge other than ESTC. It is a good addition to the E-Sports community.
- [11] Tri: This is a very good competition. The competition that includes teams from different countries provides the opportunity for Thai teams to improve their skills together with the leading teams in Southeast Asia.

- [12] Lakelz: I think it is a very good that we get the chance to compete with leading teams from various nations. This will greatly push the E-sport into our society and game players will be able to generate income too.
- [13] PCG: What do you think about the competition over the Online-Group Play, on the CyberGames Network platform?
- [14] Pinkle: It is new to Thai people, but it should be utilized in the tournament because the Group-Play allows players to participate in more competitions therefore gain more experience.
- [15] Tri: I am okay with the Group-Play competition if the CyberGames Network can provide a fair hosting for the two teams (internationally).
- [16] Lakelz: I believe that the online competition will bring in the lag or delay issues, in which was the most common. But if there is a solution to the issues, it would be very beneficial because the online competition is more convenient and faster than the offline ones.
- [17] PCG: Before the start of the competition, what is your target?
- [18] Pinkle: The target in every competition is the championship. But what more important than the championship is that the team members have tried their best.
- [19] Tri: My only goal is to become the champion, and I will do the best to get it.
- [20] Lakelz: First, I think about moving into the top four teams. Next I will move on to the championship.
- [21] PCG: When we look at the competition of world-class players, you will see that they always have the new unique strategies utilized in their gameplay, how do you cope with this?
- [22] Pinkle: I will study every teams' game replay regularly to identify their weaknesses. If we find any techniques that can benefit our gameplay,

then we will exploit the techniques with our gameplay style. And practicing regularly to find a new strategy to utilize.

[23] Tri: It is our duty to study the unique strategies of the other teams as much as possible so that we know how to deal with it. At the same time, we have to create brand new strategies for ourselves too.

[24] Lakelz: It doesn't matter even if we have to face the new or strange strategies that we have never seen before. I believe that utilizing the strategy that we are already best at is better than trying to solve or cope with the opponents' strategy.

[25] PCG: Let's assume that you have reached the final round of the competition, what would you do to cope with pressure during the competition?

[26] Pinkle: It is hard to say because when it comes to the real situation, in the actual places, there will be so much pressure. But regular practicing should help reduce the pressure in any stressful competition because the pressure will be replaced with the confidence.

[27] Tri: I will try to come up with different ideas for myself and team members and encourage the enjoyment in every competition. By doing this will reduce the pressure.

[28] Lakelz: I will keep practicing for greater confidence until I can forget the pressure.

[29] PCG: Since PlayCyberGames announce the usage of the latest map version 6.73c, do you have any comments on the changes of the gameplay?

[30] Pinkle: The changes are beneficial for our team as it has empowered Trust's gameplay style. This is due to the reinforcement of the items that are appropriate for the heroes which the team utilized, even though some heroes are weakened.

- [31] Tri: 6.73c map has been a big change. The new carrier, new items, new Heroes in the CM Mode has been introduced. Our strategy needs to be modified a lot toward corresponding to these changes.
- [32] Lakelz: I think the map 6.73c have made carry position more flexible because there are more items that can be utilized.
- [33] PCG: What are the strengths and weaknesses of the team that need improvement and modify?
- [34] Pinkle: The strength of the team is in the carry; Trust has a very powerful carry. The 4 on 1 tower pushing gameplay strategy efficiently agitate the opponents. However, the team's ganking strategy is yet ineffective due to the lack of teamwork. The team cannot come up with a counter strategy when it is in a disadvantage situation.
- [35] Lakelz: The strengths of team, as we all know, is to form up 1 carry hero and 4 ganker heroes. This will make the carry hero become very rich because the other 4 players are working hard to empower the only carry player. The weakness is that the 4 on 1 strategy cause disadvantages when initiate a fight.
- [36] Tri: The team's strength would be the strong defense and fast farming. The weakness of the team is perhaps the initiation that we can't yet master.
- [37] PCG: What do you want to say with Thai fans and fans of MiTH.Trust?
- [38] Pinkle: Thank you every one for continual support. We promise that we will do our best and will not disappoint you all.
- [39] Tri: I would like to say thank you to everyone who support MiTH.Trust. We are prepared for improvement to our team, so that we can bring great reputation of Thailand to the world. Finally, we would like to show our appreciation to MiTH or Made in Thailand E-sport for the support during the past one year.

[40] Lakelz: I would like encourage Trust's fans to continue keeping an eye on our work. We promise that we won't disappoint. Thank you for all of the support. Good bye.

Thank you MiTH-TrusT and I wish you luck in Gigabyte GEST International DotA battle 2012.



## Interview Archive 10

### An Interview with Neolution-eSport and Their Readiness for the GEST IDC 2012 Battle

Interviewee: CTW, YYF, and GUSGUS

Interviewer: PlayCyberGames (PCG)

Date: February 10, 2012

Source: An interview with Neolution-eSport and their readiness for the GEST IDC 2012 battle (buzzkinz, 2012b).

- [1] PCG: Please greet Thai fans and Neolution-eSport fan club.
- [2] NeoES: Hi my beloved friends of Neolution!!
- [3] PCG: Manager/Player: Self introduction/position.
- [4] YYF: I'm Mickey and my log-in name is NeoES-YYF, or my friends usually call me "Mickey The Nuad". I am the team captain and my duties are to draft heroes and arrange appropriate positions for our team players.
- [5] CTW: I'm New and my log-in name is NeoEs-CTW, the team manager. My duties are to take care of the team in general, to oversee how the gameplay can be different, and to collect the remaining details that the players are lacking.
- [6] GUSGUS: I'm Gus and my duty is only to eat. No, I'm just kidding, my position is farming. I'm responsible for collecting money as much as possible to acquire the greatest advantage in terms of items in the late game.
- [7] PCG: What is your opinion about Gigabyte GEST International DotA Cup 2012?
- [8] YYF: I'm so delighted to have joined and I will do my best. I will bring out all of my silliness; I mean all of my knowledge and strategy that I have accumulated for years so that Neolution fans are not disappointed.

- [9] GUSGUS: This creates a great opportunity for us to meet foreign competitors to enhance our potential and experience. I am honored and thank Gigabyte so much for this chance.
- [10] CTW: It is excellent. This is deemed as a new step of Thailand to host the biggest and best online game competition. If it is not Gigabyte, this may be impossible.
- [11] PCG: How do you feel about the Online – Group Play competition on Platform Cyber Games Network?
- [12] CTW: TCG is well done in terms of style, but its system will be tested in the real competition again.
- [13] PCG: Before starting the competition, what is your goal?
- [14] YYF: I just want to be the champion. That's enough.
- [15] CTW: What I want most is my team players gain more experience and diverse.
- [16] PCG: When we look at the world-class players competing in different matches, you will see that they have new plans to play at all times. How will you deal with them?
- [17] GUSGUS: It is not difficult. I will play like them, but we should be better. We should use their plans and fight back more brutal.
- [18] PCG: Assuming that in the next rounds of the tournament until the final round, how can you cope with competitive pressure?
- [19] YYF: Stop playing and chatting with cute girls in my Facebook. This is most relaxing.
- [20] GUSGUS: I have to eat only. When I'm full I will be a bit sleepy. This feeling is so good for me to play.
- [21] CTW: Shout out is my way to reduce stress by encouraging the team from time to time.

- [22] PCG: Since PlayCyberGames has announced the use of Map Latest Version 6.73c, how do you comment about the changes in playing style?
- [23] YYF: Nothing changes so I do not feel anything because the new heroes have not been in Cm yet.
- [24] PCG: What are the strengths and weaknesses of your team that you must rapidly develop and improve?
- [25] CTW: The strength of our team is the fun. We play without any stress so although the game is tight, we are still relaxing. Our weakness is the discipline because we are young and immature so we are sometimes hasty and do not practice. Therefore, I must bring them together.
- [26] PCG: Please say something to Thai fans and fans of Neolution-eSport.?
- [27] CTW: Don't forget to see our performance. Thank you.

Thanks Neolution-eSport and pray for Neolution-eSport fighting in Gigabyte GEST International DotA Cup 2012.



## Interview Archive 11

### Unveil the Interview with MiTH.OHP, Thailand's Leading Heroes of Newerth Team

Interviewee: RaChEz`  
Interviewer: Online Station  
Date: March 15, 2012  
Source: Unveil an interview with MiTH.OHP, Thailand's leading Heroes of Newerth team (Lafezter, 2012).

It is well known to all friends who have been keeping track of competitions of Heroes of Newerth (HoN) in Thailand that the MiTH.OHP team in which from competitions at the end of 2011 to the beginning of 2012 it has won many events, and this time I have the interview that will let you know them more.

- [1] OS: First of all, I would like you to introduce each player in your team and their position or duty.
- [2] RaChEz`: The first player is me.  
RaChEz`: Ganker, Support (captain)  
YedDuck: Mid, Solo lane  
`Avalonz: Solo lane  
XzoDusT: Carry  
Melonz`: Support  
Noctis``: Mid, Solo lane  
Nugohszz: Ganker, Support  
Salapao`: Ganker, Support
- [3] OS: How each member of MiTH.OHP has come together?
- [4] RaChEz`: Originally, there was a tournament held by Thailand Esport Shoutcaster (TeSS). It was the very first tournament we, OHP, competed in. At that time, our team members included RaChEz, YedDuck, loliiz, Winoz and Zeleb. Most of us were invited by loliiz (or GOD `HAND at present) to

join the team, and even myself was invited by him as well. It can be said that OHP was originated from loliiz and since that time our team was formed.

[5] OS: From ASROCK HoN Tournament to GameCard HoN Tournament, MiTH.OHP has shown the excellent performance and won multiple competitions. How have you prepared or practiced your team?

[6] RaChEz': I must confess that in the ASROCK HoN Tournament Season 1-2, we did not expect the championship, although we played our best in every game. It was because two of our players, `Avalonz and Melonz`, were busy and could not join the competition so our game pattern changed a lot. However, by having Noctis`` and Nugohszz join the team meant that we could perform well for the missing positions, even though it was not the same as the original team. For GameCard HoN Tournament, since we had lost to LMTT in Triple H HoN Tournament, we have learned our faults so we planned our game for a long time and it was a success.

[7] OS: When talking about the competitors MiTH.OHP often meets in the final round, it can be nobody else but LMTT (now renamed as XunwuTeamwork). How do you view this team, and for all the teams competing in Thailand, which three teams MiTH.OHP must be very careful at most?

[8] RaChEz': In my personal point of view, LMTT or Xuth is currently the team with a bright future because its players' positioning is appropriate and complete and as they are all top-class players its game plans are formidable. The three teams we have to be very careful may include the leading teams like Doll, IW, and IBBH (Xuth is not mentioned here because I have already pointed it out earlier).

- [9] OS: If MiTH.OHP has a chance to compete with three international teams, certainly including European and American teams, which team you want to compete with the most and why?
- [10] RaChEz`: The first team that is inevitable is Fnatic.MSI. It's like our dream. However, today, there is no such set of players. For those who have been watching us play, they will see that our team's plan is similar to those of Fnatic.MSI's and it can be said that they are our idols.
- The second one is certainly Fray because of its harder core ganking; we want to compete with them as well.
- The third one is our lasting rival in which we hope that one day we will win them, IMP. We want to compete with them every day, but because we are in Thailand and they are in Singapore, the delay during the game play caused by the Internet makes it hard for us to actually play together.
- [11] OS: In HoN Special Thanks Tournament which will start on this 13th March, how much confidence do you have in winning the tournament?
- [12] RaChEz`: I hope to win the championship again for our team.
- [13] OS: I believe that many people who have been watching all of the competitions of MiTH.OHP from the start may have seen the team's continual improvement, and until now I am able to say that your team is the leading team in Thailand. What has driven MiTH.OHP to this point?
- [14] RaChEz`: I think what's driven us comes from our team members who have put their effort into practices and regularly watched and learned from the game replays. We want to overcome the limit to meet with international teams. All of this has driven us to the current stand point.

[15] OS: Could you please say something to the teams that are thinking of entering the competition, or to the new teams that have just begun their competition whom we may have to face in the future?

[16] RaChEz': I want everyone to have fun with the games and don't be too serious. You may win or lose at anytime. It takes time and luck to prove, and you can't just become the best in a day or two. Everything takes times. I have seen many unsuccessful teams dispersing after the competitions and many of them were talented. I felt regretful for them. Some teams may have to reposition their players. The players should understand that repositioning does not mean that you will not be able to return to your original position again. I want everyone to think like an athlete, that is, when we cannot perform well, we must allow other team members whose performance is better than us to take our place. Then, we should try to improve our game play, rather than just leaving the team when we don't get to play. Lastly, teamwork is what makes the team successful.

[17] OS: My last question, "HoN is more fun than what?"

[18] RaChEz': FUS RO DAH! (Skyrim)

MiTH.OHP is currently one of the top teams in Thailand that we should keep an eye on their future success. Next time, we will delve into a young but strong team, Xunwu Teamwork (LMTT team), which is one of the formidable rivals for MiTH.OHP.

## **Interview Archive 12**

### **An Interview with Thailand’s Leading Online Games Service Provider**

Interviewee: Somchai Patanapongchai  
Interviewer: Tinnawat Nuangjumnong  
Date: May 18, 2012  
Location: Playinter Co., Ltd.  
Source: Conducted by the author (Patanapongchai, 2012).

#### **I12.1 About Somchai Patanapongchai**

Somchai Patanapongchai is widely known in Thailand as Chai Playinter. He is the director of marketing at Playinter Co., Ltd. — a leading online game service provider in Thailand. The company was founded in 2010 with the cooperation of Garena — a large corporation in the game community that has its origins in Singapore. Currently, Playinter has provided variety of online games in Thailand including Heroes of Newerth (HoN). Patanapongchai is the company’s key executive, pushing this company into the game community in Thailand. In addition to his position as the company’s executive, he is also a professional game player who is highly experienced and knowledgeable about the gaming community. Furthermore, he has played a variety of games, including Heroes of Newerth (HoN) and Defense of the Ancients (DotA). Patanapongchai was also asked to fill in the survey regarding DotA and HoN — the same survey distributed to general game players for the purpose of this research. The responses Patanapongchai provided in the questionnaire were utilized for the qualitative analysis.

#### **I12.2 Introducing Heroes of Newerth (HoN)**

Somchai Patanapongchai was requested to introduce the game HoN and to explain the differences between HoN and DotA. He explained that the structure of Heroes of Newerth (HoN) is similar to that of Defense of the Ancients (DotA). The only features that are different are the names of the characters and the overall graphic design of the game. Other features, such as how these games are played or the strategy used in the games, are identical. This is because HoN was developed based on DotA. The roles or duties of the players in DotA and HoN are

identical as well. Game roles can be categorized according to three main categories – carry, support, and ganker game roles.

As DotA was introduced to Thai game players before HoN was developed, many HoN players have experience in DotA as well. Patanapongchai believes that at least half of those who play HoN have played DotA before. Patanapongchai himself also played DotA.

### **I12.3 How Patanapongchai Came to Play HoN**

Patanapongchai was requested to describe his gameplay behavior and the game roles he usually utilizes in games. He explained that he first started playing DotA by emphasizing the support game role. Nevertheless, after playing the support role for some time, he switched to the ganker game role, which was later followed by the carry game role — the role he utilizes the most at present. Patanapongchai started to change his game roles because the players in his team began to utilize the support game role more effectively and could therefore replace him. However, the other positions in the team remained ineffective, according to Patanapongchai; therefore, he began to take the other game roles' responsibilities himself.

Patanapongchai stated that, although he often takes the carry role position in the team, he utilizes the support role strategies more. He said, “I am the carry with the most death in the team. This is because I always started at the map and kept my eyes on the other team members. I failed to pay attention to my own Hero.”

For the ganker game role, Patanapongchai stated that he used to be part of a DotA team currently known as the BBH (Baby Build House). The team consisted of five members that came from five different parts of Thailand who met each other over the Internet. Patanapongchai proudly stated that his team won the third rank in the World Cyber Gamer (WCG 2010) and became famous because of the team's strong ganking strategies. It is said that BBH is the team with the best gankers in Thailand.

### **I12.4 The Uniqueness of HoN**

When asked about the uniqueness of HoN, especially when compared to the other games available on the market, Patanapongchai explained that most games are trying to introduce new game contents to gain shares in the market. These contents have been statistically calculated;

for example, the number of days, months or years that a good player would take to complete the game, or the game story line cannot be developed further and become boring. These game contents are developed based on the statistical calculations of game developers.

On the other hand, HoN is categorized as a Multiplayer Online Battle Arena (MOBA) genre, in which there is almost no game content. Thus, HoN is very flexible in terms of the game content. A player generates the combination of the game elements, and differences in game players are the factor that generates the situations in the game content. It is not the game developer who determines these situations. Patanapongchai concluded that the game world has changed because of MOBA games. Standalone games have reached their end while multiplayer online games are taking their place.

### **112.5 Statistical information about HoN players in Thailand**

The number of HoN players has increased rapidly since the game's official release. There were fewer than 100,000 players in the first month, but the HoN advertising campaign doubled the number of players in the second month. Later, the number of players continued to increase and, in April 2012, there were 900,000 players. The reason the number of HoN players increased rapidly was because of the large amount of existing DotA players in Thailand.

Patanapongchai explained that the amount of time needed for one gameplay is 30 – 60 minutes on average. Other approximate statistics of HoN players are described as follows:

HoN players in Thailand:	900,000 – 1,000,000 players
Bangkok:	Approximately 60%
Bangkok's perimeters:	Approximately 25%
Other provinces:	Approximately 15%

The low number of players outside of Bangkok is explained by the lack of Internet connections or the unstable Internet speeds in other areas. Although, other statistical information was collected from the game registration, it could not be used as a reference in this research because the registered players could falsify their identities easily. The company therefore referred to the information provided by those who followed HoN's Fanpage on Facebook instead. Approximate statistics regarding HoN players are as follows:

Gender variation:	Male 93%
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	Female 7%
Average age:	15 – 27 years
Employment:	Most players are students; thus, it is safe to assume that they have no work experience.

## **I12.6 Impact of Games on Players**

When discussing the impact of video games on his life, Patanapongchai made various comments based on his own personal experiences. He said that game playing is his life. He is not religious, but he respects games as he would to a religion. A great game is as esteemed as a prophet. He loves games and loves to play more than anything else. He has played the games by trying to win the first rank. Also, he tried to earn business capital by selling game software until he succeeded in having his own game shop. Finally, he has become one of the key executives in the largest game company in Thailand today.

These are the positive impacts that games had on him throughout his life. Therefore, he believes that the game can affect a player's life; however, he said that it depends on the perspective of the players, whether they can discover and apply the positive aspects of the game. He mentioned an experience of playing the Sims (city establishment). In the game, although the player can buy and build a roller coaster, it does not mean that there will be as many clients (in the game) to play it as one expected. However, when shady trees and benches on which to rest are built, a lot of clients who are attracted by the amenities and who like to sit and watch other people riding on the roller coaster. Players can therefore engage in critical thinking while playing these games.

Events in the game can reflect reality, and can be applied in real life. This is why Patanapongchai could draw on the different experiences learnt from the games to build his character and lay the foundation for Playinter at that time.

## **I12.7 First Steps Towards Playinter**

Patanapongchai talked about his own personality and he focuses strongly on interpersonal relationships. His staff members are of the utmost importance. "When the company was established, the company owner contacted me via Facebook and invited me to take care of the company. "I was the only real eSports Athlete", said Patanapongchai when asked to describe

the time when he was invited to work at Playinter. He asked one question: “Are you hiring me to make money or to construct a community?”. The company owner replied, “To construct a community”. This answer was the one he wanted, and he then joined Playinter.

He said the company owner and his own views are the same; for example, they both prioritize the company’s sense of community first because they both believe that the money or profit will come after a great community has been established. Therefore, a good foundation and community must be set for the company first.

He also said, “If we collect 100 baht from one person, it is too much. But how about if we collect one baht from 100 people?” Trying to make money is like trying to collect 100 baht from one person. On the other hand, if a community can be built, 100 baht is only a small amount that 100 people are ready to contribute.

## **12.8 Playinter Management**

Patanapongchai has used his game experiences to manage Playinter and its staff members. A clear example is after lunch; he usually allows all employees to play games for about an hour in order to create better relationships among the staff. In addition, he also observed how employees played the game, how much they hesitated, if they made a decision, and how much they interacted with other players. He spent no more than five hours studying the behavior of one employee by watching while he or she played games. He uses the game as a tool to learn about the personality and habits of the employees. As he allows all employees to play games together, this makes the working atmosphere happy. Employees respect each other as they are in the same family, and understand the habits of each other’s aliases, because they learned each other’s habits while playing the games.

Playinter’s staffs are certainly all gamers. Everyone needs to play the games, although female staffs are less hardcore, or play fewer games, than are male employees. Patanapongchai said that Playinter does not admit employees who have only a good application form or background.

In the event of changes in the company business, for example when there is more pressure on the job or problems have occurred, how he manages the company will differ and he may not allow his employees to work in a relaxed way, and he cannot allow them to do as they please.

On the other hand, it may be necessary to increase the pressure more than usual depending on the situation.

### **I12.9 Gaming Service**

Patanapongchai has tried to become closer to the players to provide better service to the players of Playinter's games. On many occasions, he has played the games with general players while remaining anonymous. When he played by himself, general players could see that the company's employees were playing games in a very friendly manner, and they could abuse each other in the game. He was also abused by the players. When general players saw that the general manager (GM) was playing games with them, it made the game community of Playinter closer because the players saw that the employees were not arrogant.

He said that Playinter gives importance to everyone, including physically disadvantaged people. If they ask for help, whether it is a small or a big favor, the company will try to help them; accordingly, it has created various communication channels such as e-mail, discussion forums, chat rooms, and numerous other channels when compared to other game companies.

Patanapongchai has really tried to understand all gamers. Although it is in the online world, Playinter focuses on and treats everyone exactly the same as it would in the real world. For this reason, it has supported the players via all channels. "We have a slogan that says Fulfil Gamer Life. We want to create good work and provide good services continually", he said.

### **I12.10 HoN and Leadership Development**

When asked about the game's ability to foster leadership, Patanapongchai said that the game could definitely help to train leaders. He said that each game is different in terms of content. The contents of the games are the key element that helps to create leaders. For example, World of Warcraft (WoW) can establish two types of leaders, those who practice their responsibility by issuing battle plans and those who practice the fair distribution of benefits. However, this game will have the right conditions to establish the leadership only in the important situations, such as raids (hunting in a group) or PVP (battling with other players).

With regard to HoN, there is a situation in which the leaders are put under more pressure and is participate in every game, starting with the selection of the players until the end of the

game. All the players' decisions affect the team members for over 60 minutes of the game. There are groups of one to five people in each game; the smaller the group, the more easily they can trust each other, and it is also easier to learn the behaviors of the other players. This means that leadership opportunities can be established more easily in HoN than in other games.

In addition, HoN can also create leadership in many forms, because the creation of the game contents depends on the players in each game. It also depends on how in-game leaders will shape the game based on their behaviors. The players can observe the behaviors of other players in the game and can find suitable ways to interact. Patanapongchai said that if we look at this game from the perspective of fostering leadership skills, we could certainly find many opportunities for the leaders to come forth.

### **112.11 Playing Games for the Best Benefits.**

In order to get the most out of the games, Patanapongchai suggested that the players must know what they will learn from the games, or their parents must be aware of the benefits that can be gained from playing the games. Players must learn to observe, particularly with regard to the behaviors of other players in the games, and to learn what their playing habits are.

Patanapongchai demonstrated that we could learn many things from gamers by observing the details of how they play the games. This is akin to the concept of using statistical studies as a science for establishing knowledge from collected numerical data. HoN is not the only statistical value, but is also a science in terms of generating knowledge based on the behaviors or actions of the players in the games. He used the Sims as an example. He explained that, after the players had invested in a roller coaster, they could see the changes in the clients' behaviors. Then, when they placed benches and trees near the roller coaster, more clients came to ride on the roller coaster, because those clients had seen the players who were riding the roller coaster and then desired to join them. HoN is similar in that, when a player has seen the behaviors and decisions of other players, in both his or her team and in the enemy team, he/she can apply such behaviors to analyze or learn in order to predict the ways to respond effectively.

Decisions in the games cannot be made easily because, when making any decision, the players will have to play according to the results of that decision for 30 – 60 minutes. If they have made a correct decision, they will get good results and will play a successful game.

However, if they have made an incorrect decision, the consequences will be borne by the players who must then resolve the problems. This is no different from making correct or incorrect decisions in real life.

Patanapongchai said that people's knowledge could make many things possible, both in real life and in games. The disadvantages of the games are fewer than are the benefits, depending on whether the players are aware of the benefits. If they know how to play the games, such games can provide life-long learning.

### **112.12 Patanapongchai's Recommendations**

Patanapongchai gave recommendations about playing the games saying that the players can learn many things from the games, including leadership. However, the players must be able to think and to learn the benefits of the games. When they have been playing a game for one hour, they must think about what they can learn and not focus solely on the fun. They must be able to obtain valuable experiences from the games they are playing.

Once the players understand the contents of the games and understand the reasons for the acts or behaviors that occurred in the game, when they see other people playing the games, they can predict the characters of these people and how they could respond. For example, observing a player with regard to how much confidence he/she has while playing and the level of determination with which he/she makes a decision can be linked to the person's habits in real life.

This is what Patanapongchai has seen from playing games with his employees and subsequently applying his observations in the company's management of personnel. For example, if a player plays the game with a fearful and indecisive manner, it may imply that he/she cannot make decisions in real life. Patanapongchai explained that assignments for the players who cannot make decisions in the games must be re-examined. "I assign important tasks to potential employees", he said. This is similar to playing HoN, as the characters must be selected based on the purpose, and this can be achieved only when the players understand the abilities of the game characters.

Patanapongchai concluded that the games could be a tool to build good employees and leaders for society. This depends on the players' abilities to extract the benefits hidden in the

contents of the games, or hidden in the ways of playing the games. It also depends on whether they can use the behaviors or events in gameplay in their daily lives.

### **I12.13 Game Development for Establishing Leaders in Real Life is Possible**

When speaking of game development, Patanapongchai believes that the game designers can develop games that can help fostering future leaders. However, this depends on many factors that are highly complex. He said that game designers must first understand the basic principles of society based on reality; in other words, they must understand the culture, tradition, and basic thought patterns of the players. This means that the game designers may have to create many versions of games for each country. Each version may have different contents depending on the social basis of that country. Classifying the versions based on the countries maybe not be sufficient; therefore, they may need to be subdivided to make them suitable for a particular region so that the contents of the games can really resonate with the players.

For this reason, designing a game that can be used to stimulate the players' leadership skills must be done by a research team that is highly knowledgeable and truly understands the culture of the society. This may require substantial investment to create high quality games that are able to penetrate deeply into the underlying consciousness of the players. Patanapongchai gave an example of making a life-simulation game. He said that the Sims, as an example, could stimulate the players to think and decide about what they would do, and to determine whether their decisions would have any impacts on the game. This can measure whether such decisions are good or bad for the game. If the results are different from their expectations, they will be able to analyze what they have done wrong. With reference to HoN, he believes the game developer thought of the benefits in terms of leadership or leadership establishment. He explained that, for every game played as a team, the game designers certainly thought about using the game as a tool for establishing a leader.

### **I12.14 Current Views of Thai Society regarding Gaming**

Patanapongchai explained that the current Thai society still underestimates the value of the games. Many parents only see the negative aspects of the games, or see the games as gambling. When asked what the views of the games are, Patanapongchai said that an obvious one is that it damages the eyesight, but that there are glasses, contact lenses or Lasik surgery to repair

eyesight. However, in his opinion, many benefits are derived from playing games. On the other hand, he believes that Thai society overestimates the value of education. This overestimation has been causing the parents to force their children to learn more and more, believing that this can help their children to become successful.

Thai education is currently experiencing difficulties. It focuses on memorization instead of critical thinking abilities. This differs from the games. Although the games do not teach in a tangible manner as a school does, players can think creatively and freely. Playing games is similar to playing sports. That is, while sports mainly use physical force, the games are based on brain activities, thus leading to creative ideas being generating by the players.

## Interview Archive 13

### Countdown to AMD Premier League: Interview with MiTH.Trust

Interviewee: TnK

Interviewer: MasterRamen

Date: May 4, 2013

Source: Countdown to AMD premier league: Interview with MiTH.Trust (admin, 2013).

On the days leading into the AMD Premier League's Main Tournament, DotaTalk will be featuring three short interviews from three different teams who were directly invited into this phase of the tournament. First up is Trai, the captain of Thai-team MiTH.Trust.

MiTH.Trust has been one of the most recognized E-Sports team hailing from Thailand, being around since the old DotA days. While they have slipped a bit after being invited into The International, the team has continued to improve and is regaining their status as one of Southeast Asia's finest. They will be competing next week as one of the invited teams on the AMD Premier League.

Interview conducted by MasterRamen

- [1] MasterRamen: Hello Trai. Have you seen the list of invited team for AMD premier league? what was your first reaction to it?
- [2] Tnk: Yes, I have seen it, that list is very good that have all best team from Asia in and I am very exciting to face them all.
- [3] MasterRamen: What is your opinion regarding the LGD Cn and LGD Int pulling out from the tournament due to ACE union's decision not to allow the teams from joining the tournament?
- [4] Tnk: If we can have both team LGD in this tournament, it would be great since they are strong. Anyway, if they cannot join because that reason, we wish them luck for their other upcoming tournaments as we are big fan of both LGD too.

- [5] MasterRamen: MiTH.Trust have defeated Orange in DotaTalk league and GEST2 March. Do you think you can easily overcome them in AMD Premier League?
- [6] Tnk: Even if we have defeated Orange twice, I feel Orange team is still stronger than us in many ways. But we will do our best to fight them in AMD tournament.
- [7] MasterRamen: What do you have to say about the poor performance of MiTH.Trust in GEST Dota 2's group stage for April 2013?
- [8] Tnk: We lost to ourselves on GEST April. We did not prepare well. We lost focus in many matches. We tried to recover from our first loss but wasn't able to. We will keep on training hard to make sure that our performance will come back to what it was.
- [9] MasterRamen: Between Orange Zenith and MUFC who you think is stronger?
- [10] Tnk: For us, we feel that Zenith is stronger. In tournaments, we never win against them. Zenith has a unique playing style that not the same as many teams in the world
- [11] MasterRamen: Your team again missed the invite on The International 3. What your feeling about it?
- [12] Tnk: I feel sad about it. We train very hard and we keep on joining competitions, but we haven't been invited because our performance isn't good enough. This means that we have to push ourselves even harder.
- [13] MasterRamen: What do you think about Winter's interview with GGnet, where he said that your team deserves to be invited?
- [14] Tnk: Thank you Winter. I think that MUFC deserves that slot more than us.
- [15] MasterRamen: Many fans are questioning the invite of Mineski HyperX. Do you think they deserve the invite to the AMD Premier League?

- [16] Tnk: Mineski is very good team. They performed very well lately I think they deserve that slot.
- [17] MasterRamen: If you are given a chance to seed your team in the tournament, where will you put yourself?
- [18] Tnk: Any! We will be ready for any match coming.
- [19] MasterRamen: Lastly, what you want to say to your fans?
- [20] Tnk: Thank you to all our MiTH.Trust fans and we are so sorry for letting you down, that we can't make it to invited teams in TI3. But anyways, we still have a chance in the qualifier and we will do our best.

The Champion of the main tournament will receive 3,000 USD, the runner-up will get 1,500 USD and the second-runner up will get 500 USD.



## Interview Archive 14

### Interview with Lakelz: We Still Cannot Adapt to Playing with High Pressure

Interviewee: Lakelz

Interviewer: Pineapplecake

Date: April 15, 2015

Source: Interview with Lakelz: We still cannot adapt to playing with high pressure (B. [PineappleCake] Tan, 2015).

Gosugamers conducted an interview with long time Signature.Trust player Lakelz, discussing various things like his personal life, team chemistry and the Thai DotA scene.

After their recent ten-win streak, GosuGamers has conducted an interview with Pipat ‘Lakelz’ Prariyachat, a long time Signature.Trust player. In the interview, the main things that were discussed was how this revered carry in the SEA scene came to be, the team’s chemistry, the Thai DotA scene and the meta.

The interview was conducted via Skype on 9/4/15 by PineappleCake

[1] PineappleCake: Hey Lakelz, how is it going?

[2] Lakelz: Hi. Very fine here.

[3] PineappleCake: Let’s start from the beginning. When did you start playing games and what sort of games did you play prior to DotA. What made you choose to focus on DotA?

[4] Lakelz: It was about 8 years old when I started to play games. I have played many games before like “RO, Cabal, Seal etc....”. The main factor that made me decide to focus on DotA is seeing many of my friends playing DotA in cyber cafes and thinking that it looked to be fun.

[5] PineappleCake: What sort of other profession are you interested in prior to becoming a pro gamer? What is your interest outside of gaming?

- [6] Lakelz: I have been interested to be an Investor before. I love to have an easy life.
- [7] PineappleCake: Do you have any siblings who play games as well? Knowing that in a lot of Asian countries, professional gaming is frowned upon by the previous generation, how does your family view you pro gaming for a living?
- [8] Lakelz: I have a big brother who plays DotA as well, he was the one who taught me! My family is fine about my pro gaming career.
- [9] PineappleCake: Tell us, from the beginning, how you began your career as a pro gamer. Who did you meet first and what propelled your reputation as one of South East Asia's best.
- [10] Lakelz: At the beginning, I played with friends just for fun, until BkEaEeR (founder of Trust) invited me to join his team. About what propelled my reputation, maybe it's because I'm like a farming machine!?
- [11] PineappleCake: I believe that the previous Trust teammates also played a lot of other games apart from just DotA. What sorts of games have you played competitively and why not just focus on one? Won't it affect your performance?
- [12] Lakelz: Well... they have played games like "Warcraft III, Ragnarok". It really affected our performance because we needed to spend our time on every game which makes us not good at any games.
- [13] PineappleCake: How have you guys managed to keep everyone focused on one game?
- [14] Lakelz: I just try to show everyone my intentions, my goals.
- [15] PineappleCake: Most people believe that your mind and reflexes would not be as quick when you reach 30 and most pro players would not be able to keep up their performance after that. Do you think that is true? And if so, what do you have planned after retirement?

- [16] Lakelz: It's true. Also has mine hahaha. If that time arrives...I think I will try to be a caster and analyze the game because I think I can do that well.
- [17] PineappleCake: Do you have a plan on how you want to start caster after your retirement? Are you close friends with any Thai casters?
- [18] Lakelz: The Thai casters that I am close to are Mermaid, Rezett, Pingac, Sunwartz and Xyclopz.
- [19] PineappleCake: Moving onto your team, why did your team leave MiTH and tell us more about your new sponsor Signature?
- [20] Lakelz: We really did not want to leave MiTH, it's because of our two sponsors being unable to cooperate with each other. That's why we needed to choose one, we chose Signature because they have always provided us with many important things such as budget, salary and gaming gear.
- [21] PineappleCake: Do you guys have a training house? Can you tell us Signature.Trust's training regime in preparation for The International 5? Who are your usual scrim partners?
- [22] Lakelz: Yes, we do. It's too far from our country but never mind. Haha. Our preparation for The International 5 is a 10 hours training day consisting of 3 sets of BO3s and watching replays/ tournaments. Our usual scrim partners are Malaysia, 5Eva, Aces, MVP, G-Guard.
- [23] PineappleCake: Now that you live together, tell us some of the weird or good habits your teammates have. Do your teammates do anything together when you are not training or playing in official games?
- [24] Lakelz: Mypro is the one who has a short temper. But he's the most diligent one, always training hard even though it's not training time. aabBAA is the one we can rely on. His weird thing is that he is always on the phone with his girlfriend even during training time.

Well, if we don't have to train or play in official games. What we do is watch movies and playing cards but if our Signature boss comes, he will always bring us around to find delicious food to eat.

- [25] PineappleCake: Your team's performance has been quite impressive lately and from our records, you always manage to get to the semi-finals of tournaments but unable to finish first. What are the obstacles that you guys are facing, internally and externally?
- [26] Lakelz: I think it's an internal problem. It's because we still can't adapt to playing with high pressure. When we play without any pressure, we always have good results but when it comes to an important match, we cannot play properly.
- [27] PineappleCake: Have the team identified how the pressure affects your performance? Does it cause the team to play safer than usual?
- [28] Lakelz: Yes, we know, it makes us not play like we should be. Our decisions as well as our play are slower.
- [29] PineappleCake: The Trust team is known for its stability and you guys have more or less held on to the same roster for years now. Can you tell us on how the team has stayed together for such a long period? Are there no team breaking arguments that resulted in the removal of a player?
- [30] Lakelz: We usually have arguments but we're living as a family and our arguments are just to make everything better, not to blame someone.
- [31] PineappleCake: Considering you are one of SEA's most deadly carry, have you been offered to play with other teams or perhaps an organization overseas? What made you stay in Trust for such a long time?
- [32] Lakelz: Yes, I had some teams inviting me to join, but my problem is that I'm really bad at English and want to play with a Thai team because I want to climb to the top with my friends.

- [33] PineappleCake: According to Valve, they will be sending out the invites for The International 5 in early May. Do you think that your team will receive a direct invite or perhaps an invite to the qualifier? Assuming if it is the qualifier, how do you think you will fare in it?
- [34] Lakelz: I think it's still hard for us to get a direct invite for now. If we're in the qualifier, we will try our best to make it this time.
- [35] PineappleCake: Tell us which teams you think will be directly invited to The International this year.
- [36] Lakelz: Secret, EG, Cloud9, Empire, Alliance, VG, Newbee, IG, LGD, MY, Rave, Tinker, VP.Polar, NIP
- [37] PineappleCake: Generally, the prize pools of SEA tournaments are low. What kind of side gig do you guys do to gain some extra income for your daily expenses? Do you do any streaming?
- [38] Lakelz: My side work is teaching DotA. About streaming, I plan to do it soon but still have no chance to do so.
- [39] PineappleCake: What is the most played Esports title in Thailand?
- [40] Lakelz: Heroes of Newerth is the most played in Thailand for now, but it will be Dota 2 in the future.
- [41] PineappleCake: While there have been several Thai teams (besides Trust) throughout Dota 2 history, they were mostly short-lived and not very accomplished. Do you think the reason is the lack of players, or the fact that they choose other games such as LoL?
- [42] Lakelz: I think it's because they have no intention to fight till the end. Once they lose, they think they cannot surpass the lost and then they surrender instead of improving themselves.
- [43] PineappleCake: Do you think the lack of infrastructure in your country is inhibiting the emergence of young players in Thailand and SEA?

- [44] Lakelz: It's a chance.
- [45] PineappleCake: What sort of support do you hope to see the Thai government provide for a professional gamer like yourself or to grow the local Esports scene?
- [46] Lakelz: First of all, I hope that they will look at E-Sports to be like sports. Once we look at it that way, maybe not so far in the future, E-Sports player will have a transfer cost like in football.
- [47] PineappleCake: You have quite a lot of overseas fans, have you considered the option to connect more with your foreign fans through streaming and perhaps supplement your income with streaming?
- [48] Lakelz: As said before, I plan to stream but I am still looking for the chance to.
- [49] PineappleCake: The 6.82 – 6.83 comeback mechanisms have been a subject of discussion amongst pro players for several months now. Do you think these mechanisms have a positive impact in competitive Dota 2, or do you think they should be changed/removed?
- [50] Lakelz: I think it's bad at first but after many fixes and updates, it is better. I think there's nothing that needs to be changed now.
- [51] PineappleCake: Your most-played hero list includes several farm-dependent late game carries such as Anti-Mage and Morphling. Do you think these heroes have their place in their current meta?
- [52] Lakelz: I think it's hard in this meta even though it is easy to comeback. Many teams choose to play early-mid game or pick carries like Troll, Juggernaut that are strong with less items compared to Morphling and Antimage.
- [53] PineappleCake: Recently, your team has run an aura strat, a strat which quite a few teams have run, do you think that is the best strat in this meta or perhaps this is what your team feel the most comfortable at?

- [54] Lakelz: It's a good plan, but to say that it's the best plan or not is up to you. I think we can make a good performance with this aura plan.
- [55] PineappleCake: Trust typically used to run the 4 protect 1 strategy with you being the carry. Nowadays, it seems like the team is not running that anymore. has the current meta destroyed the 4 protect 1 meta?
- [56] Lakelz: Yes, of course. Nowadays, 10 minutes is a time to fight, destroy towers. If I play a hard carry that needs to farm for up to 20 minutes; we will lose in the early-mid game.
- [57] PineappleCake: Knowing that many teams consider Troll, Sniper and Storm first pick material, do you think that they will receive changes in the next patch? Or do you think they are just flavor of the month type heroes?
- [58] Lakelz: For Troll and Sniper, they should be nerfed. But not Storm, I think he is not imbalance at all.
- [59] PineappleCake: Your team seems to heavily dislike playing against Bristleback, having banned him in many past games, is there a reason for it and are there any other heroes your team particularly dislike playing against?
- [60] Lakelz: I think Bristleback is the most annoying hero for us. He is good at lane, strong in the mid game and his DPS is high. About the heroes that we don't like, it is the kind of Meepo, Tinker, Brood surprise picks. It can make us lose.
- [61] PineappleCake: Thank you for the interview, are there any shoutouts you want to give?
- [62] Lakelz: Shoutout to my fans, I don't know if this is my last year or not but I'll try my best to be first in the International this year.



## Appendix A

### Original Questionnaire Drafted in Thai Language

Figure A.1 Original Questionnaire about MOBA Gameplay and Players' Behaviors (Page 1 of 5)

### **MOBA GAMES & PLAYER BEHAVIOR**

แบบสอบถามเพื่อการวิจัยผลกระทบด้านบวกของเกมออนไลน์

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**เรื่อง:** เล่นเกมสแบบไม่ไร้สาระ – ผลกระทบด้านบวกของการเล่นเกมออนไลน์  
**เกมส์:** Defense of the Ancients (DotA) and Heroes of Newerth (HoN)

**คำชี้แจง:** แบบสอบถามชุดนี้เป็นส่วนหนึ่งของงานวิจัยระดับปริญญาเอก สาขาความสัมพันธ์ระหว่าง ประเทศ มหาวิทยาลัยวาเซดะ (ประเทศญี่ปุ่น) จัดทำขึ้นโดยมีวัตถุประสงค์ในการศึกษาผลกระทบ ด้านบวกของการเล่นเกมส เพื่อค้นหาประโยชน์ที่ได้จากการเล่นเกมออนไลน์

**แบบสอบถามนี้แบ่งออกเป็น 3 ส่วนคือ:**  
ส่วนที่ 1. ข้อมูลทั่วไปของผู้ตอบแบบสอบถาม  
ส่วนที่ 2. พฤติกรรมในการเล่นเกมส์ DotA หรือ HoN  
ส่วนที่ 3. พฤติกรรมในการทำงานเป็นทีมในชีวิตจริง

ข้อมูลและคำตอบของท่านจะถูกรวบรวมและนำไปใช้ประโยชน์ในเชิงวิชาการ เพื่อการศึกษา และวิจัยเท่านั้น ผลสรุปที่ได้รับจากงานวิจัยจะไม่ส่งผลกระทบต่อใดๆต่อผู้ตอบแบบสอบถาม แต่จะเปลี่ยนแปลงสังคมออนไลน์ของเราให้ก้าวหน้ายิ่งขึ้น

**ขอความกรุณา** ตอบแบบสอบถามตามความเป็นจริงมากที่สุด  
**ขอบคุณครับ!**

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**นักวิจัยที่เกี่ยวข้อง:**  
นาย ดิถกเววัฒน์ เนื่องจางงค์  
มหาวิทยาลัยวาเซดะ (ประเทศญี่ปุ่น) คณะเอเชีย-แปซิฟิกศึกษา  
อีเมลล์: amidotahero@gmail.com

Figure A.2 Original Questionnaire about MOBA Gameplay and Players' Behaviors (Page 2 of 5)

ปัจจุบันคุณกำลังทำงานเต็มเวลาอยู่หรือไม่? (ไม่รวมฟรีเดอ์ หรืองานพาร์ทไทม์)

ไม่ได้ทำงาน  ทำงานอยู่ (ปิดสัมภาษณ์)

คุณเล่นเกม Defense of the Ancients (DotA) Dota 2 หรือ Heroes of Newerth (HoN) หรือไม่?

เล่น  ไม่เล่น (ปิดสัมภาษณ์)

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**ส่วนที่ 1. ข้อมูลทั่วไปของผู้ตอบแบบสอบถาม**  
กรุณาตอบแบบสอบถามตามความเป็นจริง เพื่อประโยชน์สูงสุดของผลการวิจัย

**เพศ**

ชาย  หญิง

**อายุ (ปี)**

ระบุ \_\_\_\_\_ ปี (ระบุเป็นจำนวนเต็ม)

**ระดับการศึกษาขั้นสูงสุดที่สำเร็จการศึกษาแล้ว**

ต่ำกว่าประถมศึกษา  อนุปริญญา (หรือเทียบเท่า)  
 ประถมศึกษาตอนต้น  ปริญญาตรี  
 ประถมศึกษาตอนปลาย  ปริญญาโท  
 มัธยมศึกษาตอนต้น  ปริญญาเอก  
 มัธยมศึกษาตอนปลาย (หรือเทียบเท่า)

**รายได้ส่วนตัวต่อเดือน**

ไม่เกิน 5,000 บาท  20,001 – 25,000 บาท  
 5,001 – 10,000 บาท  25,001 – 30,000 บาท  
 10,001 – 15,000 บาท  30,001 บาทขึ้นไป  
 15,001 – 20,000 บาท

**คุณเล่นเกมอะไรบ้าง? (เลือกได้มากกว่า 1 คำตอบ)**

Defense of the Ancients (DotA)  
 Heroes of Newerth (HoN)

Source: Designed by the author.

Figure A.3 Original Questionnaire about MOBA Gameplay and Players' Behaviors (Page 3 of 5)

คุณเริ่มเล่นเกม DotA หรือ HoN มาเป็นเวลาประมาณกี่ปีแล้ว?

ระบุ \_\_\_\_\_ ปี (ระบุเป็นจำนวนเต็ม 1 – 10 ปี)

คุณเล่นเกม DotA หรือ HoN โดยเฉลี่ย ประมาณกี่เกมต่อหนึ่งอาทิตย์?

( ) ไม่เกิน 5 เกม  
( ) 6 – 10 เกม  
( ) 11 – 15 เกม  
( ) 16 – 20 เกม  
( ) 21 – 25 เกม  
( ) 26 – 30 เกม  
( ) 31 เกมขึ้นไป

คุณเล่นเกม DotA หรือ HoN ที่ไหนบ่อยที่สุด? (เลือกได้มากกว่า 1 คำตอบ)

[ ] บ้านของตัวเอง  
[ ] บ้านเพื่อน  
[ ] คอมพิวเตอร์พกพา  
[ ] ร้านเกมส์  
[ ] โรงเรียน / มหาวิทยาลัย

คุณชอบเล่นเกม DotA หรือ HoN มากน้อยแค่ไหน?

( ) เกือบ  
( ) ไม่ชอบ  
( ) เฉยๆ  
( ) ชอบ  
( ) ชอบมากที่สุด

บทบาทหรือหน้าที่ใดในทีม ที่คุณเล่นบ่อยที่สุด?

( ) **Carry (แคร์รี่)** — คือประเภทฮีโร่ที่แข็งแกร่งได้ด้วยอุปกรณ์ (ไอเท็ม) มีสกิลและสเตตัสที่เหมาะสมกับช่วงปลายเกม ผู้เล่นต้องรักษานิวสแกนตัวตายบ่อยไม่ได้ และมักจะใช้เวลาส่วนใหญ่เก็บเงิน (ฟาร์ม) เพื่อซื้อไอเท็มสำหรับเพิ่มความเก่งกาจ

( ) **Support (ซัพพอร์ต)** — คือผู้เล่นประเภทที่เน้นการสนับสนุนและปกป้องเพื่อนร่วมทีม สามารถเป็นตัวชนให้กับทีมศัตรูได้ ไม่จำเป็นต้องฟาร์มไอเท็มมาก เงินส่วนใหญ่จะหมดไปกับการสนับสนุนทีม

( ) **Ganker (แก๊งค์เกอร์)** — คือผู้เล่นประเภทที่เน้นการแอบซุ่มเพื่อโจมตีฝ่ายศัตรู มีหน้าที่หลักในการไล่ฆ่าฝ่ายศัตรูตั้งแต่ต้นเกม ตัวละคร (ฮีโร่) มักจะมีสกิลรุนแรงเพื่อตัดเงิน และเลเวลของคู่ต่อสู้ สามารถทำความเสียหาย (damage) ได้อย่างรุนแรงในเวลาสั้นๆ ได้

ในสถานการณ์ที่ทีมของคุณกำลังพ่ายแพ้อย่างเห็นได้ชัด คุณจะอย่างไร?

( ) พยายามเล่นต่อจนจบเกมส์  
( ) ถอดใจยอมแพ้ หรือขอโทษยอมแพ้ (concede vote) ในกรณีที่สามารทโหวตได้  
( ) ป่วนเกมส์เน้นสนุก หรือออกจากเกมส์ทันที

Source: Designed by the author.

Figure A.4 Original Questionnaire about MOBA Gameplay and Players' Behaviors (Page 4 of 5)

**ส่วนที่ 2. เกี่ยวกับพฤติกรรมในเกมส์ของผู้เล่นเกมส์ DotA หรือ HoN**

กรุณาวิเคราะห์พฤติกรรมต่างๆในเกมส์ DotA หรือ HoN ต่อไปนี้ แล้วเปรียบเทียบกับตนเอง ว่าตนเองกระทำพฤติกรรมดังกล่าวมากน้อยเพียงใด ค่าตอบเรียงลำดับจากน้อยที่สุด (ทางซ้าย) ไปยังมากที่สุด (ทางขวา)

	← น้อยมาก   บ่อยมาก →					
ฉันชอบเก็บเงินตอนต้นเกมส์ และใช้เวลาฟาร์ม (farm) นานกว่าคนอื่นในทีม	1	2	3	4	5	6
ฉันเล่นฮีโร่ที่มีความสามารถ (skill) ที่รุนแรง และสามารถสร้างความเสียหาย (damage) ได้สูงตั้งแต่ต้นเกมส์ แม้ว่าความสามารถนั้นๆจะอ่อนแอลงตอนท้ายเกมส์ก็ตาม	1	2	3	4	5	6
ฉันไม่ใช่คนเปิดเกมส์ ฉันจะหลีกเลี่ยงการเปิดเกมส์ให้มากที่สุด	1	2	3	4	5	6
ฉันไม่ลังเลที่จะขโมยฆ่าฮีโร่ (kill steal) หรือเป็นคนสุดท้าย (last shot) ที่ทำลายป้อม (tower) เพื่อเงินและประสบการณ์ โดยไม่สนใจว่าผู้เล่นอื่นๆจะไม่พอใจ	1	2	3	4	5	6
ฉันปล่อยให้ผู้เล่นอื่นในทีมเก็บไอเท็มเอจิส (Aegis of the Immortal) ที่ได้จากการฆ่าโกเลมยักษ์ (Roshan)	1	2	3	4	5	6
ฉันไม่ปล่อยให้ผู้เล่นอื่นในทีมต้องตายเดี่ยว โดยฉันจะคอยปกป้องและให้การสนับสนุนผู้เล่นในทีม	1	2	3	4	5	6
ฉันเลือกฮีโร่ที่ต้องการเล่น ก่อนคนอื่นในทีม	1	2	3	4	5	6
ฉันให้ความสำคัญต่อความปลอดภัยของผู้เล่นในทีม และการปกป้องพวกเขา มากกว่าความปลอดภัยตัวเอง หรือการฆ่าศัตรู	1	2	3	4	5	6
ฉันอยู่ประจำเลนที่ตัวเองรับผิดชอบอยู่ หรืออยู่ประจำในป่า เป็นเวลานานๆ ไม่เปลี่ยนเลนไปมา	1	2	3	4	5	6
ฉันเลือกเล่นฮีโร่ โดยคำนึงถึงความสามารถ (skill) ในการสกัดหรือตัดเกม (disable) เป็นหลัก เช่นความสามารถ stun (สตัน), silence (ใบ้) หรือ slow (ทำให้ช้า) เป็นต้น	1	2	3	4	5	6
ฉันเล่นฮีโร่ที่ค่อนข้างอ่อนแอตอนต้นเกมส์ แต่จะแข็งแกร่งและเก่งกาจที่สุดตอนท้ายเกมส์	1	2	3	4	5	6
ฉันใช้วิธีการแก๊งค์ (gank) หรือจู่โจมศัตรูจากด้านหลัง (ต้อย) และซุ่มฆ่าเป็นหลัก	1	2	3	4	5	6
ฉันมีความอดทนสูง เพื่อจังหวะและโอกาสที่ดีที่สุดในการ ฆ่าศัตรู	1	2	3	4	5	6
ความแข็งแกร่งของฮีโร่ของฉัน สำคัญกว่าคนอื่นในทีม	1	2	3	4	5	6
ฉันสนับสนุนทีม โดยการเป็นคนซื้อไอเท็มสำหรับสนับสนุนทีม เช่นการอัปเกรดไค้ (Courier) ปักหวาด (Wards) หรือ ซื้อเจมส์ (Gem of True Sight) เป็นต้น	1	2	3	4	5	6
ฉันวางแผนก่อนการโจมตี หรือวางกับดักหลอกล่อศัตรู ด้วยวิธีต่างๆ	1	2	3	4	5	6

กรุณาให้คะแนนความ เก่ง โปร หรือ เทพ ของตัวเองในเกมส์ DotA หรือ HoN

ระบุ \_\_\_\_\_ คะแนน (ระบุเป็นจำนวนเต็ม 1 – 10 คะแนน)

Source: Designed by the author.

Figure A.5 Original Questionnaire about MOBA Gameplay and Players' Behaviors (Page 5 of 5)

**ส่วนที่ 3. ไม่เกี่ยวกับเกมส์! แต่เป็นพฤติกรรมในชีวิตจริง ในเรื่องของการทำงานเป็นกลุ่ม หรือกิจกรรมอื่นๆที่มีสมาชิกหลายคน**

**!! คำถามต่อไปนี้ ไม่เกี่ยวกับเกมส์ !!**

กรุณาเปรียบเทียบพฤติกรรมต่อไปนี้ ว่าตนเองกระทำพฤติกรรมดังกล่าวมากน้อยเพียงใด กิจกรรมกลุ่ม อาจเป็นกิจกรรมใดๆก็ได้ ที่มีสมาชิกกลุ่มตั้งแต่ 2 คนขึ้นไป เช่นงานกลุ่ม กิจกรรมชมรม การนัดเที่ยวต่างจังหวัด กีฬาเป็นทีม เป็นต้น คำตอบเรียงลำดับจากน้อยที่สุด (ทางซ้าย) ไปยังมากที่สุด (ทางขวา)

	← น้อยมาก   บ่อยมาก →					
ฉันไม่ต้องการให้คนอื่นสอน หรือเสนอแนะวิธีการที่ฉันใช้ในการปฏิบัติหน้าที่ หรือสำเร็จภารกิจต่างๆ	1	2	3	4	5	6
ฉันเป็นคนตัดสินใจและสั่งการในกลุ่ม เพื่อให้ผลงานของกลุ่มออกมาตามที่ฉันต้องการ	1	2	3	4	5	6
ฉันเชื่อใจสมาชิกในกลุ่ม และวางใจให้พวกเขารับผิดชอบ ในหน้าที่ที่พวกเขาได้รับมอบหมาย	1	2	3	4	5	6
ฉันปรึกษาหรือขอความคิดเห็นจากสมาชิกคนอื่นๆในกลุ่ม เพื่อประกอบการตัดสินใจในเรื่องต่างๆ	1	2	3	4	5	6
ฉันเป็นคนวางแผนการและแบ่งหน้าที่ให้กับสมาชิกในกลุ่ม โดยคำนึงถึงความเหมาะสมของความถนัดและความสามารถ ของสมาชิกแต่ละคน	1	2	3	4	5	6
ฉันพร้อมให้ความช่วยเหลือสมาชิกในกลุ่ม และยินดีทำหน้าที่แทนในส่วนที่พวกเขาได้รับผิดชอบอยู่	1	2	3	4	5	6
ฉันกล่าวชมเชยและยกยอผลงานของคนอื่น หรือพูดปลอบใจ และให้กำลังใจพวกเขาเมื่อพบปัญหา	1	2	3	4	5	6
ฉันให้ความสำคัญกับคุณภาพของผลงาน มากกว่าความพึงพอใจของสมาชิกในกลุ่ม	1	2	3	4	5	6
ฉันไม่เมินเฉยเมื่อพบเห็นข้อผิดพลาด ฉันจะทักท้วงและหยุดการดำเนินกิจกรรมของสมาชิกเพื่อแก้ไขข้อผิดพลาดนั้นๆทันที	1	2	3	4	5	6
ฉันยินดีให้สมาชิกคนอื่นๆในกลุ่ม ดำเนินการตัดสินใจแทนตัวเอง ทั้งในเรื่องเล็กน้อยและเรื่องสำคัญต่างๆ	1	2	3	4	5	6
ฉันหลีกเลี่ยงการเป็นส่วนสำคัญของกลุ่ม หรือพยายามมีส่วนร่วมในกิจกรรมของกลุ่มให้น้อยที่สุด	1	2	3	4	5	6

**ขอขอบคุณสำหรับความร่วมมือในการทำแบบสอบถามครับ !**

Source: Designed by the author.



## **Appendix B**

### **Codes for Statistical Analysis**

SPSS and STATA statistical analysis software were used to perform a quantitative analysis of the collected survey data. The variables obtained from the survey were input into statistical analysis software as follows:

1. Leadership styles
  - (1) Autocratic leadership style
  - (2) Democratic leadership style
  - (3) Laissez-faire leadership style
2. Game Role Behaviors
  - [5 – 30] Carry role
  - [5 – 30] Support role
  - [5 – 30] Ganker role
3. Gender
  - (0) Male
  - (1) Female
4. Age
  - [12 – 47] Years old
5. Education
  - (1) Below elementary
  - (2) Lower elementary school (3<sup>rd</sup> year)
  - (3) Upper elementary school (6<sup>th</sup> year)
  - (4) Middle school
  - (5) High school (or equivalent)
  - (6) Occupational college
  - (7) Bachelor's degree
  - (8) Master's degree
  - (9) PhD
6. Income

- (1) No more than 5,000 Baht
  - (2) 5,001 – 10,000 Baht
  - (3) 10,001 – 15,000 Baht
  - (4) 15,001 – 20,000 Baht
  - (5) 20,001 – 25,000 Baht
  - (6) 25,001 – 30,000 Baht
  - (7) 30,001 Bath or more
7. Years Played — Number of years an individual has been playing the games.  
[1 – 10] Years
8. Matches per Week — The approximate amount of MOBA matches played every week.
- (1) No more than 5 matches
  - (2) 6 – 10 matches
  - (3) 11 – 15 matches
  - (4) 16 – 20 matches
  - (5) 21 – 25 matches
  - (6) 26 – 30 matches
  - (7) 31 matches or more
9. Private — Playing games on private property such as playing at home or at a friends' house
- (0) Playing in private spaces
  - (1) Not playing in private spaces
10. Public — Playing games on public property such as playing at school or at an Internet café
- (0) Playing in public spaces
  - (1) Not playing in public spaces

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