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Title of Thesis: The Impact of trait Emotional Intelligence on Motivations to Play League of Legends

Name of Candidate: Vaishnavvi Viswanathan

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Thesis and Abstract Approved:

Dr. Andrea Kleinsmith

Assistant Professor

Information systems

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ABSTRACT

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Vaishnavvi Viswanathan,
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Directed By: Dr. Andrea Kleinsmith
Assistant Professor
Information System Department

Once considered highly addictive, online video games such as League of Legends (LoL) have become extremely popular the world over. Fortune 500 companies have even begun considering gaming experience on job applications. But what motivates people to play such games and how much of those motivations are driven by a player's personality trait of emotional intelligence? This thesis investigates the role of trait emotional intelligence (EI) in players' motivation to play LoL. Linear regression was applied to survey data collected from 92 LoL gamers. Results reveal a significant relationship between trait EI and coping for players who have achieved ranked status, indicating stress relief is a motivation to play LoL. Findings are discussed according to previous research on links between trait EI and motivations to play digital games, how this coincides with aspects of cognitive abilities, and implications for game design.

THE IMPACT OF TRAIT EMOTIONAL INTELLIGENCE ON MOTIVATIONS OF PLAYING LEAGUE OF LEGENDS

By
Vaishnavvi Viswanathan

Thesis submitted to the Faculty of the Graduate School of the
University of Maryland, Baltimore County, in partial fulfillment
of the requirements for the degree of
Human-Centered Computing
2020

Dedication

I would like to dedicate this thesis to my father Mr. Viswanathan Hariharan who has taught me that nothing is impossible as long as you believe in yourself; my mother Ms. Thangam Viswanathan and my sister Ms. Vaisali Viswanathan for their constant support, love and encouragement.

Acknowledgements

When I began my master's program at UMBC, I wasn't entirely sure if I wanted to get into a PhD program. However, upon completing my thesis, I realized that I would love to continue in the field of research. I would like to contribute much of my success in completion of my thesis and the newfound passion for research to my first mentor and thesis advisor, **Dr. Andrea Kleinsmith**. I am deeply grateful for her constant support and guidance she has provided since the moment I started my Human-Centered Computing program.

I would like to acknowledge my committee members, **Dr. Anita Komlodi** and **Dr. Ravi Kuber** who have also been equally supportive for my growth as a student and a researcher throughout the journey of my thesis.

I would like to thank and appreciate **Mr. Jeremy Rubin** and **Ms. Anna Meyer** who took their time out to teach me statistical analysis and brainstorm ideas for my thesis.

Finally, and most importantly, I would like to thank my **family, friends** and **roommates** who have been a huge support since the beginning of my journey.

List of Tables

List of Figures

Chapter 1

INTRODUCTION

According to the 2019 findings from a survey of 4000 Americans conducted for the Entertainment Software Association[1], 65% of American adults reported they play video games. In terms of demographics, 54% of these adult gamers identify as male, while 52% of the adult gamers are college-educated. Findings also indicate video games play a positive role in gamers' lives – 79% of gamers reported games provide mental stimulation, 78% report games provide relaxation and stress relief and 63% of the gamers prefer to play with others.

While gamers report positive gaming experiences, previous research has argued that players who dedicate an excess amount of time playing video games are at risk of developing addiction (Iacolino et al, 2019). From this perspective, video game activity is considered an escape from reality to avoid real-life problems (Steiner, 1993). For instance, video games have been negatively associated with an individual's academic performance (Barry et al, 2008). More recent studies have found positive effects on children and adults playing video games, such as spatial skills, reaction time, family relationships, parental obedience, social networking, school performance and abstinence from drinking alcohol and using drugs (Jonasson & Thiborg, 2010).

Positive outcomes of gaming have also been acknowledged by Fortune 500 companies. Many executives today encourage job applications with detailed gaming experience as multiplayer games are considered an excellent way to develop leadership skills required in the real world (Barnett, Coulson, 2010). IBM was also influenced to adapt knowledge obtained from multiplayer games and apply that to their own real-life business scenarios (Barnett, Coulson, 2010). Video games are also considered valuable for military

[1] https://www.theesa.com/wp-content/uploads/2019/05/ESA_Essential_facts_2019_final.pdf, retrieved June 28, 2020

training; the United States Marine Corps (USMC) police transition team uses multiplayer video games for intercultural communication training (Raybourn, 2011).

Multiplayer online battle arena (MOBA) games are a particularly popular video game genre in which two teams are matched against each other to compete on a single battleground. One such game is League of Legends (LoL) which was released by Riot Games in 2009. In 2019, LoL earned its place as the second most popular free-to-play online game with $1.5 billion US revenue generated[2]. According to Riot Games, LoL has hit eight million concurrent players every day as of September 2019[3]. Given the immense popularity of LoL and its dedicated player base, we chose to focus on LoL in this thesis. Additionally, the ranking system in LoL helps to obtain an objective assessment of the actual skill level of each player which leads to an assumption that players with higher rank will have better gaming skills (Li et al, 2020). Furthermore, a wide range of cognitive abilities is required to engage in MOBA games like LoL.

The massive popularity of LoL raises key questions regarding what gamers get out of playing the game. Building on previous gaming motivations studies (Herodotou et al, 2011) (Herodotou et al, 2015) (Graham & Gosling, 2013) (Demetrovics et al, 2011) (Yee, 2006), specific research questions investigated are: (a) what motivates people to play such games; (b) how much of those motivations are driven by a player's personality trait of emotional intelligence; and (c) how can the findings be used by human-computer interaction (HCI) researchers and game designers? To address these research questions, the domain of trait emotional intelligence (trait EI), defined as one's ability to self-perceive their behavioral dispositions and emotional abilities (Petrides et al, 2007), is examined in this thesis as previous research has shown an association between trait EI and motivations to play similar types of multiplayer video games, such as World of Warcraft (Herodotou et al, 2011) (Graham & Gosling, 2013). A recent study illustrated that self-reported gaming motivations were linked to the actual behaviors within the game and could be used to

[2] https://www.onlineesports.com/news/industry/lol-revenue-reaches-1-5-billion-in-2019 retrieved June 28, 2020

[3] https://www.eurogamer.net/articles/2019-09-18-league-of-legends-hits-8m-concurrent-players-every-day, retrieved June 28, 2020.

estimate future behaviors within the game. (Király et al, 2015) (Billieux et al, 2013). Therefore, it is pivotal to understand who spends time in these environments and how this can be applied to real-life scenarios.

The results of this thesis contribute to a growing body of research involving gamers in HCI. Investigating players' motivations towards gaming and the role of trait EI in those motivations can help researchers better understand how to adapt or enhance specific features of the game, such as communication and collaboration which relate to real-life scenarios.

The remainder of the thesis is organized as follows. Chapter 2 summarizes the literature review of Emotional Intelligence (EI), trait Emotional Intelligence (trait EI), motivations in gaming and League of Legends (LoL). The approach devised to test the hypotheses is described in Chapter 3. Chapter 4 presents the analysis and discussion of the results, followed by limitations and future work. A summary of the thesis is proffered in Chapter 5.

Chapter 2

LITERATURE REVIEW

The literature review includes topics that bring a connection between the concepts and models used in the thesis. The first subsection explains the concept of Emotional Intelligence as well as the four-branch model of EI. While EI is considered to be a skill that can be developed, the theory of trait EI acknowledges that emotional experience is fundamentally subjective, as opposed to competence based. Thus, trait EI is considered to be a self-reported personality construct, and thus inherently different from mental ability based EI. Trait EI and its association with motivations to play is studied in this thesis. Thus, the third section discusses motivational approaches to gaming and the connection to trait EI. The last section provides a brief overview of LoL and research conducted with this multiplayer game.

2.1 Emotional Intelligence

In the early 1980's, Malone posited that developing true affect in online games is required in order to satisfy an individual's emotional needs (Malone, 1982). Malone also suggested that online video games often provide rich storytelling structures that lets an individual immerse themselves in a competitive environment by engaging their emotions, curiosity and self-esteem. This view is supported by Wells (1998), Miller (2008) and Crawford (2005) arguing that a narrative and storytelling experience is needed in games to take an individual through a journey that mirrors an emotional reality with dramatic moments that provide an opportunity to illustrate how they think, how they act and how they feel. Actions and emotions are often connected intrinsically in life, therefore online games present a unique interactive platform where individuals can be challenged to hone their EI (Raybourn, 2011).

"Emotional Intelligence (EI) is defined as the capability of a person to be aware and manage their own emotions and other's emotions, and to differentiate the positive and negative effects of their emotional information which helps to control their thinking and actions" (Salovey & Meyer, 1990, p.189). Raybourn

illustrated that a game-based learning design can create defining moments in which an individual can explore their EI and who they are under these challenging and dynamic conditions (Raybourn, 2011). Salovey and Grewal defined EI in general by using a four-branch model that assists in understanding an individual's level of EI. The four proposed abilities that are distinct yet related: perceiving, using, understanding, and managing emotions (Salovey, Grewal, 2005).

The first branch of EI is recognizing one's own emotions. It involves the potential to perceive and interpret emotions by examining the individual's facial movements and their voices. Recognizing emotions might also illustrate the most fundamental element of emotional intelligence as it can create all the possible emotional information to be processed (Salovey, Grewal, 2005).

The second branch of EI, utilizing emotions, is the ability to mobilize emotions to help achieve various cognitive activities, such as problem solving and critical thinking. Imagine that you have to finish a tough and tedious task that requires a high level of attention and meticulous planning in a short period of time; as far as completing the task goes, would it be better to be in a great mood or sad mood? Being in a slightly irritated mood allows people to approach the work in a methodological manner. On the other hand, a happy mood can assist in stimulating creative thinking. An emotionally intelligent individual can take advantage of his or her mood changes in order to complete the task at hand (Salovey & Grewal, 2005).

Further, Salovey and Grewal described the third branch of EI, understanding emotions, as the ability to comprehend the emotion language and to perceive complex relationships of emotions. Understanding emotions can involve the capability to be careful to mild differences in emotions, for instance, knowing the difference between ecstatic and happy. Furthermore, it consists of the potential to apprehend and describe how feelings evolve over time, which includes how shock can change into grief.

The fourth branch of EI, controlling emotions, consists of the capability to manage emotions in both ourselves and in others. There are moments in everyone's life, where they have embarrassingly lost

control of their emotions. This branch also includes the capacity to control others' emotions. For example, an emotionally intelligent political figure has the potential to deliver an angry speech that will trigger the anger in his or her audience. Therefore, an emotionally intelligent person can exploit emotions, even dreadful ones, and regulate them to achieve their targeted goals (Salovey, Grewal, 2005).

2.2 Trait Emotional Intelligence

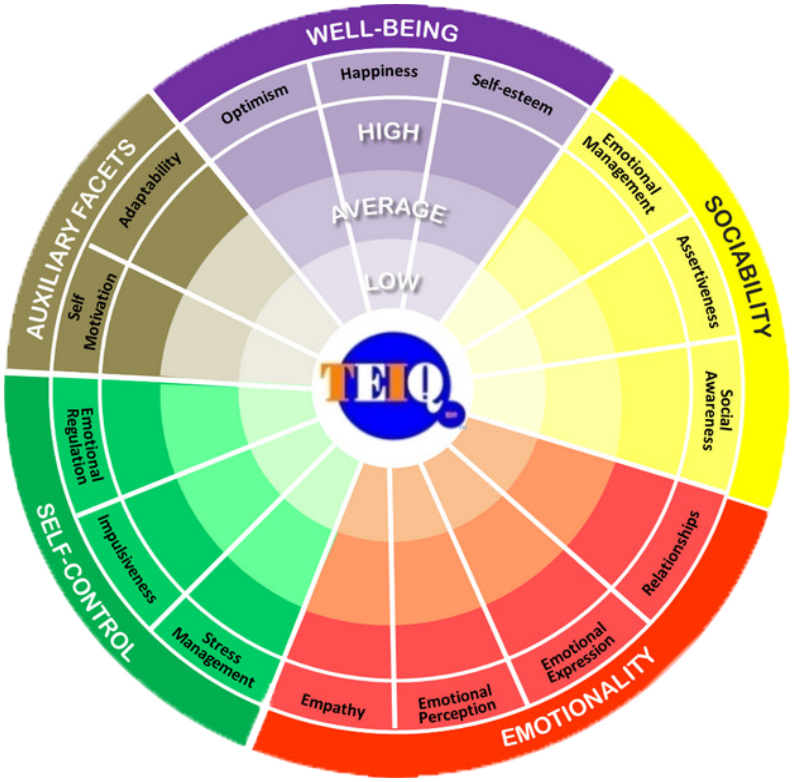

Figure 1. The 15 Facets of the Trait Emotional Intelligence Questionnaire placed with reference to their corresponding factor (Petrides, 2009).[4]

Trait EI is a constellation of emotional self-perceptions; that is, how good we think we are in terms of controlling and expressing our emotions to adapt well with our social environment so we can maintain

[4] https://www.optimalhrgroup.com/en/assessment-and-development, retrieved June 28, 2020

our well-being (Petrides et al, 2016). The trait EI questionnaire (TEIQue; Petrides, 2009) refers to a self-reported personality construct that was created to assess an individual's level of well-being, emotionality, sociability, and self-control (see Figure 1). The definition of each dimension can be seen in Table 1. As briefly explained in the previous section, EI as defined by Salovey and Meyer (1990) is considered a mental ability that can be trained and improved and thus, differs from trait EI (Petrides, 2010). Previous studies by Petrides suggests that trait EI is possessed by an individual as part of their personality while ability EI falls under the realm of cognitive ability (Petrides, 2011). While there are several questionnaires for assessing an individual's ability EI (Cooper & Petrides, 2010), such as Mayer-Salovey-Caruso Emotional Intelligence Tests (MSCEIT) (Mayer et al., 2002a,b), Self-Report Emotional Intelligence Test (SREIT) (Schutte et al., 1998), Bar-On Emotional Quotient Inventory (EQ-i) (Bar-On, 1997a,b) and Emotional and Social competence Inventory (ESCI) (Boyatzis and Goleman, 2007) (O'Connor et al, 2019), to our knowledge, the only validated questionnaire for assessing an individual's *trait* EI (as opposed to competence-based EI) is the TEIQue.

Many independent research studies in the past have illustrated the ability of TEIQue to predict outcomes considerably better than other questionnaires (see Freudenthaler et al, 2008; Gardner & Qualter, 2010; Martins et al, in press). TEIQue has been used in a number of previous studies that required the assessment of affective aspects of personality. These include research in the areas of neuroscience (Mikolajczak et al 2010), relationship satisfaction (Smith et al, 2008), psychopathology (Ali et al, 2009), addictions (Uva et al, 2010), reaction time (Austin, 2009), general health (Johnson et al, 2009), and behavioral genetics (Vernon et al, 2008). Studies that have focused specifically on the psychometric properties of the TEIQue have been reported in (Freudenthaler et al, 2008, Mikolajczak et al, 2007, and Petrides, 2009).

Table 1 Description of the four scales of TEIQue-SF (Sample items are listed in parentheses.)

Scale description	Explanation
TEIQue-SF	Assessing self-perceived abilities and behavioral dispositions
Well-being	Concerns generalized sense of well-being and fulfillment about life (e.g., I generally do not find life enjoyable)
Self-control	Concerns control over urges and desires (e.g., I usually find it difficult to regulate my emotions)
Emotionality	Concerns emotion-related skills and personal relationships (e.g., Many times, I cannot figure out what emotion I'm feeling)
Sociability	Concerns social relationships and social influence (e.g., I can deal effectively with people)

While these studies considered the complete inventory, as the work in this thesis is motivated by Herodotou et al (2011), we have used the same version of the TEIQue - the short form (TEIQue-SF). Herodotou and her colleagues used TEIQue-SF to understand the role of trait EI in gamer's preferences for play and frequency of gaming in a sample of high-end World of Warcraft (WoW) gamers (Herodotou et al, 2011). The results showed that trait EI can predict achievement and social preferences for play and frequency of gaming. Furthermore, their results indicated that gamers with higher trait EI scores are motivated to play WoW for the social nature of the game. In a related study, Heredotou and colleagues

examined characteristics of a gamer's profile to understand what should be taken into account for a player-centered game design (Herodotou et al, 2015). The results revealed that trait EI was negatively related to the amount of time spent on gaming, suggesting that individuals who have higher emotional self-perceptions actually spend less time gaming.

2.3 Motivations in gaming

The relationship between personality and in-game behaviors indicates that there is a relationship between personality traits and motivations to play (Graham & Gosling, 2010). Certainly, many researchers who studied motivations in gaming have also suggested more study on interpreting the relation between personality traits and motivations (Demetrovics et al, 2011). This triggers questions about how trait EI and motivations are linked in the narrower domain of League of Legends.

To the disadvantage of other activities, individuals spend more time online to satisfy their emotional needs and motivations to cope as the level of real-life problems increases (Young, 2009). As trending online video games provide a deeper platform for a player's experience, their prospect of psychological and motivational impact has also increased correspondingly (Ryan et al, 2006). This has led game developers to believe that the design of the game needs to incorporate more factors such as human psychology.

Various approaches have been used to classify motives into different categories (Yee, 2006). For instance, Bartle examined four types of Multi-User Dungeon players based on their motives (i.e., achievers, explorers, socializers and killers). After testing Bartle's theoretical model on player styles, Yee (2005) has conducted several studies investigating aspects of gaming behavior, mainly emphasizing massively multiplayer online games (Ryan et al, 2006). Yee determined three motivations of gamers through the factor analysis conducted when developing his survey. The three broad, collective motives are achievement, social and immersion. Players who are focused on achievement, are interested in competing with others and mastering the game. Players who prefer to socialize would want to chat with others and develop a lifelong

relationship. Players who get immersed seek to escape reality and create a persona with a background story. Although immersion is a broadly valued motivational construct, little conceptual work is done to outline its psychological components. Indeed, Yee's immersion dimension seems to include both positive and negative psychological characteristics of game play.

Several motivational factors have been considered for playing online multiplayer games such as LoL and Wow. For example, Yee argues many players play multiplayer online games to socialize with others (e.g., develop interpersonal relationships, social support and build team cohesion), to gain a sense of power (e.g., feel of achievement, acquire status or dominating over others), or escape into a fantasy world to forget reality (e.g., immerse themselves into virtual worlds or create virtual identities) (Graham & Gosling, 2013).

While Yee's online gaming motivations proposes three overarching motivations of achievement, social and immersion, it appears that each motive may cover a wider range of more fine-grained motives. For instance, the Motives for Online Gaming Questionnaire (MOGQ) comprises seven separate motivations: social, escape, coping, recreation, competition, skill development, and fantasy (Demetrovics et al, 2011). As indicated by Graham and Gosling (2013), these largely map to the motivations identified by Yee (Graham & Gosling, 2013). *Social* refers to gaming in order to play with others and develop friendships. *Escape* concerns the desire of gaming to avoid real world dissatisfactions. *Competition* covers the need to defeat others while *skill development* involves the player's concentration and coordination. *Coping* includes relieving stress, aggression or tension via gaming and also to get into a good mood. *Fantasy* refers to the fact that gamers would like to try out new personalities or new fantasy worlds that are completely different from the real world. Lastly, *recreation* means playing the game for fun (Király et al, 2015).

Additionally, in the MOGQ, coping and recreation motivations for gaming seem to indicate a positive outcome (therapy via gaming) as items in the coping motivation include "I play because it helps me get rid of stress" and items in the recreation motivation include "I play because it is entertaining" while escape and fantasy indicate a negative outcome (addiction and self-isolation). For example, escape items include "I play because gaming helps me forget reality" and fantasy items include "I play because I can do things that I am unable to do, or I am not allowed to do in real life." These seem to be two different aspects of gaming; however, Yee's online gaming motivation lumps the four motivations - coping, recreation, escape and fantasy - under one, single motivation named immersion.

The motivation of the player towards online games indicates how these games affect their cognition (Li et al, 2020). Demetrovics and his colleagues reported that online games can be more appealing to gamers if they can suffice their psychological needs that can be theorized as gaming motivations (Demetrovics et al, 2011). The various motivations explain why certain gamers with varied emotional personality traits are wholly immersed in a single game (Herodotou et al, 2015). Additionally, if the game features sync with the players' emotional personality, it helps them engage in the game and identify themselves based on the game characters.

Shedding light on who the players are and how this knowledge can link to gaming can also help illustrate a gamer's personality which may explain various game design requirements for a player-centered gaming experience (Herodotou et al, 2015). Research in the past has explained that there is a connection between individual differences and motives in a much broader context which includes digital games or multiplayer online games under a general perspective (Graham & Gosling, 2013).

2.4 League of Legends

League of Legends is a team-based game where two teams compete against each other to destroy the opponent's base. The most popular game mode has five players on a team and the teams compete on a map. LoL genre characteristics are a mix of real-time strategy, tower defense, and computer roleplaying game (Walbridge, 2008) (Sun, 2017). Players, grouped together from a pool of many millions, must coordinate strategies, tactical maneuvers, reconnaissance missions, itemization synergies, and resource sharing amongst each other. Matches typically last over 40 minutes, but a game that is going poorly for one team at the 20-minute mark may be abandoned with a majority "surrender" vote (Ferrari, 2013) (Sun, 2017).

Figure 2. League of Legends Battle arena[5]

Two game types in LoL are normal games and ranked games (Kou & Gui, 2014). Normal, or casual games are played for fun or to test a champion or a guild. Ranked games are assigned with a ranking system based on the gamer's skill measurement which leads to assigning them to one of the ranking leagues: Challenger, Diamond, Platinum, Gold, Silver and Bronze. Gamers can move up to the next higher league as they keep winning games. Gamers can also be demoted to a lower league if they constantly keep losing

[5] https://www.kotaku.co.uk/2019/12/23/games-of-the-decade-league-of-legends, retrieved June 28, 2020

the game or they stopped playing for a while. Ranking affects player cooperation (Kou et al, 2016), requires mental skills and cognitive abilities (Li et al, 2020). Ranked players use third party websites to understand about their team members' strengths and skills which helps them to influence their teammates.

A study by Leavitt and colleagues reported that LoL contributes rich behavioral data in high tempo settings with rules which gives scientists an opportunity to test various emotional, cognitive and social behavioral theories (Leavitt at al, 2016). The LoL world championships have attained massive popularity and success as one of the world's most watched tournaments; in fact, LoL is considered to be the world's most watched online video game[6]. Furthermore, LoL has over 80 million monthly active players[7]. Therefore, the immense popularity of LoL raises key questions such as – what motivates them in the first place to play LoL? Are there differences between players who have achieved ranked status and those who prefer to play casually?

2.5 Study Hypotheses

Based on previous literature (Herodotou et al, 2011) (Yee, 2006) (Demetrovics et al, 2011) (Li et al, 2020) (Graham & Gosling, 2013) and the popularity of LoL and similar multiplayer games, I derived four hypotheses to investigate the research question.

Considering LoL players in general, **I hypothesize that trait EI will be positively related to social motivations to play (H1)**. This hypothesis is motivated by Herodotou, et al (2011). While they considered only high-end gamers, their results showed that trait EI scores explained only a small percentage, 2%, of a social motivation to play. Given that our sample includes casual gamers (i.e., non-ranked) as well as ranked players (equating to high-end gamers), we expect that a social motivation to play will account for the same or a higher percentage of variance in trait EI scores.

[6] https://en.wikipedia.org/wiki/League_of_Legends_World_Championship, retrieved June 28, 2020
[7] https://dotesports.com/league-of-legends/news/league-of-legends-2019-worlds-peak-viewership, retrieved June 28, 2020

While a social motivation is thought to be a primary reason most individuals choose to play the game, there may be stronger motivations for ranked players to pursue the game. Gamers with a strong achievement motivation (e.g., to enhance game skills and compete with others according to the MOGQ) may be an indication that they have better cognitive abilities (Li et al, 2020). Therefore, **I hypothesize that there will be a positive relationship between trait EI and achievement as a gaming motivation in LoL players who have ranked status (H2).**

Similarly, coping can be another motivation for ranked players. LoL is considered to be both stressful and a stress reliever which is clearly based on the player type. Ranked players who may consider this competitive game as a stress reliever must be naturally good at the game; thus, reaching higher ranks. This may indicate that gamers who find gaming therapeutic can reach ranked status more easily than gamers for whom playing the game is more stressful than stress relieving. Therefore, **I hypothesize that trait EI of ranked players will be related to coping motivations to play (H3).**

Researchers in the past have predicted that game expertise is based on the amount of time they spend playing the game (Li et al, 2020). However, there is no possible assurance that an increase in gaming experience will invariably be equal to becoming a game expert. Accordingly, **I hypothesize that trait EI of ranked players will be negatively associated with hours of play per week (H4)**. This is formulated from previous research that focused on top-ranking LoL players (Li et al, 2020).

Chapter 3

METHODOLOGY

This chapter outlines the approach taken to collect and analyze survey data of LoL gamers.

3.1 Procedure

Study data was collected using an online survey conducted via Qualtrics. Participants were recruited using word of mouth, advertisement through social network sites, and direct email to LoL clubs and other gaming clubs in different universities such as University of Maryland Baltimore County, Towson University, and University of Maryland College Park. The study comprised demographics and two pre-existing, validated surveys, TEIQue-SF and MOGQ, described in section 3.3. The survey took approximately 30 minutes to complete. Participants were prevented from completing the survey more than once via the use of IP address. Participants who completed the study were entered to win a $20 Amazon gift card. One gift card winner was chosen for every 20 participants. The study was approved by UMBC's Institutional Review Board.

3.2 Participants

A total of 95 League of Legends players participated in the survey over 10 days. Three respondents were excluded due to incomplete responses, leaving 92 respondents for analysis. Females (n=16) comprised 17% and males (n=76) comprised the remaining 83%. The sample consisted of 42.4% Asian (n=39), 35.9% White (n=33), 6.5% Native American (n=6), 6.5% who identify with two or more races (n=6), 4.3% African American-Black (n=4), and 4.3% Latino or Hispanic (n=4). 93% of the participants were aged 18 to 30 years (n=86). The respondents also reported that 78.3% are undergraduates, 9.8% are master's students, one respondent is pursuing a doctorate, and the remaining 10.9% are currently employed. 51.1% of the respondents identified as ranked LoL players and the remaining 48.9% identified as casual LoL players.

3.3 Measures

3.3.1 Trait Emotional Intelligence Questionnaire

We chose to measure trait EI using a validated questionnaire as self-report surveys are commonly used to measure personality traits, such as trait EI (Petrides et al, 2004). The TEIQue is the predominant one as it is based primarily on trait EI theory (Petrides, 2001).

Trait EI was measured using the short form of the TEIQue (TEIQue–SF) (Petrides, 2009) (Zampetakis, 2011). It consists of 30 items designed to measure global trait EI (e.g., "I usually find it difficult to regulate my emotions"; "I'm usually able to influence the way other people feel"). Items are answered on a Likert scale ranging from 1 (Completely Disagree) to 7 (Completely Agree). As discussed in Chapter 2, the TEIQue-SF consists of four components: well-being (a sense of fulfillment about one's life), sociability (social-oriented skills), self-control (capability to control one's urges) and emotionality (regulating one's emotions) (Petrides et al, 2007). The TEIQue–SF is derived from the full form of the TEIQue, which covers 15 distinct facets. Two items from each facet were included in the short form. Refer to Table 2 for the means and standard deviations for our data. Internal consistency was calculated with Cronbach's alpha (Cronbach, 1951), listed in the last column of Table 2. All dimensions showed high internal consistency except for self-control which displayed low internal consistency.

Table 2. Descriptive Statistics and Cronbach's Alpha for our TEIQue-SF data

Variables	Mean	Std. Deviation	Cronbach's alpha
Trait EI	4.71	0.80	0.90

Emotionality	4.91	0.99	0.71
Self-control	4.45	0.85	0.47
Well Being	4.96	1.17	0.84
Sociability	4.58	1.00	0.72

3.3.2 Motives for Online Gaming Questionnaire

The MOGQ (Demetrovics et al, 2011) and Yee's motivations to play online games (Yee, 2006) are the two primary motivation scales currently used to assess one's gaming motives. However, researchers have primarily considered MOGQ scale as it displays high internal consistency and it covers the main motives in gaming from earlier studies (Wu et al, 2016). Moreover, as discussed in section 2.3, Graham & Gosling (2013) report that there is substantial overlap between the MOGQ and Yee's online gaming motivations scale, indicating that Yee's motivations may be able to be decomposed into more specific, individual motivations as evidenced by the MOGQ.

Table 3 Descriptive Statistics and Cronbach's Alpha for our MOGQ data

Variables	**Mean**	**Std. Deviation**	**Cronbach's alpha**
MOGQ	2.88	0.64	0.89
Social	2.52	0.86	0.66

Escape	2.92	1.16	0.88
Competition	3.23	0.97	0.75
Coping	2.69	0.89	0.69
Skill Development	2.79	1.08	0.85
Fantasy	2.06	1.10	0.88
Recreation	4.28	0.67	0.70

The 27-item MOGQ uses a 5-point Likert scale, ranging from 1 (almost never) to 5 (almost always/always) (Demetrovics et al, 2011). The seven motivational factors comprising the MOGQ are social (building online relationships), escapism (escaping from real-life problems), coping (reducing stress), fantasy (identifying themselves as another character within the game), skill development (cooperation and concentration), recreation (enjoyment) and competition (challenging others). These components are not exclusive for one player; as different components can simultaneously characterize a single player. Refer to Table 3 for the means and standard deviations. Internal consistency was calculated with Cronbach's alpha, listed in the last column of Table 3. All dimensions showed high internal consistency.

The statistical analysis conducted, and a discussion of the results are detailed in Chapter 4.

Chapter 4

ANALYSIS AND DISCUSSION

Simple linear regression was implemented to understand the relationship between trait EI and motivations to play LoL. Statistical analysis was conducted using SPSS version 26.

4.1 Hypothesis 1: Trait EI will be positively associated with social motivations to play.

The first hypothesis was formulated based on previous literature (Herodotou et al, 2011). One of the primary motives for the majority of players (ranked and casual) is social (Tychsen et al, 2008). Gamers prefer LoL for socializing and building relationships according to previous research (Kou & Gui, 2014). Therefore, our hypothesis states that there will be a positive association between trait EI and the social motivation for ranked and casual gamers to play LoL; i.e., as trait EI scores increase so will social motivation scores.

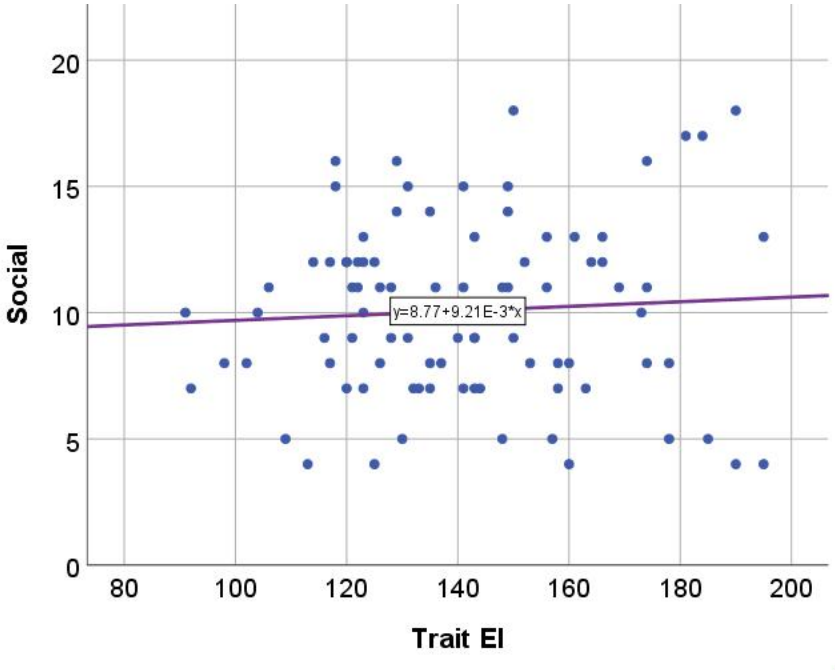

Figure 3. Scatterplot with line of best fit of trait EI and the Social motive for all players

Results of linear regression were not statistically significant, F (1, 90) = 0.373, p = 0.543, demonstrating that this model has no explanatory power. This indicates that socializing is not a motivation to play LoL for the gamers in our sample; players have other motivations to play the game. Refer to Figure 3 for the scatterplot with the line of best fit, which is nearly horizontal, clearly demonstrating the lack of a relationship. Given the results, we are not able to accept our hypothesis. This is unexpected as one of the main elements in LoL is social bonds. We posit that the lack of significance may be attributed to the diverse sample; both casual and ranked players were recruited for our survey. It is entirely possible that the two groups have different motivations for playing. This is one direction for future research, requiring recruitment of additional players in both groups.

In addition to player type, another explanation for the lack of significant results for a social motivation to play LoL could be the gamers' preference for the type of team with whom they play. There are two types of teams in LoL – *premade* and *solo* (Scholtes et al, 2016). Different modes of communication are allowed within each team type. Premade teams are gamers who can form a team with their friends. Premade teams are allowed to use the voice chat function, allowing players to freely converse with teammates. Solo teams on the other hand refer to gamers who are randomly matched by the game with strangers with similar skill levels. In solo games, voice chat is not an option. The only communication method available between teammates is text-based, through *pings. Pings* are short predetermined phrases, primarily for facilitating game play strategy and danger warnings, such as *"on my way"* and *"player x needs assistance"*. LoL currently provides only six different *pings* for communication (Leavitt et al, 2016).

This difference in available chat function comes into consideration for the current hypothesis results. It is possible that players who choose the *solo* game mode over the *premade* game mode likely have other motivations to play than a purely social motivation. It is also possible that increasing the number and type of pings available for communication may increase a solo player's social motivation. For instance, currently, no pings exist to provide emotional support or encouragement to teammates. Game designers can

focus on how to improve these interactions. Designers can provide other efficient ways for players to praise their teammates to send complimentary phrases. This may lead to an increase in ranked and casual, solo and premade gamers' social motivations to play LoL.

4.2 Hypothesis 2: Trait EI of *ranked* players will be positively associated with achievement motivation to play.

The second hypothesis was also based on Herodotou's study investigating the impact of trait EI on gamers' preferences for playing WoW (Herodotou, et al, 2011). The researchers hypothesized a negative relationship between trait EI and achievement preferences for play (Herodotou et al, 2011), employing Yee's online gaming motivations. Thus, to obtain achievement scores in our data, we combined *skill development* and *competition* scores, as together they form Yee's achievement motivation (Graham & Gosling, 2013). The gamers in their sample were strictly high-end gamers, which equate to the ranked players recruited in our sample of LoL gamers. Therefore, we hypothesized that trait EI of *ranked* players is positively associated with achievement motivations to play. Unlike Herodotou's hypothesis, we hypothesized a positive relationship based on research by Li and colleagues which suggests that ranked LoL players are better achievers because they have higher cognitive abilities (Li et al, 2020).

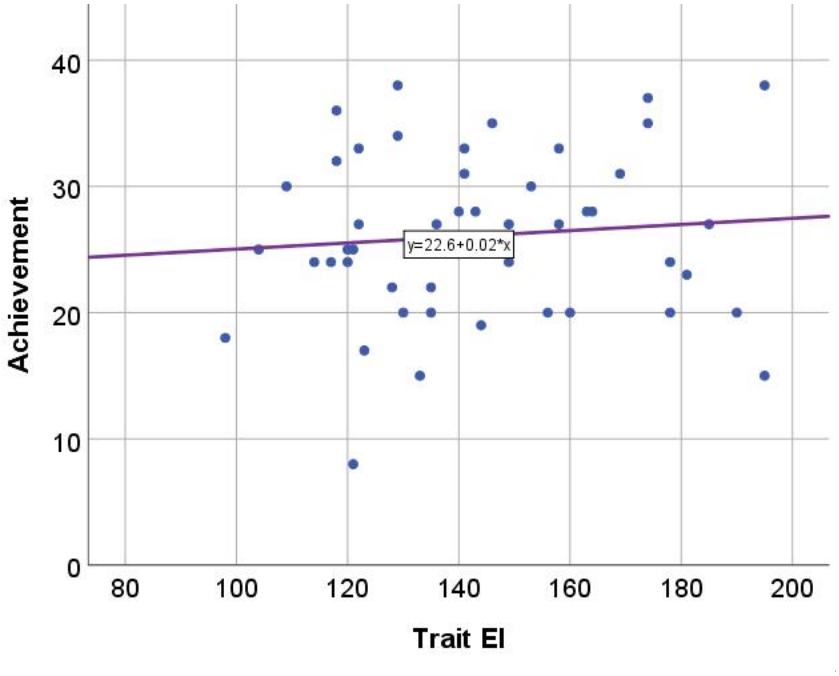

Figure 4. Scatterplot with line of best fit of trait EI and Achievement for ranked players

Accordingly, we first modeled the relationship between trait EI and achievement (i.e., skill development plus competition) for the 47 ranked players only. The results were not statistically significant, F (1, 45) = 0.388, p = .537, demonstrating that this model has no explanatory power as illustrated in Figure 4 by the line of best fit. Thus, the model is not a significant predictor of achievement motive for ranked players. This result is quite unexpected knowing the competitive nature and level of skills required to achieve ranked status in LoL.

Because we first modeled skill development and competition together on trait EI, we determined it necessary to model the relationship between trait EI and the two MOGQ subscales, individually. The results, however, were not statistically significant in either case as illustrated by the line of best fit in Figure 5 for skill development (F (1, 45) = 0.179, p = .674) and Figure 6 for competition (F (1, 45) = 0.411, p = .525). Therefore, we are unable to accept H2.

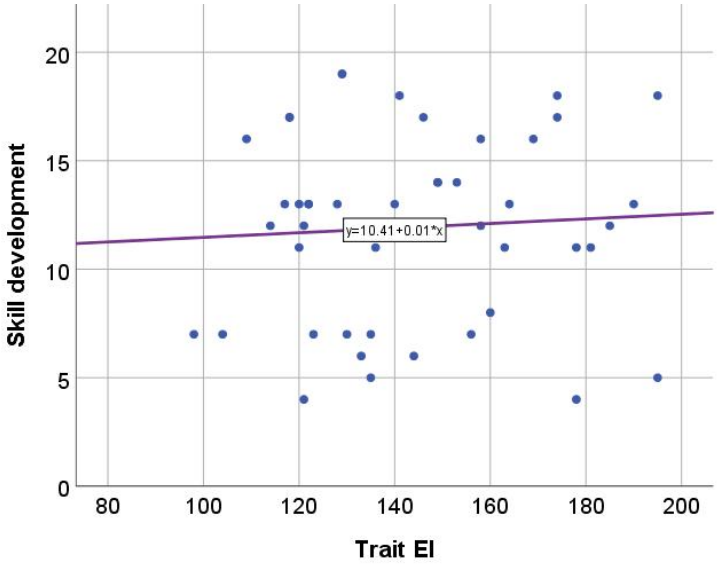

Figure 5. Scatterplot with line of best fit of trait EI and Skill Development for ranked players

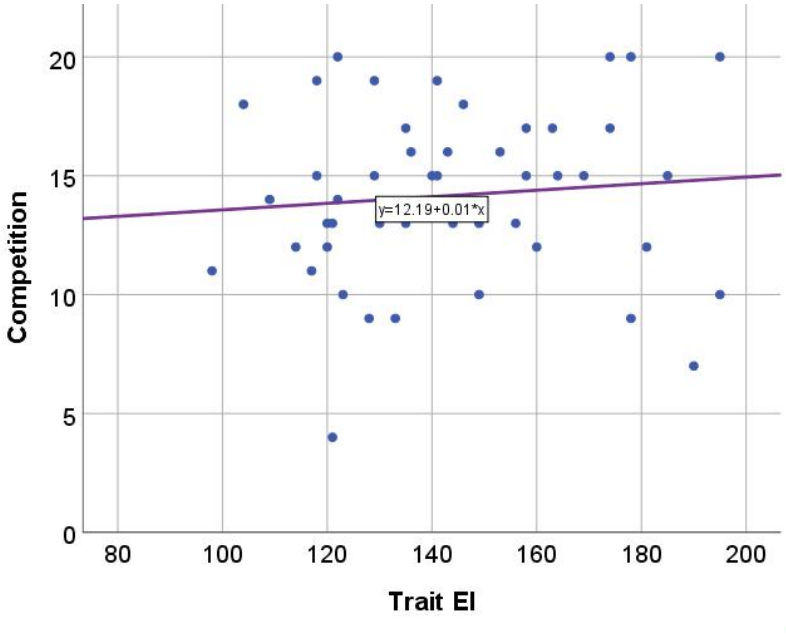

Figure 6. Scatterplot with line of best fit of trait EI and Competition for ranked players

Given the non-significant results on ranked players, we felt exploring the same relationships with the entire sample, i.e., both ranked and casual players, may help better understand our diverse sample of

LoL players. First, we tested the relationship between trait EI and achievement for all 92 players, the results (as seen in Figure 7) trend towards significance, F (1, 90) = 3.85, p = .053, adjusted R^2 = 0.3. Trait EI accounted for 3% of the explained variability in the achievement motivation to play. Because the model demonstrated an almost significant relationship, we expected that one of the two motivations comprising achievement, skill development and competition, must be more significant. Thus, we modeled the relationship between trait EI of all players and each MOGQ motivation, separately. In the case of competition, the results achieved (illustrated in Figure 8) were not statistically significant, F (1, 90) = 0.891, p=.348, demonstrating that competition is not a primary motive for playing LoL for our sample of gamers. However, there was a statistically significant relationship (illustrated in Figure 9) in the case of trait EI and the motivation to develop LoL gaming skills, F (1, 90) = 5.15, p = 0.026, adjusted R^2 = 0.044. Indeed, trait EI accounted for 4.4% of the explained variability in skill development. Based on this model, both casual and ranked players with higher trait EI scores are at least partially motivated to play LoL to hone their skills.

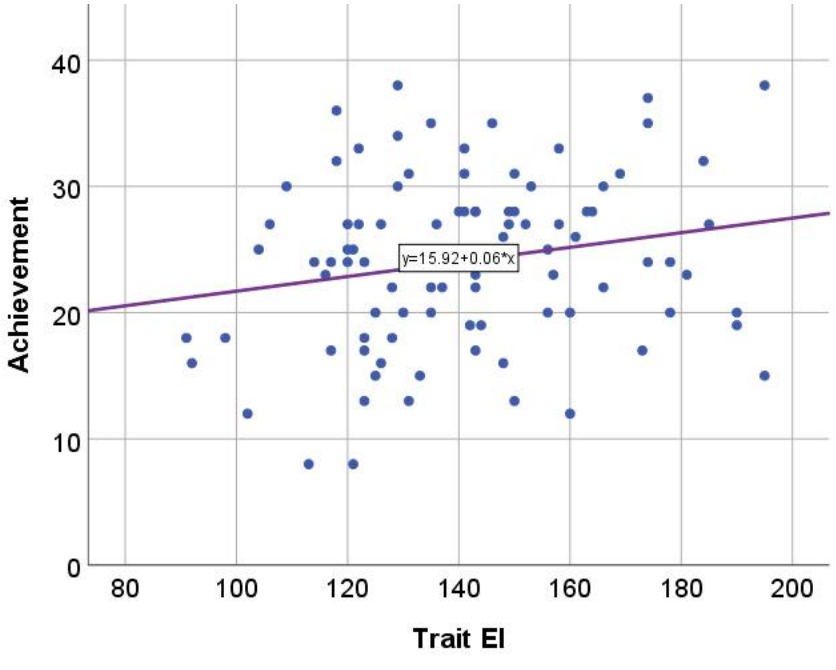

Figure 7. Scatterplot with line of best fit of trait EI and Achievement for all players

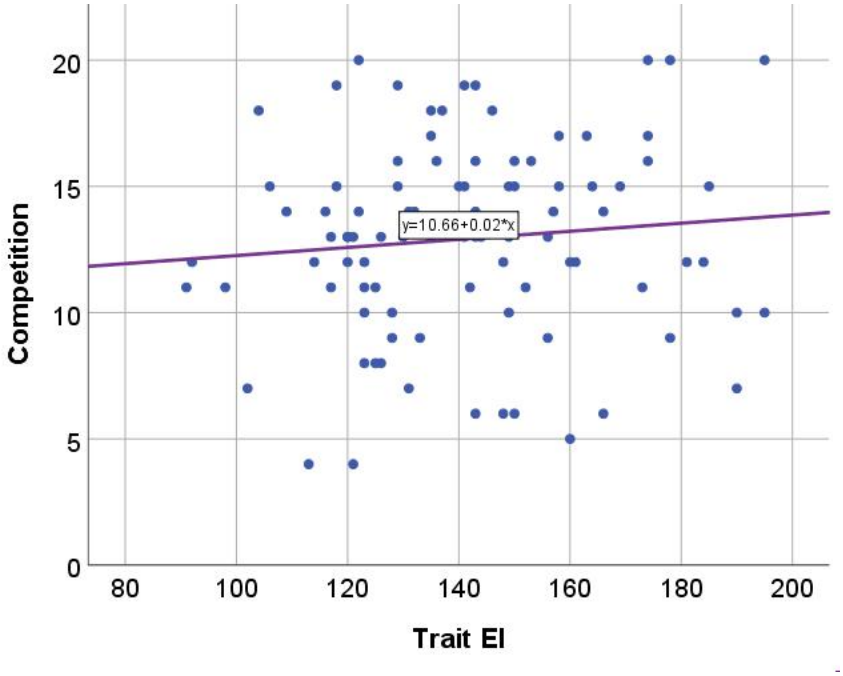

Figure 8. Scatterplot with line of best fit of trait EI and Competition for all players

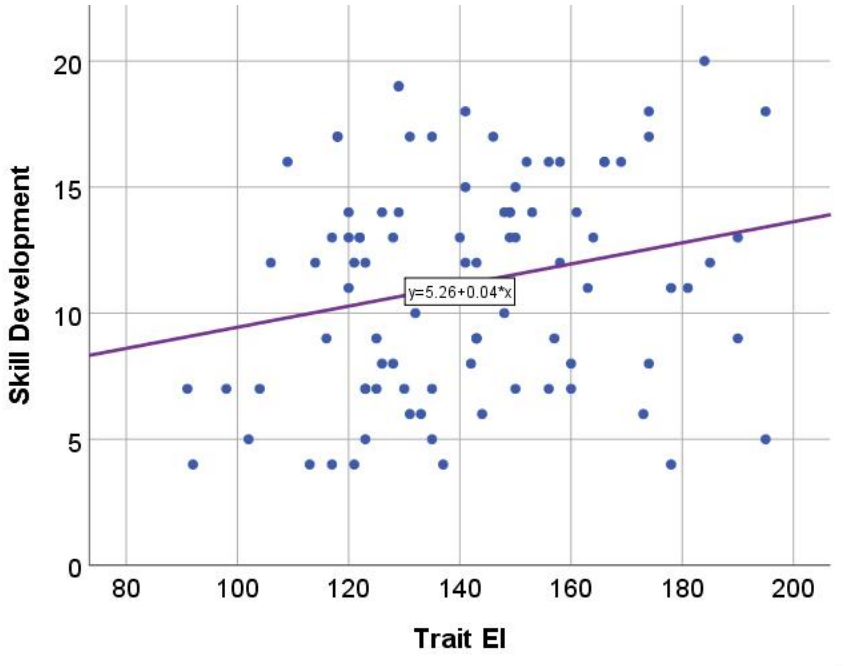

Figure 9. Scatterplot with line of best fit of trait EI and Skill development for all players

Finally, we examined the relationship between the trait EI subscale of emotionality and achievement motivation to play. While trait EI on the whole helps to examine self-perception of emotion-related abilities, emotionality is an ability to know how to control one's emotions and personal relationships. A study by Kou and Gui (2014) on understanding temporary teams in LoL, i.e., solo teams. Quotes from the qualitative analysis presented in their study indicate that emotions play a significant role in solo team collaborations. For instance, one player remarked that *"playing while angry or stressed makes you surprisingly bad"* while another player advised to *"do your best not to let your emotions from a game with an AFK (away from keyboard) in it carry over to the next. If my emotions could get carried away, I would never have been able to focus on improving my gameplay to get a diamond."* A third player noted, *"emotions run high in games, and you have to control the pace, or you get left behind in the complaints."*

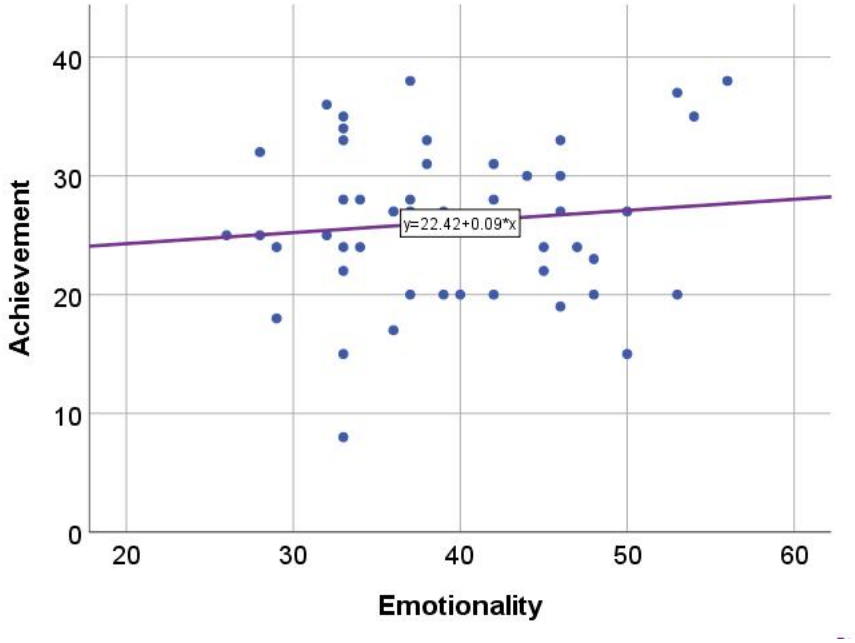

Figure 10. Scatterplot with line of best fit of emotionality and achievement for ranked players

Based on this, emotionality plays a prime role while playing LoL. There is a possibility that achievement-oriented ranked players must regulate their emotions accordingly. Therefore, we modeled the

relationship between the achievement motivation and emotionality; the results (as seen in Figure 10) were statistically significant, $F(1, 45) = 18.62$, $p < .0001$, adjusted $R^2 = 0.277$. Emotionality accounted for 27.7% of the explained variability in achievement. This model indicates that ranked players who have higher scores in achievement motivations to play may have better control in regulating their emotions while playing the game.

Hypothesis 2 stated that trait EI of ranked players is positively related to an achievement motivation for playing LoL. However, Herodotou and her colleagues hypothesized a negative relationship between trait EI and achievement preferences to play WoW (Herodotou et al, 2011) while Li and colleagues suggested that ranked LoL players have a strong motivation towards achievement oriented in-game activities such as improving in-game skills and competing with others (Li et al, 2020). These two findings contradict one another, and our results seem to lie in the middle of these findings. To help clarify the findings and develop a deeper understanding of player motivation, conducting interviews with LoL gamers in a clear next step in this research. While both LoL and WoW are multiplayer online video games, different motivations may vary based on the player type.

4.3 Hypothesis 3: Trait EI of ranked players is associated with coping motivations to play.

In a study on video game play of high-end gamers and mindfulness, Gackenbach and Bown (2011) stated that an individual's state of mind is pivotal to relieve stress and cope with real-life problems. Video gameplay is an activity that may be necessary in order for some players to attain a state of mindfulness. Furthermore, as suggested by Maroney et al (2019), heavy video gamers play the game to relieve stress and reduce depression. Thus, our third hypothesis again focuses specifically on the 47 ranked players from the total sample. We hypothesized that there will be a relationship between trait EI and coping motivations to play (e.g., to help reduce stress and channel aggression). The results supported this hypothesis; there was a statistically significant relationship (as illustrated in Figure 11) between trait EI and coping motivation, *F*

(1, 45) = 4.2, p = .046, adjusted R^2 = 0.065. Trait EI accounted for 6.5% of the explained variability in coping. The model indicates that ranked players with *lower* trait EI scores may play LoL to relieve stress. This finding suggests that while ranked players chose gaming as an outlet to relieve their stress in real-life, they may have poor control or expression of their emotions.

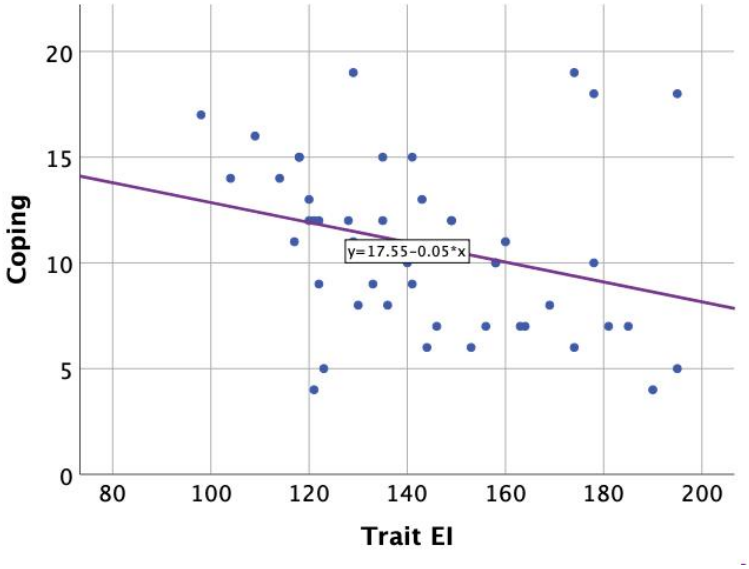

Figure 11. Scatterplot with line of best fit of trait EI and Coping for ranked players

An individual handles stress using coping mechanisms to control their emotional and cognitive behavior (Compas et al, 2001). A lack of emotional support in real life may increase their motivation towards alternative coping mechanisms like gaming, while a good emotional support might reduce stress and avoid gaming addiction. However, if not controlled and there is a lack of support, it can lead to addiction which in turn can lead to social isolation and self-distortion. Additionally, if you force them to quit gaming completely, it will not make anything better as now he or she has no outlet to address their psychological needs (Barnett & Coulson, 2010).

The coping motivation falls under Yee's comprehensive motivation of immersion. Along with coping, the motivations of escape, fantasy and recreation also come under Yee's immersion motivation. However, based on items in the MOGQ questionnaire, coping and recreation, for instance, seem to indicate a positive outcome, i.e. therapy via gaming. This is evidenced by the items in each MOGQ motivation; for example, coping includes the item, "I play because it helps me channel my aggression" and recreation includes the item, "I play because I enjoy gaming." Therefore, we also modeled a relationship between trait EI and recreation for ranked players and found a significant positive correlation between trait EI and recreation motivation, F (1, 45) = 13.64, $p < .001$, adjusted $R^2 = 0.216$ (see Figure 12). Trait EI accounted for 21.6% of the explained variability in recreation. The model indicates that ranked players with higher scores in trait EI are motivated to play LoL for the recreational aspect it provides.

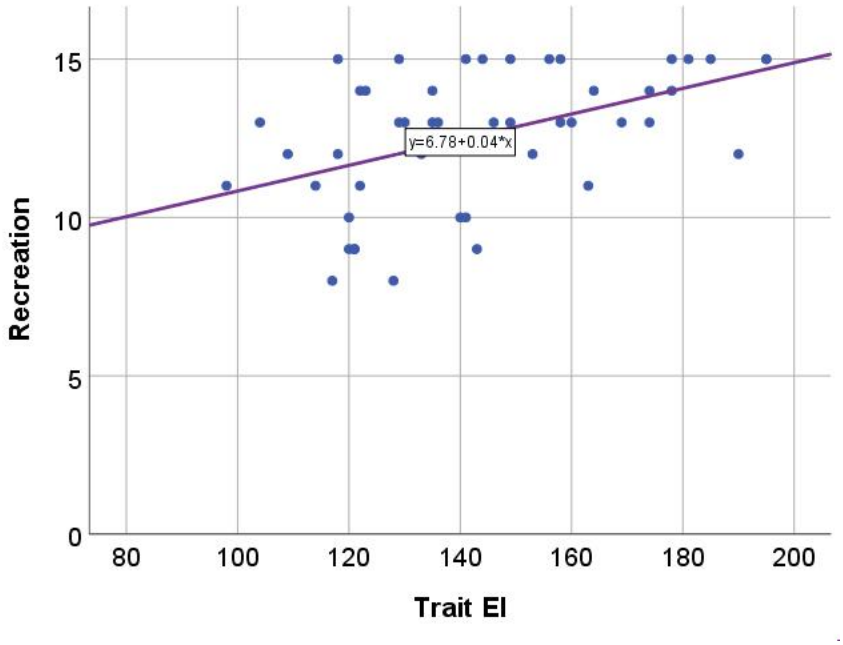

Figure 12. Scatterplot with line of best fit of trait EI and Recreation for ranked players

Escape and fantasy indicate negative outcomes (e.g., addiction and self-isolation) in gaming. This is evidenced by items in each, such as one escape item that states, "I play because it helps me forget real

life" and fantasy item "I play to feel as if I was somebody else." We modeled the relationship between trait EI of ranked players with escape and fantasy motivation. In both cases, the results indicate a negative relationship, meaning escape and fantasy may be motivations for ranked players with *lower* trait EI scores to play LoL. However, the results (as seen in Figure 13 and Figure 14) were not statistically significant (escape: F (1, 45) = 1.83, p = .183; fantasy: F (1, 45) = .388, p = .537), demonstrating that neither model has any explanatory power.

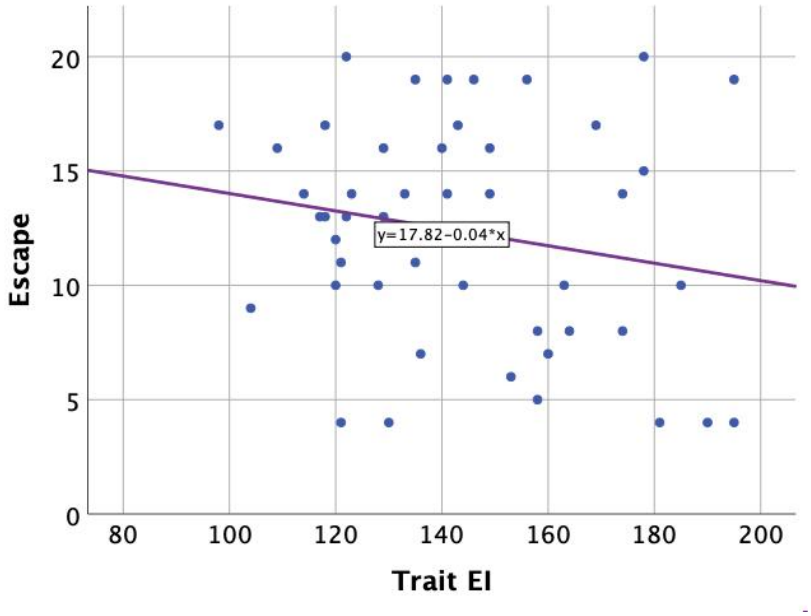

Figure 13. Scatterplot with line of best fit of trait EI and Escape for ranked players

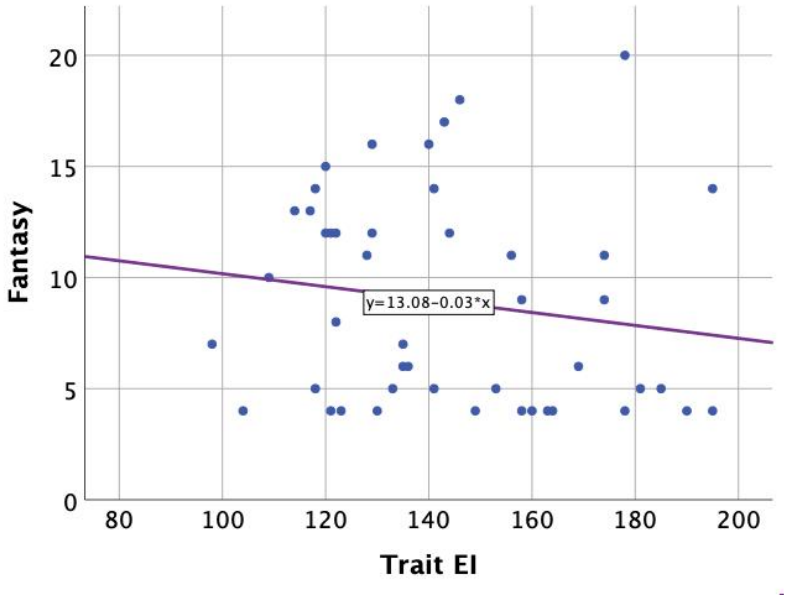

Figure 14. Scatterplot with line of best fit of trait EI and Fantasy for ranked players

Based on the above models with respect to Yee's motivation of immersion, our results suggest that ranked LoL players with lower trait EI scores may prefer to play the game for positive or therapeutic reasons, as opposed to a negative escape from real life. Additionally, regardless of the game genre, video games are purported to be virtual therapeutic spaces (Dillman-Carpentier et al, 2008).

Additionally, the two different coping paradigms (engagement and disengagement) should be taken into consideration to further provide insights to our H3 results (Compas et al, 2001). Engagement coping involves utilizing various problem-solving outlets to adapt or remove the stress factor while disengagement coping refers to withdrawal from the stress factor by seeking other distractions. Perhaps gamers with lower trait EI scores can be associated with disengagement coping strategies. The emergence of various psychosocial and emotional outcomes is based on the type of coping strategies used by the individual in context.

4.4 Hypothesis 4: Trait EI of ranked players is negatively associated with hours of play per week.

In the fourth hypothesis, we focused specifically on the 47 ranked players (LoL experts) from the total sample. We hypothesized that trait EI of ranked players is negatively associated with the number of hours gamers play LoL per week. In this case, we modeled the relationship between ranked players' hours of play per week and trait EI, however, the results (as seen in Figure 15) were not statistically significant, F (1, 45) = 0.035, p = .853. Based on this, we failed to accept the hypothesis. This is a surprising result as common sense would suggest that spending more hours playing the game would result in improving game expertise. However, our results do not show any relationship between trait EI of ranked players and the number of hours they play the game per week.

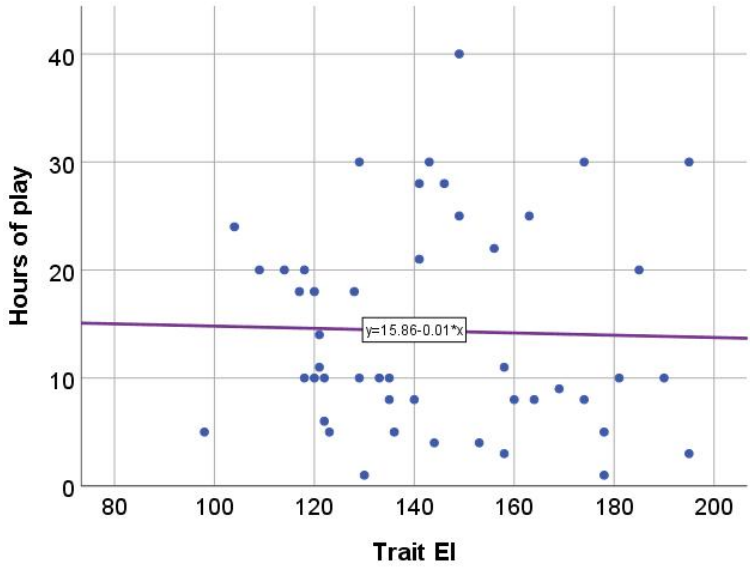

Figure 15. Scatterplot with line of best fit of trait EI and Hours of play for ranked players

4.5 Implications of the study

The results of this thesis support our general hypothesis that trait EI can explain motivations to play LoL. It is pivotal to examine why gamers engage in these virtual environments as an increasing number of people spend more time in them on a daily basis. It is safe to assume that individuals adjust and alter their

environments in the online world to fit their needs as they do so in the real world. Hence, it is fundamental to determine the patterns of the results at domain-specific level.

In LoL, considering impulse control as an example, at the beginner level of the game, false alarms (e.g., casting a spell on an unnecessary target) or any other impulsive behaviors are not punished by their opponents because these spells have a short cooldown time (Li et al, 2020). Although, for high level games, i.e., ranked levels, players are supposed to take advantage of their opponents' cooldown time regardless of its brevity for annoyance or assaulting. Accordingly, the reduction of impulsive behaviors and casting spells on important targets are the most valuable goals for ranked players as indicated by Li et al (2020). Gamers who do not have the motivation to win the game (competition) and to level up their ranks (skill development) will not intend to enhance their gaming strategy linked to impulsive control. Therefore, this indicates that the motivation of gamers towards the game can help to determine how multiplayer online games can affect an individual's emotion and cognition. If there is a connection between cognitive abilities and game skills, individuals with higher cognitive ability may be more likely to improve in performance as training practice increases.

Gamers may have the ability to link their in-game traits to real life by gameplay, specifically to leadership qualities (Nuangjumnong, 2016). In LoL, there are no predefined leaders. Players have equal access to all the resources. Leadership emerges only when players go along with one of the teammates who displays a positive attitude and performs well. Multiplayer online games such as LoL provide the trial and error option in gameplay that does not lead to irreversible consequences as it does in reality (Kriz, 2003; Prensky, 2005; Nuangjumnong, 2016). Thus, it is possible that leadership emerges through continuous exposure to social games. Under these conditional environments, gamers can be coached with their roles; thereby learning the important characteristics and eventually adjust to its traits. Therefore, online gameplay may act as a good predictor for the gamer's possible leadership styles.

Recent studies have shown the significance of individual characteristics such as personality traits, in different human computer interaction (HCI) settings such as games (Bastarache-Roberge et al, 2015), mobile application usage (Noe et al, 2016), entertainment (Bostan, 2010) and even abusive use of information technologies (Montag & Reuter, 2015; Resseguier et al, 2016). According to Izard (1993), one's motivations and repeated emotional experiences can lead to systemic changes that are integrated within the individual's personality. According to a recent study by Bastarache-Roberge et al (2015), they reported a model that predicted flow states of the gamers in a multiplayer online game (Team Fortress 2) which indicated a better accuracy once the personality variables were taken into consideration. Participants filled out the HEXACO personality survey assessing the traits of honesty-humility, emotionality, extraversion, agreeableness, conscientiousness, and openness to experience personality factors before the test after which they played the game and watched other people play the game in two separate trials. A self-reported flow measurement survey was also filled out after gaming. The percentage of the explained variability without personality variables was 25.55% while the model with personality variables included increased to 68.08%. Therefore, based on literature on personality in the HCI field, it is fundamental to integrate personality variables with the digital interface to examine an individual's behavior (Resseguier et al, 2016).

4.6 Limitations and Future Work

The gaming industry has developed massively in the last decade. This thesis conducted an exploratory survey as a step toward better understanding the impact an individual's trait EI has on their motivations to play LoL. The online survey allowed us to collect data from a larger group of players compared to interviews or focus groups. However, interviews and focus groups can provide rich data that can be qualitatively analyzed to dive deeper into understanding gamer motivations and the effect on cognitive abilities. Therefore, the next step should be conducting a qualitative study that specifically

involves top-ranking LoL players as suggested by Li (Li et al, 2020) for better understanding how LoL training could help enhance various cognitive skills.

We focused on how an individual's trait EI may provide some explanation in their motivations to play LoL. Future research can look into how gaming experience can benefit in honing various cognitive abilities. Research has shown that different genres of game might need different cognitive abilities (Azizi et al., 2018; Deleuze et al., 2017; Dobrowolski et al., 2015). A next step to understanding gamers' cognitive performance and to assess the generalizability of the results would be to investigate ranked players across several multiplayer online game genres, such as first-person shooter and real time strategy.

Chapter 5

CONCLUSIONS

The results of this thesis support our general hypothesis that trait EI can explain motivations to play LoL. For instance, there was a significant relationship between trait EI and coping motivations to play supporting hypothesis (H3). The results of H1 and H2 did not support the hypotheses indicating that there was no relationship between trait EI and social motivations to play; and no relationship between trait EI and achievement motivations to play. However, there was a positive relationship between trait EI and recreation motivations to play; and trait EI and skill development motivations to play. The results of the thesis advocated that gamer's trait EI more likely associates with motivations reinforced by the game usage.

Online games offer the "best of both worlds" to understand the structure and dynamics of real-life and virtual teams and cognitive and emotional processes of players. As the availability and granularity of data continues to increase, multiplayer online games will introduce more chances to study the emotional and cognitive behaviors of individuals in stressful environments (Leavitt et al, 2016). In competitive online MOBA games, players must continually attend to local actions that affect them; make inferences about team members' positions and performance; anticipate their opponents' strategies; and make decisions about if and how to best communicate their awareness to team members (Leavitt et al, 2016).

As an increasing number of players engage in these gaming environments, it is important to be aware of how the environment satisfies the basic needs of the gamers instead of just labeling them in terms of good or bad behavior. These motives can represent emotional preferences that are reflected in our thoughts and actions.

Based on our results (both significant and non-significant), we suggest that further study of motivations in gaming and its association with trait EI is needed. Therefore, gamers and their trait EI should

be studied along with game design features which increase in-game engagement to better to understand what makes these online video games appealing.

APPENDICES

Appendix A. Motives for online gaming questionnaire (MOGQ)

People play League of Legends for different reasons. Some reasons are listed below. Please indicate how often you play League of Legends for the reasons listed below by choosing the appropriate response – almost never/never, some of the time, half of the time, most of the time, almost always/always. There is no right or wrong answer! We are only interested in your motives for gaming.

I play League of Legends…

	Almost never/never	Some of the time	Half of the time	Most of the time	Almost always/always
1. ...because I can get to know new people	1	2	3	4	5
2. ...because it helps me to forget about daily hassles	1	2	3	4	5
3. ...because I enjoy competing with others	1	2	3	4	5
4. ... because it helps me get into a better mood	1	2	3	4	5
5. ...because it sharpens my senses	1	2	3	4	5
6. ...because I can do things that I am unable to do or I am not allowed to do in real life	1	2	3	4	5
7. ...for recreation	1	2	3	4	5
8. ...because I can meet many different people	1	2	3	4	5
9. ... because it makes me forget real life	1	2	3	4	5
10. ...because I like to win	1	2	3	4	5
11. ...because it helps me get rid of stress	1	2	3	4	5
12. ...because it improves my skills	1	2	3	4	5
13. ...to feel as if I was somebody else	1	2	3	4	5
14. ...because it is entertaining	1	2	3	4	5

	Almost never/never	Some of the time	Half of the time	Most of the time	Almost always/always
15. ...because it is a good social experience	1	2	3	4	5
16. ...because gaming helps me escape reality	1	2	3	4	5
17. ...because it is good to feel that I am better than others	1	2	3	4	5
18. ...because it helps me channel my aggression	1	2	3	4	5
19. ...because it improves my concentration	1	2	3	4	5
20. ...to be somebody else for a while	1	2	3	4	5
21. ...because I enjoy gaming	1	2	3	4	5
22. ...because gaming gives me company	1	2	3	4	5
23. ...to forget about unpleasant things or offences	1	2	3	4	5
24. ...for the pleasure of defeating others	1	2	3	4	5
25. ...because it reduces tension	1	2	3	4	5
26. ...because it improves my coordination skills	1	2	3	4	5
27. ...because I can be in another world	1	2	3	4	5

Appendix B. Trait Emotional Intelligence Questionnaire (TEIQUE-SF)

Instructions: Please answer each statement below by choosing an option that best reflects your degree of agreement or disagreement with that statement. Do not think too long about the exact meaning of the statements. Work quickly and try to answer as accurately as possible. There are no right or wrong answers. There are seven possible responses to each statement ranging from 'Completely Disagree' to 'Completely Agree'.

	Completely Disagree	Somewhat Disagree	Disagree	Neutral	Agree	Somewhat Agree	Agree
1. Expressing my emotions with words is not a problem for me.	1	2	3	4	5	6	7
2. I often find it difficult to see things from another person's viewpoint.	1	2	3	4	5	6	7
3. On the whole, I'm a highly motivated person.	1	2	3	4	5	6	7
4. I usually find it difficult to regulate my emotions.	1	2	3	4	5	6	7
5. I generally don't find life enjoyable.	1	2	3	4	5	6	7
6. I can deal effectively with people.	1	2	3	4	5	6	7

7. I tend to change my mind frequently.	1	2	3	4	5	6	7
8. Many times, I can't figure out what emotion I'm feeling.	1	2	3	4	5	6	7
9. I feel that I have a number of good qualities.	1	2	3	4	5	6	7
10. I often find it difficult to stand up for my rights.	1	2	3	4	5	6	7
11. I'm usually able to influence the way other people feel.	1	2	3	4	5	6	7
12. On the whole, I have a gloomy perspective on most things.	1	2	3	4	5	6	7
13. Those close to me often complain that I don't treat them right.	1	2	3	4	5	6	7
14. I often find it difficult to adjust my life according to the circumstances.	1	2	3	4	5	6	7

15. On the whole, I'm able to deal with stress.	1	2	3	4	5	6	7
16. I often find it difficult to show my affection to those close to me.	1	2	3	4	5	6	7
17. I'm normally able to "get into someone's shoes" and experience their emotions.	1	2	3	4	5	6	7
18. I normally find it difficult to keep myself motivated.	1	2	3	4	5	6	7
19. I'm usually able to find ways to control my emotions when I want to.	1	2	3	4	5	6	7
20. On the whole, I'm pleased with my life.	1	2	3	4	5	6	7
21. I would describe myself as a good negotiator.	1	2	3	4	5	6	7
22. I tend to get involved in things I later wish I could get out of.	1	2	3	4	5	6	7

23. I often pause and think about my feelings.	1	2	3	4	5	6	7
24. I believe I'm full of personal strengths.	1	2	3	4	5	6	7
25. I tend to "back down" even if I know I'm right.	1	2	3	4	5	6	7
26. I don't seem to have any power at all over other people's feelings.	1	2	3	4	5	6	7
27. I generally believe that things will work out fine in my life.	1	2	3	4	5	6	7
28. I find it difficult to bond well even with those close to m	1	2	3	4	5	6	7
29. Generally, I'm able to adapt to new environments.	1	2	3	4	5	6	7
30. Others admire me for being relaxed.	1	2	3	4	5	6	7

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