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Grit and Second Language Acquisition: Can Passion and Perseverance Predict Performance in Japanese Language Learning?

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GRIT AND SECOND LANGUAGE ACQUISITION:
CAN PASSION AND PERSEVERANCE PREDICT PERFORMANCE IN
JAPANESE LANGUAGE LEARNING?

A Thesis Presented

by

TAKUHIRO YAMASHITA

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University of Massachusetts Amherst in partial fulfillment
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ABSTRACT

**GRIT AND SECOND LANGUAGE ACQUISITION:
CAN PASSION AND PERSEVERANCE PREDICT PERFORMANCE
IN JAPANESE LANGUAGE LEARNING**

MAY 2018

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This paper examines the relationship between grit and learners' performance in Japanese language learning. Grit is one's personality trait which is defined as "perseverance and passion for long-term goal" (Duckworth et al., 2007). The purpose of this quantitative study is to determine whether there were relationships between learners' grit scores and their performance in two different types of Japanese language classrooms: teacher-centered beginning and intermediate Japanese language courses and student-centered Japanese extensive reading courses. Regarding the study of extensive reading courses, students' subjective evaluation were used to observe their performance instead of an objective achievement test. There were 78 students who agreed to participate in total. Of all participants, 34 students were taking introductory level Japanese, 27 students were taking the intermediate level, and 17 students were taking a Japanese extensive reading course. The results revealed that participants' grit scores did not appear to be related to their performance in the introductory language course. Interestingly, in the intermediate course, perseverance subscores of grit measured by the 10-item grit scale were negatively

correlated with the students' performance, with no connection apparent between their grades and grit scores. The results might be attributed to some external factors: such as the process of language learning and students' academic majors. On the other hand, in the student-centered Japanese extensive reading course, some tendencies of positive correlation were seen between participants' grit scores and the changes of their subjective evaluation between the beginning and the end of the semester. These findings suggest the possibility that individuals' grit scores are related to their performance in different ways between teacher-centered and student-centered Japanese language learning.

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CHAPTER 1

INTRODUCTION

In a language acquisition process, what kind of students are most likely to acquire successfully? Or what talents are the most required? Even casual observations in our daily life tell us that some people learn a foreign language easier, faster or better than others do (Grigorenko, Sternberg & Ehrman, 2000). Over the course of the long history of second language acquisition (hereafter SLA) study, many researchers have attempted to answer these questions. There are a variety of cognitive-related factors investigated in the relationship with SLA such as intelligence which is often measured with IQ test, and language aptitude which refers to one's potential for learning languages. These cognitive-related elements are considered to be an element which can predict one's language attainment, but concluding one's ability only with them is not sufficient enough. Angela L. Duckworth, a psychologist at the University of Pennsylvania, has explored the question "Why do some individuals accomplish more than others of equal intelligence?", and found the key in a personal trait called grit.

As a significant factor to predict one's success, grit has garnered remarkable attention recently. Duckworth, who leads the field, defines grit as one's "passion and perseverance for long-term goals". Grit entails working energetically toward challenges, making a continuous effort and showing interest over the years despite failure, adversity, and plateaus in progress (Duckworth, Peterson, Matthews & Kelly, 2007). Some people describe gritty individuals showing behaviors such as being a hard worker and completing tasks, sustaining focus on a project, being diligent, and not being depressed by setbacks. In contrast, less gritty individuals are described as people who are distracted

by new ideas, set a goal once but later choose a different goal, and have difficulty maintaining focus on long-term activity. Also, according to the U.S. Department of Education (2013), grit is an essential factor in an individual's capacity to strive for and succeed at long-term and higher-order goals, and to persist in the face of the array of challenges and obstacles encountered throughout schooling and life. Previous empirical research revealed grit could be a predictor of student academic performance in college (Duckworth et al., 2007; Strayhorn, 2014).

In spite of its role in predicting student's academic performance in college, grit has not been sufficiently examined in SLA field yet. Because language acquisition is an activity which requires extended study (Hakuta, Butler & Witt, 2000), passion and perseverance should be significant to maintain effort or persist in one's interest. Therefore, understanding the role of grit will offer a new perspective for both language teachers and learners. Furthermore, unlike intelligence or language aptitude, personality traits such as grit are flexible skills which can be trained and improved. Over the course of long history, many scholars have suggested the powerful influences of one's internal ability including personality traits in SLA. Thus, grit also may have the similar relationship with the second language acquisition process. Exploring how grit predicts one's performance in language learning process may bring the further pedagogical advances. In particular, the current study examined the relationship between individuals' grit and their performance in Japanese language courses held at a four-year public university in the United States.

CHAPTER 2

THEORHETICAL FRAMEWORK

The theoretical framework for this study mainly focuses on how psychological aspects influence second language acquisition. A discussion of non-cognitive skills and how those apply to the field of grit studies and my research are as follows.

2.1. Skills Related to Achievement and Attainment

Skills are widely considered as cardinal elements contributing to the sustainable development and well-being of individuals. Generally speaking, skills are separated into two groups: cognitive and non-cognitive. The former, cognitive skills, involve the ability to understand complex thoughts, adapt to the environment, learn from experience, engage in various forms of reasoning, and overcome obstacles with strategy (Pierre et al., 2014). Cognitive skills include mental abilities in thinking activities such as reading, writing, and numeracy (Green, 2011). On the other hand, non-cognitive skills are defined as “patterns of thought” or “feelings and behaviors” (Borghans et al., 2008). They may also involve intellect, but more indirectly and less consciously than cognitive skills. Non-cognitive skills include personality traits, attitude, temperament, and motivations.

Cognitive skills are defined as the brain-based skills needed to carry out any task ranging from the simplest to the most complex. Those abilities have more to do with the mechanisms of how you think, focus, remember and make decisions. For example, in a workplace, you need analytical skills, thinking creativity, presentation skills, and communication skills, and those are all part of cognitive skills. More than one hundred years of research have shown that one’s cognitive abilities are highly reliable predictors

of job-related success; for example, job performance, job-related learning, training, and advancement (Schmidt and Hunter, 1998). As such, cognitive skills can be measured and quantified, and schools and companies utilize them for evaluating and predicting their performance. Thus, most people firmly attach to cognitive skills, and they are also considered as important skills to succeed. However, it is also a fact that many people associated with education or business raise a question on the tendency to focus more on developing cognitive skills more than non-cognitive skills.

2.2. Non-cognitive Skills

Compared to cognitive skills, the relationship between non-cognitive skills and one's performance is a relatively new field of study. Just like there have been many scholarly researchers who have examined the relationship between cognitive skills and one's success, non-cognitive skills have also garnered attention recently because of their connection with one's performance. According to Gutman and Schoon (2013), "non-cognitive skills are those attitudes, behaviors, and strategies which facilitate success in school and workplace, such as motivation, perseverance, and self-control. These factors are termed 'non-cognitive' as they are considered to be distinct from the cognitive and academic skills usually measured by tests or teacher assessments" (p. 4). Heckman and Urzua (2006) suggested non-cognitive traits might be even more important than cognitive skills in determining academic and employment outcomes. According to Rosen et al. (2010), non-cognitive skills are identified as seven different kinds of fundamental factors: motivation, effort, self-regulated learning, self-efficiency, academic self-concept, antisocial and prosocial behavior, and coping and resilience. In sports, non-cognitive

skills are often referred as the “intangibles”. In baseball, your cognitive skills are your ability to hit the ball and throw a fastball, while the intangibles are how well you perform under pressure and your motivation to improve your skills. As such, both cognitive and non-cognitive skills affect performance. However, in spite of their importance in various fields, non-cognitive skills are challenging to identify because they are difficult to measure and quantify.

Non-cognitive skills and factors are also related to educational advancement. Although non-cognitive skills are developed throughout childhood, those attributes built up during adolescence have been shown to have a significant impact on success in life (Rauber, 2007). In past decades, the prediction of academic success has largely depended on cognitive factors such as intelligence and academic abilities. However, researchers in education and social sciences have recently recognized that non-cognitive factors play a critical role in educational success and achievement (Stankov & Lee, 2014). In the discourse of education in the 21st century, the role of non-cognitive factors and skills are often highlighted. Now that learner’s psychological aspects have become topics of research, it is essential to reveal how non-cognitive factors affect individual’s performance.

2.3. Non-cognitive Skills in Second Language Acquisition

As it was mentioned above, non-cognitive skills and one’s behavior have a critical connection each other, and this connection is the significant factor to determine success in various fields. As well as academic field and real world settings, non-cognitive skills are the significant factor in SLA too. Because language acquisition takes a long

time (Hakuta et al., 2000), having a high level of non-cognitive skills to arouse and persist in one's interest is significant on attainment in SLA. Language learners need to develop and maintain their motivation, perseverance, resiliency, and positive emotion for the long-term undertaking in order to improve their experiences of language learning (MacIntyre and Mercer, 2014). Sometimes the SLA learning process can be too monotonous and boring because the learner needs repeated practice to attain solid language ability. Also, occasionally it is hard for learners to find the connection between the target language and their future jobs or future goals, and it might bring them anxiety or anguish on language learning. Due to those traits of language learning process, SLA has a strong connection with non-cognitive skills influencing the learner's mental stability.

Among many theories about non-cognitive factors in SLA, Krashen's affective filter hypothesis is one of the most remarkable approaches over the course of the long history of SLA studies. He emphasized that learners' mental state, such as motivation, self-confidence, and anxiety strongly affects language learning. He also claimed that language learners who are higher in motivation and self-confidence and lower in anxiety are better equipped for success in SLA (Krashen, 1980, 1985). However, due to the lack of explanation of how affective filter functions, some researchers have criticized this theory. Although his theory was not convincing since he did not prove it with an empirical study, his affective filter hypothesis has influenced many researchers and contributed the development of psychological studies in SLA. Roberts (1982), illustrated that the mental aspects of language learning are as important as the cognitive aspects, and

therefore the learner should be treated in some sense as a ‘whole person’. The explanation of non-cognitive skills and how those affect SLA learners’ are as follows.

2.3.1. Motivation

Among those affective factors, motivation is considered as one of the most influential elements in SLA (Dörnyei, 1998). Broadly defined, motivation is a desire to accomplish some activities in academia, business, or sports. Motivation doesn’t only apply to SLA, it is easy to imagine that any person who has higher motivation is more likely to succeed. Gardner et al. (1987) argues motivation strongly influences the degree to which learners take advantage of opportunities to use the language. From a psychological perspective, motivation is distinguished as intrinsic motivation and extrinsic motivation. The former means that the learner’s motivation directly involves the purpose of learning. It refers to the motivation which arises from within the individual because it is naturally satisfying to you. Extrinsic motivation occurs when learners engage in an activity to earn a reward or avoid punishment. Generally speaking, it is considered that intrinsically motivated learners are more able to keep their learning desire for a long term.

In the context of SLA study, Gardner and Lambert (1972) categorized motivation as integrative motivation and instrumental motivation. Integrative motivation refers to a personal affinity for the people who speak a particular language. Learners who have integrative motivation are eager to learn the language because they want to get to know the people who speak that language. On the other hand, learners who have instrumental motivation are willing to learn that language in order to acquire social status,

pass an entrance exam, or fulfill a college language requirement. Through the many studies of a relationship between motivation and language attainment, integrative motivation helps learners to keep their learning desire and is valid to long-term language learning in general, while instrumental motivation works better in a shorter period of learning. According to research investigating the relationship between integrative/instrumental motivation and students' IELTS scores (Samad et al., 2012), their integrative motivation was significantly correlated with their IELTS score ($r = .72, p < .01$), while no significant correlation was established between instrumental motivation and IELTS score ($r = .35$).

Motivation is not the only thing which affects one's language acquisition process, but previous empirical research suggests its tremendous impact in SLA. Al-Otaibi (2004) argued that motivated learners spend much more time to gain goals in learning a foreign language and they can also learn a language more effectively than unmotivated ones.

2.3.2. Self-regulation and self-efficacy

Self-regulation and self-efficacy are also classified as a part of non-cognitive skills. Self-regulation involves the ability to set specific goals, monitor one's behavior, and have the strong will to persist until goals are reached. According to Zimmerman (2000), self-regulation refers to self-generated thoughts, feelings, and actions that are arranged cyclically supporting the attainment of personal goals. Furthermore, Leaver, Ehrman, and Shekhtman (2005) argued it is the process by which learners both exercise and develop learner autonomy. As such, many scholarly studies promoted the idea that

learners should regulate their own learning process. Thus, self-regulated learning emerged as an important frame in education (Boekaerts, 1999). Self-regulated learning involves the process of understanding and controlling one's learning environment using the abilities of goal-setting, self-monitoring, self-instruction, and self-reinforcement (Harris and Graham, 1999; Schraw, Crippen and Hartley, 2006).

Academic self-efficacy is the student's belief that he or she can accomplish a specific task at hand. Bandura (1997) described self-efficacy as "the belief in one's capabilities to organize and execute courses of action required to produce given attainments" (p.3). The level of self-efficacy highly depends on what you are seeking, and it becomes more important when the goal is more difficult (Bandura, 1997).

In the context of SLA, self-regulation is a process by which individuals direct their efforts, thoughts, and feelings toward the achievement of their personal goals (Zimmerman, 2000). Self-regulation is not a distinct mental ability and an academic skill. In short, self-regulation is associated with students' learning processes, responses, and strategies to activate and sustain both their behavior and their cognitive and affective functioning (Boekaerts et al., 2000). Also, learner autonomy which has the close relationship with self-regulation is considered as an essential factor in language learning. Jiao (2005) gives four substantial reasons in support of learner autonomy for English learning: (1) it encourages the learner's motivation and leads to more effective learning, (2) it provides more chances for English communication in a non-native environment, (3) it meets the individual needs of learners at all levels, and (4) it has a lasting influence. As an important language learning method utilizing the effect of self-regulation, extensive reading activities have attracted attention. Extensive reading is language learning

approach which learners independently read a lot of accessible materials for information or pleasure. Because extensive reading is a student-centered learning, learners' self-regulation skill and learner autonomy are influential factors in their performance. It is also found that learners can develop their learner autonomy through the extensive reading activity (Yoshimura and Kobayashi, 2018).

Regarding self-efficacy in SLA, Hsieh and Kang (2010) conducted research to examine the relationship between self-efficacy and foreign language achievement. The investigation of 192 ninth grade English language learners in Korea revealed that self-efficacy was a significant predictor of achievement in a foreign language classroom. Furthermore, they found out learners with high self-efficacy tended to attribute success to internal and personal factors, while learners with low self-efficacy tended to attribute their test results to external factors. Other than the study by Hsieh and Kang, there exists some studies which suggest the importance of self-efficacy in language learning process.

Self-regulation, self-efficacy, and motivation share ideas to some degree because all of them represent the internal resources necessary to maintain one's effort and achieve the goal. A study by Pintrich and De Groot (1990) found that self-regulation and self-efficacy were correlated each other, and both were significant predictors of academic achievement. According to Zimmerman (1995), self-regulation is considered as a significant source of intrinsic motivation for students to continue learning on their own. Furthermore, it is considered that self-regulated learners have motivational strategies which involve high self-efficacy, self-attributions, and intrinsic task interest (Schunk, 1986). Regarding the relationship between self-efficacy and motivation, learners' with high efficacy are likely to stay engaged in a task more thoughtfully and longer those with

low efficacy (Schunk, 1985). Thus, self-efficacy appears to fuel motivation and volition, enabling learners to persist when faced with obstacles (Onoda, 2014). In summary, self-regulation, self-efficacy, and motivation share the common notion each other, and it is estimated that all abilities are the significant predictor of academic achievement, including language learning.

2.3.3. Coping and Resilience

Coping and resilience are also included in non-cognitive factors which are required to succeed in our life. Coping refers to strategies that people use to manage their stress or to respond to various challenges. Resilience involves the ability to get back up when one has faced difficulties or anxiety, and it refers to success despite various risk factors. In short, individuals who possess the excellent coping skill to manage adversity and their stress have the high resilient ability. It is important to manage their stress and get over difficulties in order to improve oneself because mental stability leads to high performance in academic or business fields.

In SLA context, many language learners confront the lack of motivation or setbacks during the learning process. For example, the educational system of learning English as a foreign language in Japan is test-driven and devoid of practical purposes to use English. This educational system decreases learners' motivation and leaves them without meaningful goals (Falout, 2012). To acquire a language, learners should avoid or overcome those difficulties through a process of coping or self-regulation (Skinner & Zimmer-Gemback, 2007). Based on past studies of personal characteristic in language learning, learners who blame themselves during difficulties early in their learning will

struggle more when facing the learning challenges (Falout & Maruyama, 2004; Falout et al., 2009). On the other hand, those who are externalizing their blame when things go wrong will become more likely to develop adaptive coping strategies that bring them greater resilience under the stresses of learning. In short, having coping skills and developing one's resilience bring better performance and achievement of higher language abilities. (Falout, 2012; Falout, 2016).

2.3.4. Personality

Personality is one of the most significant non-cognitive factors which shouldn't be neglected. Richards and Schmidt (2002) defined personality as "those aspects of individual's behavior, attitude, beliefs, thoughts, actions, and feelings which are seen as typical and distinctive of that person and recognized as such by that person and others" (p.275). There are some researchers in the academic field who even argue that individual success mostly depends on personality, not IQ. While IQ is the fixed thing we can't easily develop, personality is more flexible and a factor each people can try to change and improve.

In the context of SLA, studies of extroversion and introversion are one of the prominent research in terms of personality. From a psychological perspective, extrovert people are fond of social attention, which energizes them, brings out their best qualities, and encourages their stamina and productivity. On the other hand, introversion is about deriving fewer rewards from being center of social attention. Introverted people can establish their identity without comparing to others and have inner strength. One study by Naiman (1978) revealed that extroverts acquire a second language better than introverts.

The subjects of this study were 72 Canadian high school students from grades 8 to 10 and 12, who were studying French as a second language. Naiman gave them a self-report questionnaire to establish psychological profiles. Through this research, he found that 70% of the students with the higher grades would consider themselves extraverts. As the study suggested, many researchers have advocated extrovert person has an advantage in SLA because they tend to communicate with other actively and get more chances for input and output. However, Busch (1982) claimed that whether one is an extrovert or introvert did not affect their performance. Rather, introverted learners performed better in pronunciation in an oral interview. Although there may be a relationship between personality and performance in language learning process, it hasn't found out its inevitable effect and built a concrete theory.

2.3.5. Summary of the Influence of Non-cognitive Skills

As mentioned so far, various empirical studies have suggested the relationship between non-cognitive skills and SLA. Having a high quality of motivation, self-regulation, self-efficacy, resilience, and personality builds learners' good behavior promoting language learning. For example, one's non-cognitive skills bring positive traits such as active attitude toward the language learning, making a continuous effort, overcoming obstacles or any difficulties, and developing learner autonomy. Those behaviors promote the language acquisition process and lead the language attainment. A figure below displays the model of non-cognitive skills influence on SLA.

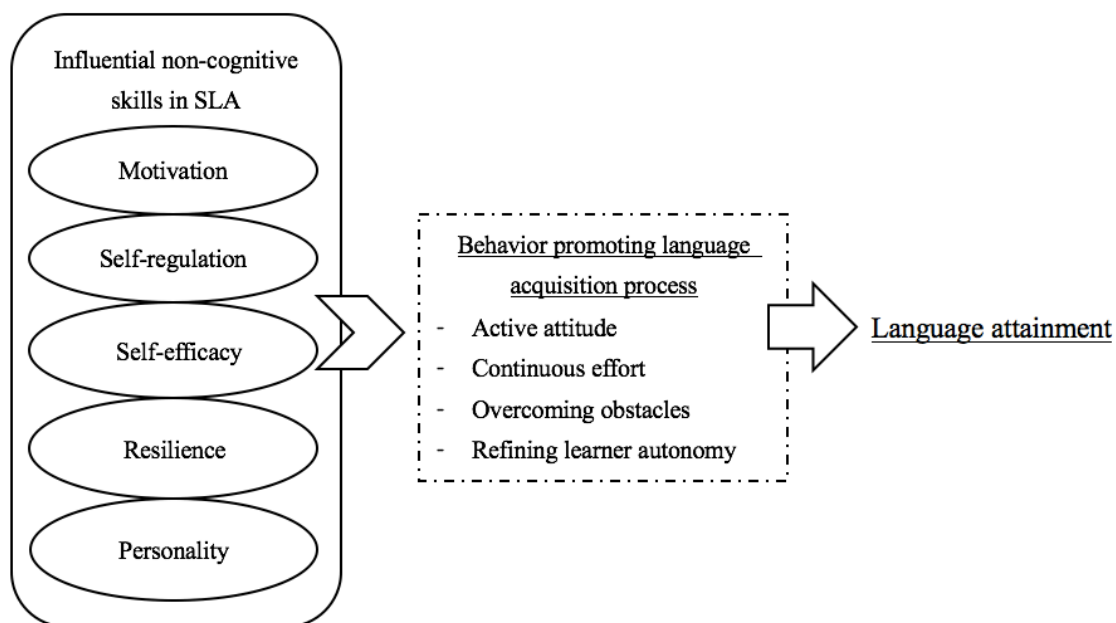


Figure 1: Model of the Relationship between Non-cognitive Skills and One’s Performance in SLA

2.4. GRIT

According to a number of SLA scholars, various factors will either strengthen and weaken learners’ performance in one’s language learning process. Among those factors, personality trait is one of the essential factors that influence second or foreign language acquisition (Cook, 2001). The issue of personality trait has been widely discussed among SLA researchers or teachers as an element which can indicate learners’ ability as well as intelligence.

Among all psychological factors which can influence one’s performance, grit garners exceptional attention in the field of psychology today. A general English dictionary defines grit literally as “firmness of character” or “indomitable spirit”. According to one of the most authoritative researchers of this field, Angela L.

Duckworth, she defined grit as “perseverance and passion for long-term goals”, and she claims that grit is a factor which may guide people to success both in school and life (Duckworth et al., 2007). She started her study when she thought of a question, which is “other than talent and opportunity, what makes some people more successful than others?” (Duckworth and Peterson, 2007; Duckworth, 2014). Linda Kaplan Thaler, who is the author of “Grit to Great (2016)”, claimed that the term “grit” comes from four keywords: Guts, Resilience, Initiative and Tenacity. She illustrated grit includes those four elements, and pointed out one should possess those characteristics to be gritty. A growing corpus of research evidence suggests that grit, tenacity, and perseverance can be just as important as intellectual abilities for success (U.S. Department of Education, 2013).

Duckworth created a self-report scale to make grit measurable, and the grit scale enables the individual’s grit to show as a numeric value. Many researchers examined how grit relates to the other non-cognitive skills utilizing the grit scale. First of all, the relationship between motivation and grit was found to be significant. According to Reraki, Celik, and Saricam (2015), grit and academic motivation are positively correlated ($r = .64$) in a study carried out with 334 under-graduate university students. Changlek and Palanukulwong (2015) conducted a research for English learners in Thailand, also found a positive correlation between motivation and grit ($r = .321$).

Second, Duckworth (2007) found out grit was highly correlated with Big Five Conscientiousness which is one element of the Big Five personality system. The Big Five model consists of neuroticism, extraversion, openness, agreeableness, and conscientiousness, and the Big Five is seen as today’s most prevalent system to describe

personality (Costa & McCrae, 1992). Conscientiousness is the trait that capture individual differences associated with organization, persistence, and motivation in goal-directed behavior (Costa & McCrae 1992). Barrick and Mount (1991) concluded that conscientiousness related more influenced to job performance than did other Big Five components. Mayer and Skimmyhorn (2017) conducted a study using two military cadet samples and obtained positive correlations between conscientiousness and grit of .75 and .74 in the two samples. Furthermore, their research found that grit had significant correlations with other elements of Big Five personality system, such as extraversion ($r = .23, p < .01$), openness ($r = .18, p < .01$), agreeableness ($r = .19, p < .01$). Grit is robustly related to the components of the Big Five model except for neuroticism, and conscientiousness has the most powerful connection among them. What is more, the relationship between grit and extraversion implicitly suggests the importance of grit in SLA because extraversion is considered as an advantage for second language learners.

Third, because gritty individuals possess sophisticated mental skills to maintain their effort and interest, self-regulation and self-efficacy may also be factors associated with grit. Joanne et al. (2012) attempted to validate grit as correlated with self-efficacy and self-regulation in math and reading among upper elementary and middle school students. They assessed the students' self-efficacy using domain-specific questionnaires adapted from Bandura (2006). General self-efficacy for the subject matter (e.g., "How confident are you in your abilities in math/reading?") was assessed on a scale on a scale from 1 (not at all confident) to 6 (completely confident). Self-efficacy for self-regulated learning skills (e.g., "How well can you read/do math work when there are other interesting things to do?") was also assessed from 1 (not very well at all) to 6 (very well)

(Rojas et al., 2012). They saw the correlations between scores on grit and students' perceptions of self-efficacy and self-regulation in math and reading. As a result of this study, grit scores were positively related to self-efficacy and self-regulation scores in both math and reading (See the table below) (Joanne et al., 2012). Because both self-efficacy and self-regulation are important factors on one's language learning process, grit is also an influential factor which students should develop in order to acquire a second language.

Lastly, the concept of resilience overlaps with grit; resilience involves the ability to cope with adversity and stress and get back up to achieve a personal goal, and grit refers to one's consistency of interest and perseverance of effort to a attain goal. When confronting a difficulty or adversity, both resiliency and grit are involved to get over it and make progress toward a goal. Duckworth argued in an interview that perseverance of effort, which occupies half of the questions in her grit scale, are about resiliency to situations of failure and adversity or being a hard worker (Perkins-Gough, 2013). As mentioned earlier, previous studies suggested the correlation between one's resilience and language attainment. Therefore, it is assumed that grit also may be an influential factor in one's language learning process.

In summary, individual's grit score which is measured with the self-report grit scale is associated with the other non-cognitive skills. Even though there are few past studies examined one's grit in SLA, it is assumed that grit is also a crucial non-cognitive factor based on its relationship with other non-cognitive skills. Also, as mentioned earlier, motivation, personality, self-regulation, self-efficacy, and resilience are considered to have correlations with grit; in other words, those non-cognitive abilities

including grit are probably related to some degree. If the validity of grit as a predictor of one's performance in language learning were revealed in this study, Duckworth's grit scale might be considered as a significant source to measure the individual's non-cognitive skills in SLA. Figure 2 summarizes the model of the relationship between grit and non-cognitive skills, and describes a hypothesis that grit can be a predictor of one's performance in SLA. The grit scale could be a predictor of success in language learning by itself, as a scale containing the elements of other non-cognitive skills.

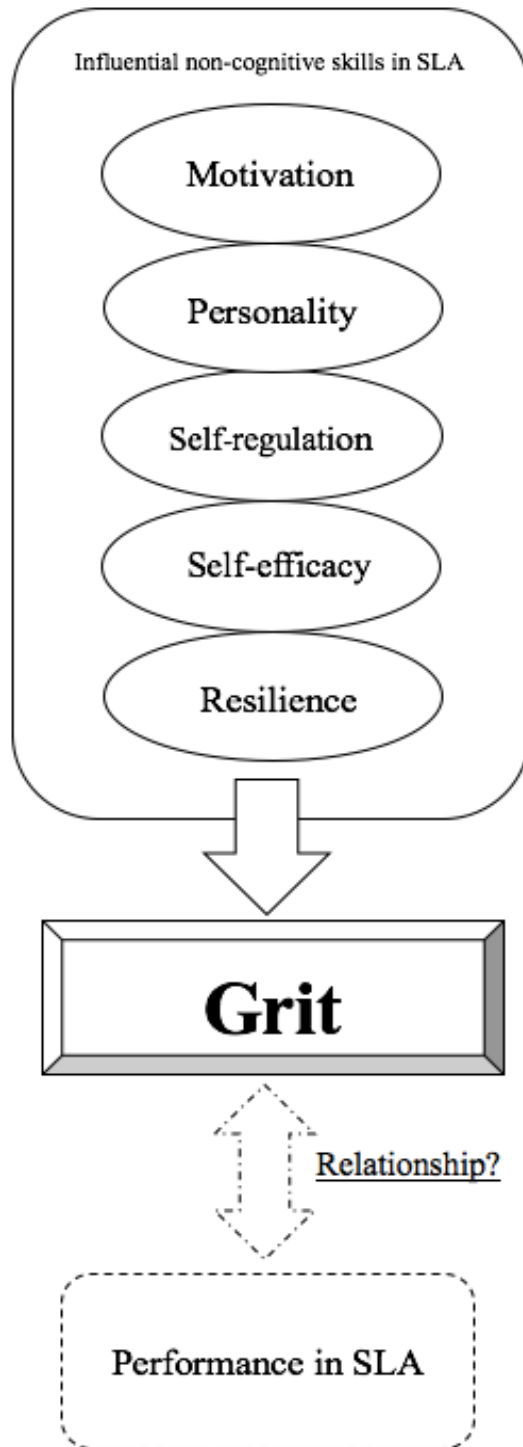


Figure 2: Model of the Relationship between Non-cognitive Skills and Grit

CHAPTER 3

LITERATURE REVIEW

The goal of this research is to examine the relationship between grit and SLA in Japanese. While the primary objective is seeing how those factors relate each other on Japanese language learners, this chapter begins with broader aspects of grit and its influence seen in the previous studies.

3.1. GRIT: Perseverance and Passion for Long-Term Goals

The importance of intellectual talent has been proved when it comes to achievement or success in all professional domains, but less is known about other individual differences which predict one's success. Even though intellectual talent is a dominant factor in achieving something, it is not an only factor to determine one's success because some individuals accomplish more than others of equal intelligence. In addition to cognitive ability which is related to the mechanism of how you think, focus, and remember, non-cognitive skills such as personality, motivation, self-regulation, and self-efficacy has a lot to do with success. Recently, the word "grit" has gathered attention as a personality feature, and it is considered grit is a significant skill shared by the most prominent leaders in various fields.

Angela Lee. Duckworth is a leading researcher of grit studies, and she defines grit as "perseverance and passion for long-term goals" (Duckworth A. L., 2007). She argues that "Grit entails working strenuously toward challenges, maintaining effort and interest over the years despite failure, adversity, and plateaus in progress" (Duckworth A. L., 2007). The U.S. Department of Education (2013) illustrates grit includes the

following elements: (1) the perseverance to accomplish goals in the face of challenges and setbacks, (2) academic mindsets that provide the cognitive resources to support perseverance, (3) strategies and tactics that allow an individual to assess the situation and apply the right tools to improve that situation, and (4) effortful control in the form of the willpower to look beyond short-term concerns to work toward long-term goals. A growing corpus of research evidence suggests that grit, tenacity, and perseverance can be just as important as intellectual abilities for success (U.S. Department of Education, 2013). Duckworth claims that the gritty individual approaches achievement as a marathon; his or her advantage is stamina". (Duckworth, 2007). Robert (2009, cited in Changlek and Palanukulwon, 2015) illustrates that grit is the drive that promotes many important skills such as collaboration, creative thinking and coping with changes, which pave the way to a successful life.

In order to verify the reliability of grit as a better predictor of success than other non-cognitive factors, Duckworth created a stand-alone measure of grit. According to Duckworth (2007), the grit scale met four criteria which are evidence of psychometric soundness, validated for adolescents and adults pursuing goals in a variety of domains, low likelihood of ceiling effects in high achieving populations, and most important, a precise fit with the construct of grit. Integrating those criteria, she created a self-report questionnaire called the Grit Scale which consists of 8 to 12 questions to measure individual passion and perseverance. This questionnaire includes two main factors: half of the question is to measure one's perseverance of effort, and the other half is for consistency of interest. Even though this questionnaire is to see one's personality in

general, not to measure skills toward a specific field, the previous empirical research found out this questionnaire can be applied to people in various fields.

3.2. Conducting Research on How Grit Relates to Success

Although grit is said to be one of the most critical factors for one's success in the 21st century (U.S. Department of Education, 2013), few types of research or experiments which examines the relationship between individual's grit and success have conducted so far because it is comparatively the new field of study. However, because of the great dedication to the grit study by Angela Lee Duckworth, who has conducted and revealed the significant effects of grit in different fields, grit study has begun to get attention. In this chapter, how grit worked in various fields are showed with previous literatures.

The following are six remarkable studies conducted by the noted scholars including Angela Lee Duckworth. Current research posits that one's perseverance is related to better performance in both academic field and real world settings (Duckworth A. L., 2007). However, it is also a fact that not all studies have shown consistent results demonstrating the significant effect of grit toward one's performance. Despite several significant findings of grit, there is a lack of research to reveal the role played by personality traits such as grittiness in various settings. The purpose of this part is to see how grit works on and influences to the attainment in different fields, and think about what has been revealed by the current research.

3.2.1. GRIT and Educational Attainment

In 2002, Angela Lee Duckworth tested whether grit was associated with cumulative GPA among undergraduates at the University of Pennsylvania. Participants were 139 undergraduate students (69% women, 31% men) majoring in psychology, and the average SAT score of this participant group was 1415, which was a score achieved by fewer than 4% of students who take the SAT. As a result of this study, Duckworth found out gritty students surpassed their less gritty peers: grit scores were positively correlated with higher GPAs ($r = .25, p < .01$), a relationship that was even stronger when SAT scores were also related to GPA ($r = .34, p < .001$). Also, it is interesting that grit is negatively correlated with SAT score, which is related to one's IQ ($r = -.20, p < .03$) (Duckworth et al., 2007). This study suggested smarter students may be slightly less gritty than their peers among elite undergraduates at the University of Pennsylvania (Duckworth, 2007).

Strayhorn (2013) has tested the importance of a non-cognitive trait, grit, to predicting grades for a sample of Black males attending a predominantly White institution. The participant group was comprised of 140 Black male full-time students who were at a large, predominantly White, public university located in the southeastern region of the United States. In this research, he set the several extensive arrays of statistical controls such as age, year in school, transfer status, degree aspirations, and prior achievement. His studies also found out grittier males earned higher grades in college than their less gritty same race peers ($r = 0.25, p < 0.01$), regardless of other controlling factors (Strayhorn, 2013). Early research by Angela L. Duckworth (2007) did not found the ethnic differences. However, Strayhorn's analysis claimed the possibility

that grit could be different depending on one's ethnicity. Although his study did not compare African American students to students who have other ethnicities, the significant findings in his research could prompt the question whether or not there might be ethnic differences in grit.

3.2.2. A Study in Military Training

In 2004, Duckworth attempted to prove grit is a significant factor to predict success in the extremely challenging environment, and she chose a Military Academy in the United States, called West Point. West Point graduates more than 900 new officers annually, about 25% of the new lieutenants required by the Army each year (Duckworth, 2007). The candidates must meet some rigid requirements: all of the candidates must get a nomination from a member of Congress or the Department of the Army, and they are required to be excellent on their academic, physical, and leadership potential. Specifically, their admission to West Point heavily depends on a Whole Candidate Score, which is based on the average of SAT scores, class rank, demonstrated leadership ability, and physical aptitude.

The participants of this study were 1,218 of 1,223 freshman cadets who entered West Point in July 2004. Duckworth prepared four different factors to see the correlation between each of them and predict who would complete the severe summer training: grit scale created by herself, the Brief Self-Control Scale created by Tangney, Baumeister, and Boone in 2004, and Whole Candidate Score mentioned earlier, and Physical Aptitude Exam which is a standardized physical standard exercise evaluation (Duckworth, 2007). As a result, it turned out grit was not associated with any element of Whole Candidate

Score ($r = .02$, ns), and Physical Aptitude Exam ($r = .01$, ns), even though it was positively correlated with self-control ($r = .63$, $p < .001$). Furthermore, through this study, she found out grittier cadets were more likely to complete the strict summer training at West Point, and grit predicts the completion of the training better than any other factors she set (Duckworth, 2007). In other words, success in the rigorous military training was affected most by one's passion and perseverance, not IQ assessed by SAT score, high school rank, leadership potential, or physical abilities.

3.2.3. A Study in the Scripps National Spelling Bee

Duckworth investigated how grit works for the finalists in the 2005 Scripps National Spelling Bee. Thousands of children in the United States, Europe, Canada, New Zealand, Guam, Jamaica, Puerto Rico, etc. were involved in this annual competition. In this study, she attempted to find out whether grit is vital to exceptional extracurricular attainment which is avocational rather than vocational pursuits. Also, her purpose of this study was to make sure her expectation which grit is related to the number of hours spent preparing for the Spelling Bee final competition and the number of prior final competitions entered, and grit has a lot to do with the result in the competition eventually (Duckworth, 2007).

The participants were 175 children of 273 finalists in the 2005 Scripps National Spelling Bee, and they ranged in age from 7 to 15 years old ($M = 13.20$, $SD = 1.23$). Duckworth prepared three different elements, grit, Self-Control, and IQ, and compared them with the participants' study time, consequence in the final round, and the total number of times a child has participated in the final competition. The result showed that

gritty participants performed better than their less gritty peers at least in part, and grittier children studied longer. Also, it found out grittier finalists have more participated in the previous competition, which means grittier finalists were more likely to have experienced the final round previously. However, interestingly, IQ was not positively correlated with grit, and furthermore, those who were higher in IQ had less study time and less number of times of previous participation than those who were lower in IQ (Duckworth, 2007).

3.2.4. English Language Classroom

The function of grit in the field of language acquisition hadn't studied a lot since Duckworth began to claim the importance of grit. However, Changlek and Palanukulwong (2015) investigated how grit was related in the second language acquisition process. They mainly focused on one's psychological aspects, such as motivation, anxiety, and grit, and verified how each factor is associated and how they relate to language attainment. The subjects were 180 Matthayom 6 students (equivalent to 12th grade in high school in the U.S.) in Thailand in 2014 academic year.

In this study, Changlek and Palanukulwong (2015) aimed to examine the relationships between motivation, anxiety, and grit of the high and low achievers, and investigate the predictive validity of motivation, anxiety, and grit on English language achievement (Changlek and Palanukulwong, 2015). In order to see the psychological factors, they prepared three different questionnaires: (1) Learning Motivation Questionnaire developed by Noels et al. (2000) with nine items each regarding intrinsic and extrinsic motivation, (2) Foreign Language Classroom Anxiety Questionnaire created by Horwits et al. (1986) with twenty items to indicate learner's anxiety such as

communication apprehension, test anxiety, and fear of negative evaluation, and (3) Duckworth's 8-item Grit Scale. Furthermore, they used the participant's 5-semester English language GPA as an element representing their achievement in English learning.

The result of this study pointed out high achievers and low achievers had different characteristics regarding the subjects' psychological aspects. Among high achievers, they seemed to have the higher level of motivation and grit, and lower level of anxiety. Regarding the relationships of each non-cognitive factor, both intrinsic and extrinsic motivation and test anxiety were negatively correlated ($r = -.266, p < .05$), and anxiety and grit were also negatively correlated ($r = -.350, p < .01$). Overall, motivation and grit were positively correlated ($r = .321, p < .05$) among higher achievers. On the other hand, among low achievers in English attainment, motivation and anxiety were positively correlated ($r = .439, p < .01$) which means the higher the level of their motivation, the higher their anxiety. In terms of grit, it was positively correlated with motivation and negatively correlated with anxiety, but both correlations were non-significant. In short, increasing the level of their motivation wouldn't cause an increase of the subjects' grit, while a growing level of anxiety wouldn't bring the decreasing their level of grit. The lower achievers seemed to have high motivation, but low grit and high anxiety (Changlek and Palanukulwong, 2015).

3.2.5. Grit on Race, Gender, and Academic Performance

Chang (2014) studied the relationship between grit, race, gender, and academic performance of incoming first-year students in a private four-year college located in the Southern United States. The participants were incoming first-year students for the 2013

academic year (N=2035, 51% female, 49% male). Of the incoming first-year students, 55 % were white, 9 % were black, 18% were Hispanic, and 14% were the Asian/Pacific Islander. The researcher used students' previous academic achievement (ACT/SAT scores and High School GPA), grit score, and first-year cumulative GPA on this research.

As a result of the study, no significant relationship was seen between grit and their first year GPA ($r = .07, p < .19$). Also, grit did not have any significant relationships with race and gender as well. However, perseverance of effort, which is one of the components of grit scale, showed a positive and significant correlation with the students' first year GPA ($r = .22, p < .01$). Whereas, consistency of interest, which is the other component of grit scale, showed a negative and significant correlation with their first year GPA ($r = -.11, p < .01$).

3.2.6. A Qualitative Study of Grit in an Academic Field

Unlike the other researchers, De Vera et al. (2015) conducted qualitative research on grit. The participants were management students ($n = 25$) in an Asian graduate school, and he attempted to investigate the factors contributing to grit in a non-western context. The data consisted of in-depth interviews with a diverse population of randomly selected graduate management students. De Vera et al. (2015) found that social support was a significant element of passion and perseverance in achieving personal and work goals. Also, research subjects reported that internal factors pushed them to “work harder in order to compensate for lack of sheer talent or innate ability” (De Vera et al., 2015). The participants further argued that grit was associated with persistence, and the firm reliance on external or social support systems (such as family, friends, significant

others, superiors or colleagues), as well as internal factors of motivation (such as intrinsic motivation, self-efficacy, and self-regulation) (De Vera et al., 2015). According to the qualitative research, the majority of participants agreed with Duckworth that intelligence or IQ are not significant predictors of success.

3.3. Extensive Reading

Extensive reading is a language learning approach which learners read a lot of accessible materials in the target language. Traditionally, there have been three ways of teaching reading: skimming, scanning, and intensive reading. However, extensive reading has begun to get attention due to its significant effect on language learning. Palmer (1968) argued that intensive reading refers to the careful interpretation or translation of shorter and more difficult foreign language texts, and readers need to understand thoroughly and in detail. On the contrary, extensive reading refers to reading large amounts of texts with the aim of getting an overall understanding of the material. Readers should more pay attention to the meaning of the text than the meaning of individual words or sentences. Table 2 displays the summary of the difference between extensive reading and intensive reading advocated by Waring (2000).

Table 1: Brief Summary of the Difference between Extensive and Intensive Reading

Extensive Reading		Intensive Reading
Fluency, Ability to move from working with words to working with ideas	Why?	Grammar, Vocabulary, reading skills
Very Easy	Difficulty?	Usually difficult
One book a week	How much?	Little
Each student chooses it by themselves	Materials?	All students use the same material
Reports, summaries/discussions, etc.	Comprehension Checked?	Specific questions, grammar and vocab exercises, etc.

Although extensive reading belongs in the language classroom, the learners choose their reading materials and read them independently of the teacher. They read for understanding general and overall meaning, and for information and enjoyment. If the material is too challenging or not interesting for them, they are encouraged to stop reading it and move to the next book.

According to Bamford and Day (2003), there are top ten principles to succeed on extensive reading:

1. The reading material is easy.

Learners read material that contains few or no unfamiliar words and grammar.

This is the most important principle on extensive reading.

2. A variety of reading material on a wide range of topics is available.

Different kinds of reading materials should be prepared so that learners can find things they want to read, whatever their interests. It encourages a flexible approach to reading.

3. Learners choose what they want to read.

Unlike a traditional language classroom where the teacher chooses a reading material for students, self-selection of reading material is the basis of extensive reading.

4. Learners read as much as possible.

The language learning benefits of extensive reading depend on quantity of reading.

5. Reading speed is usually faster rather than slower.

Because learners choose a reading material they can easily understand, it encourages fluent reading. Although learners are discouraged to use a dictionary, they are encouraged to ignore or guess unknown language items.

6. The purpose of reading is usually related to pleasure, information, and general understanding.

In contrast to academic reading or intensive reading, learners are encouraged reading for pleasure and information on extensive reading.

7. Reading is individual and silent.

Learners read at their own pace.

8. Reading is its own reward.

Because the goal of extensive reading is learner's experience, it is not usually followed by comprehension questions. At the same time, teachers may ask

students to do follow-up activity after reading in order to find what the students understood and experienced or keep track of what students read.

9. The teacher orients and guides the students.

Teachers need to explain to students what extensive reading is, why they are doing it, and how to go about it because it is different in many ways from traditional classroom practice.

10. The teacher is a role model of a reader.

Example is the most powerful instructor. For example, if the teacher reads some of the same material as students are reading and talks to them about it, this gives the students a model of what it is to be a reader.

Regarding extensive reading, learners can choose the materials from a variety of books and can proceed their learning in a relaxed environment. Although it seems efficient to let the learners enjoy studying language, each learner needs to be an autonomous reader and to manage themselves in order to improve their language proficiency in such an environment. Since extensive reading has the purpose of having learners read in and out of a classroom, it is deeply associated with learner autonomy. Learner autonomy is defined as “the ability to take charge of one’s own learning” (Holec, 1981, p.3). According to Aoki (2010), learner autonomy is a skill which learners can make decisions about their own learning and which is the right to utilize the skill. In general, learner autonomy is an essential skill to achieve a language because language learning is a lifelong endeavor, not one that begins and ends in a language classroom. In short, learners have to work within and beyond the classroom to improve their language

proficiency (Najeeb, 2013). In the context of extensive reading, learner autonomy is involved in participation in extensive reading sessions, setting learning goals, evaluation, and continuing extensive reading (Takahashi, 2011).

Yoshimura and Kobayashi (2018) found out learners got skills to select an appropriate level of reading materials by themselves through one-semester extensive reading class. Learners can think actively which reading material is suitable for themselves. It implies the extensive reading activity promotes learner autonomy, and learner autonomy guides learners to be successful in extensive reading activity. This effect might not be seen in a traditional teacher-centered language classroom which students always learn following teacher's instruction.

As well as learner autonomy, self-regulation is significantly associated with extensive reading. Self-regulated learning involves taking active control of learning and is often divided into phases of forethought, performance, and self-reflection (Zimmerman B. J., 2011). Activities in the forethought phase contain actions such as setting goals, planning, and building motivation. In the performance phase, monitoring learning and interest is included. Activities in the self-reflection phase contain self-evaluation, casual attributions of success or failure, and reflecting on positive feelings of liking or enjoying the activity (Lake, 2014). Leaver, Ehrman and Shekhtman (2005) illustrated this is a cyclical process by which learners both exercise and develop their learner autonomy. This argument indicates the close relationship between learner autonomy and self-regulation skill. Since learner has the initiative to continue language learning in extensive reading activity, learner autonomy or self-regulation should be more important than a regular language course.

3.4. The Relationship between Grit and Extensive Reading

In extensive reading, learners choose the reading material by themselves and proceed reading, considering their language proficiency and personal interest. Most language classes are teacher-centered, which means teacher takes full control of the classroom and its activities, and students mostly follow the instruction. The traditional way of language teaching is easy to organize the classroom and helps students to understand some important points. However, at the same time, in teacher-centered class, students rarely have opportunities to direct their own learning. In extensive reading activity, the learning environment is comparatively comfortable for students because they can choose their learning material and read it at their comfortable speed.

As mentioned earlier, due to the condition and environment of extensive reading, learners' independent skills such as learner autonomy and self-regulation are highly related to the extensive reading. Therefore, it seems that learners who have higher non-cognitive skills can improve their language proficiency more because non-cognitive skills are associated with building a motivation, monitoring their own learning, or making continuous efforts. Especially, grit is considered as one of the most important skills for success in 21st Century (U.S. Department of Education, 2013), and it may be a critical element for extensive reading as well. According to Joanne P. Rojas (2012), grit was positively correlated with self-regulation in math and reading among upper elementary and middle school students. This research implicitly suggested individual's grit score might affect the performance of extensive reading because self-regulation is an important skill for control one's own study. Furthermore, Leaver et al. (2005) revealed self-regulated learning is the process which exercises and develops students' learner

autonomy. In other words, learner autonomy and grit may be associated with each other because the relationship between grit and self-regulation has been revealed. Also, Duckworth (2016) pointed out most gritty people she met could find interest in what they are working on and could always intrinsically motivate themselves. In short, gritty individuals tend to possess the non-cognitive abilities required for competent learners. In extensive reading, grittier individuals may be able to enjoy the student-centered learning environment and find it meaningful. Because of the characteristic of extensive reading, individual's grit may become an important factor of making learners direct their own learning and an influential element to promote their performance in the student-centered language learning process.

3.5. Significance of the Study

Even though the significance of grit has got attention from various fields such as educator, business person, and military engaged people recently, the research related to SLA hasn't been sufficiently studied compared to other areas yet. Passion and perseverance, which are measured by grit scale, seem to be the required skills to succeed on SLA; since learners need passion to motivate themselves and perseverance to keep making an effort on the language acquisition process. Over the course of history, researchers have found non-cognitive skills and individual personality traits are the significant terms of SLA. Therefore, the author believes it necessary to clarify the relationship between individual grit and language acquisition for further development the field of SLA. If grit is found to play a significant role in predicting students' performance in SLA, this study will provide new insights to SLA field on different methods of

enhancing student language learning. Or, this research might not find the significant influence of grit due to the fact that there are a lot of factors related to SLA other than affective factors and non-cognitive skills. However, it is worth examining how much personal grit affects SLA because it could lead the further development of language learning.

Also, it is assumed that different correlations would be found between the regular language class and extensive reading course. Those classes have different pedagogical concepts; the former is teacher-centered and students are assessed by testing evaluation, while the latter is student-oriented which have no tests or quizzes, and students need to monitor their own learning. Given that previous research claims that extensive reading is highly associated with learner autonomy and self-regulation, individual's grit may have relationship with their performance in extensive reading. To examine how individual's grit and the extensive reading relate each other may bring a new insight to the field, and may lead the further development of the pedagogical area. Furthermore, the results may reveal the differences or similarities between common language teaching and extensive reading as to learners' non-cognitive skills.

3.6. Research Questions

This research was conducted based on the following two research questions using a data obtained from three different courses held at the University of Massachusetts Amherst.

1. To what extent is there a relationship between students' grit scores and their grades in Japanese language classrooms?

2. To what extent is there a relationship between students' grit scores and the subjective evaluation of their comfort level of reading?

CHAPTER 4

METHOD

4.1. Population and Sample

The target population for this study was comprised of 34 students in the introductory level Japanese language course, 27 students in the intermediate level, and 17 students taking Japanese extensive reading course in the fall semester, 2017 academic year. Of all students, 4 students were taking both the introductory level language course and the extensive reading course, and 3 students were taking both the intermediate level course and the extensive reading course at the same time. When the research was conducted, 75 students belonged to a public university in the state of Massachusetts state, and 3 students attended at a private university in the same area.

4.2. Research Design

This study used two variables compared to the grit scale: one is the participants' grades of two Japanese language courses, and the other is a subjective evaluation in the Japanese extensive reading course. There are several grading components for each language class, and each of the unit is compared with the independent variables individually. Regarding the self-report questionnaire, it was conducted at the start and the end of the semester in the Japanese extensive reading classroom. The change of their answers during a semester were treated as the variable compared to the grit scale.

As a main variable of this study, Duckworth's 10-item grit scale was used (see Appendix A). Grit consists of consistency of interest and perseverance of effort as

suggested by Duckworth and Quinn (2009), and those two factors were also calculated for this study. Duckworth and Quinn (2009) did not point out whether either factor predicted results better than the other. This study analyzed the effects of grit and the two subscales, examining the relationship between each of the element of the grit scale and two different variables which are students' grades in the Japanese language courses and the change of answers of self-report questionnaire in the Japanese extensive reading course. In terms of 10-item grit scale, questions 1, 3, 5, 7, and 9 described the consistency of interest, while 2, 4, 6, 8, and 10 covered the perseverance of effort. Grit score is calculated adding up all the points and dividing by ten. The maximum score on this scale is 5 (extremely gritty), and the lowest score on this scale is 1 (not at all gritty). Also, to determine the score of each consistency of interest subscale and perseverance of effort subscale, total point values were divided by five.

4.3. Data Collection

An Institutional Review Board (IRB) request was submitted to the University of Massachusetts Amherst (see Appendix B), and permission to conduct the research was received on October 18, 2017. Data collection began upon approval.

Following the instruction given by IRB, the researcher's fellow graduate students were in charge of the data collection, not the researcher himself. Before the participants made signatures on the consent form, the researcher's fellow graduate students explained how the research would be conducted in order to ensure that the participants showed the following:

1. Willingness to voluntarily participate in the research

2. Agreement to use his/her/their course grade in the research
3. Understanding the purpose and the possible risks of the research

When all the conditions were met, the participants signed the consent form which explained the further details of the procedure of this research. Based on the regulations instructed by IRB, the participation could have been suspended at any time if they showed any signs of being uncomfortable or uneasiness.

The researcher's fellow graduate students attended three different courses, which are first-year introductory Japanese, second-year intermediate Japanese, and Japanese extensive reading course, held at the University of Massachusetts in the fall semester in 2017 academic year. The survey, 10-item grit scale, was collected October 30, 2017 through November 27, 2017.

The wording of the survey questions and directions were taken from 10-item grit scale validated by Duckworth and Quinn (2009) and used them without any changes. The 10-item grit scale is measured in five stages from 1 (not at all like me) to 5 (very much like me). Sample items include: "Setbacks don't discourage me", or "I finish whatever I begin". Responses to each question correspond with the point value, and point values for each question are added together and divided by 10 to calculate the subjects' level of grit. The maximum score is 5 (extremely gritty) and the minimum is 1 (not at all gritty). Subjects answered their name, major, age as well, but each subject's personal information was protected and not identified in this research. The list of questions included in the 10-item grit scale is as follows.

1. New ideas and projects sometimes distract me from previous ones.

2. Setbacks don't discourage me. I don't give up easily.
3. I often set a goal but later choose to pursue a different one.
4. I am a hard worker.
5. I have difficulty maintaining my focus on projects that take more than a few months to complete.
6. I finish whatever I begin.
7. My interests change from year to year.
8. I am diligent. I never give up.
9. I have been obsessed with a certain idea or project for a short time but later lost interest.
10. I have overcome setbacks to conquer an important challenge.

Regarding the subjective evaluation in the Japanese extensive reading course, because students are not evaluated with achievement tests in extensive reading activity, the current research focused on how the participants' subjective evaluations of their reading level changed between the beginning and the end of the semester. To measure the change of their responses, a self-report questionnaire which enabled the participants to evaluate their own comprehension was used. Unlike the teacher-centered, traditional language course, students' language proficiency can't be measured with an objective test in extensive reading. The subjective evaluation used in the current research is associated with learners' awareness of how comfortable they are to read books at different levels of difficulty in Japanese.

The self-report questionnaire consists of 7 questions asking how much contents the students think they could understand each level of the reading material. Levels of the reading materials are determined by Japanese Graded Readers, which employed a controlled set of grammar and vocabulary in different levels. The book had six different levels of Japanese Graded Readers, from 1 (easiest) through 6 (most advanced). The participants responded how much they understood each level of the books, reporting the most appropriate answer among A (I know almost all grammar and all vocabulary.), B (There are a couple of words I don't know per page, but I easily understand without using a dictionary.), C (There are 3-4 words I don't know per page, but I can probably read without using a dictionary.), D (There are more than 5 words I don't know per page. I feel like using a dictionary.), and E (I need a dictionary for almost every sentence to understand.). Responses about each reading level were corresponded with the point value, answer A as 5 points and answer E as 1 point. Participants did this subjective evaluation using the same reading materials in the beginning and the end of the semester, and the changes of their answers were calculated as numerical values in order to see how their comfortable level of reading with or without using a dictionary changed over the semester.

4.4. Data Analysis

This research conducted two different research questions. Each research question was analyzed with the Pearson product moment correlation coefficient (r) to identify whether there were significant relationships among the variables of this research. A hypothesis test of the significance of the correlation coefficient was conducted to

examine the statistical significance of the relationship between students' grit score and each dependent variable. The level of significance was set at .05. The research questions and the process how each of them were analyzed are as follows.

RQ1. To what extent is there a relationship between students' grit scores and their grades in the Japanese language course?

34 students in the introductory course and 27 students in the intermediate course were analyzed separately since the grading criteria are different in each class. Grading units of introductory course is Attendance and Participation, Homework, Quizzes and Dialogue Presentation, Speaking tests, Lesson tests, and Final exam. Intermediate course has Attendance and Participation, Homework, Quizzes, Lesson tests, Speaking tests, Final presentation, Final exam as the grading criteria. This research examined the relationships between the numerical scores measured with 10-item grit scale and each evaluation component in order to see how personal grit predicts their performance in the Japanese language classrooms. Perseverance of effort and consistency of interest which are subscales of grit scale were used in the analysis too. In short, the relationship between participants' grit score, perseverance of effort score, consistency of interest score and their performances in two different levels of Japanese language course were respectively analyzed.

RQ2. To what extent is there a relationship between students' grit scores and the subjective evaluation of their comfort level of reading?

Participants did the subjective evaluation twice: the beginning and the end of the semester. The change of their subjective evaluations depended upon the participants' responses to each level of the reading materials: how much each learner's answer changed between the beginning and the end of the semester from B (There are a couple of words I don't know per page, but I easily understand without using a dictionary.), C (There are 3-4 words I don't know per page, but I can probably read without using a dictionary.), and D (There are more than five words I don't know per page. I feel like using a dictionary.). Any students can take this course and the language proficiency of each student is varied. Thus, looking at the changes of each student's self-evaluations is the best way to analyze all students together on the same basis. This study excluded answer A and E because any changes couldn't be measured from answer A, and also answer E implies the reading materials were not appropriate for the extensive reading activity.

In terms of the process of data analysis, if one subject answered C in level 1 of Japanese Graded Readers in the start of the semester, the change of the student's subjective evaluation within the same level was examined, while if other student responded C in level 3, variation of their answers within the same level would be the object of the examination. In the case participants answered C in multiple levels, the lowest level was employed for the analysis. The maximum score was 3 (improved D to A) and the minimum was 0 (did not change the answer or dropped). If a learner did not respond the target answers (B, C, or D) in each analysis, he/she was excluded from the data. Aside from the questions about different levels of Japanese Graded Readers, there is one more question in the end: "Which level are you most comfortable reading without

using a dictionary?”. Participants responded this question 1 (easiest level) through 6 (most advanced level), and the change of their subjective assessments between the beginning and the end of the semester were calculated. For example, if one’s level of reading material changed from level 2 to 5, the change of their subjective evaluation is considered as 3.

After the self-report questionnaire was quantified, each participant’s change of their subjective evaluation and each score of individual’s grit, perseverance of effort, and consistency of interest were analyzed based on Pearson product moment correlation coefficient.

CHAPTER 5

RESULTS

The primary purpose of this quantitative research was to see whether there was a relationship between college students' grit score and their grades in Japanese language classes, as measured by several evaluation criteria. The data was extracted from the introductory and intermediate levels of Japanese classes at a public university in Massachusetts. Another purpose of this study was to examine the relationship between college students' grit scores and the changes of their subjective evaluation through a semester in the Japanese extensive reading. The variable was measured by the self-report questionnaire from the beginning and end of the semester.

5.1.1. Research Question 1: To what extent is there a relationship between students' grit scores and their grades in Japanese language classroom?

A Pearson product moment correlation was calculated to reveal the strength and direction of the relationship between participants' grit score and their grades in each language course. A hypothesis test of the significance of the correlation coefficient was conducted to find the statistical significance. The level of significance was set at .05 level.

As to the introductory level Japanese class, as seen in Table 3 below, there were no significant correlations observed between participants' grit and their grades. Participants' consistency of interest and homework submission showed a tendency of positive correlation ($r = .271$), even though it did not reach the significant level ($p = .12$). Also, a relationship between subjects' consistency of interest and their attendance showed

a slight negative correlation with their grit score ($r = -.204$), but the data was not significant either ($p = .248$). Although some correlational tendency was found, there was no significant relationships between the two variables.

Regarding the data collected from the intermediate Japanese language classroom, there were no significant relationships between grit score and each grading component. However, perseverance of effort and consistency of interest which are subscales of the grit scale, showed the significant connection with some grading items. The correlation coefficient provided evidence for negative relationships between the students' perseverance of effort score and lesson test ($r = -.437, p < .05$), speaking test ($r = -.459, p < .05$), final project ($r = -.482, p < .05$), and final exam ($r = -.402, p < .05$). The grade in the daily quizzes and their total grade of the semester was also negatively correlated with their perseverance of effort, although those did not reach the significant level (both $p = .07$). Participants' score of consistency of interest also showed weak relationship with their performance in an intermediate language class. The correlation coefficient provided tendency for a very weak positive relationship between students' consistency of interest and their performance in daily quizzes ($r = .32, p = .104$) and final exam ($r = .31, p = .11$).

Table 2: Relationship between Grit and Grades in the Introductory Language Course

	Total	Attendance	HW	Quiz	Lesson Test	Speaking Test	Final Exam
Grit	.018	-.056	.085	.013	.061	-.073	-.026
Perseverance of Effort	-.116	-.204	-.145	-.156	-.002	-.066	-.086
Consistency of Interest	.139	.109	.271	.169	.097	-.050	.041

Table 3: Relationship between Grit and Grades in the Intermediate Language Course

	Total	Attendance	HW	Quiz	Lesson Test	Speaking Test	Final Project	Final Exam
Grit	-.109	-.029	-.046	-.063	-.169	-.201	-.198	-.099
Perseverance of Effort	-.359 (<i>p</i> =0.07)	-.049	-.133	-.354 (<i>p</i> =0.07)	-.437*	-.459*	-.482*	-.402*
Consistency of Interest	.241	.007	.08	.320 (<i>p</i> =0.1)	.227	.197	.231	.313 (<i>p</i> =0.1)

*. $p < 0.05$

5.1.2 Analyzing Research Question 1

As seen in Table 2, showing a data extracted from students who are in the introductory level course, it was found that all grit, perseverance of effort, and consistency of interest did not show any strong relationships with grades in the introductory level Japanese language class. Because this is a non-intensive language course, which has only three classes per a week, the class performance of each student might not be that varied. Considering the fact, there should be a ceiling effect in this course. Ceiling effect refers to a situation which there is very little variance because most

subjects score near the top. Because students in this course have studied the limited number of grammars and new words, most of them performed very well. This could be a part of reasons why the study did not show any significant correlations. Also, students who are taking this class have just started studying the Japanese language; most of them have learned Japanese for less than seven months. Since grit is considered as a factor to see one's personality trait for long-term goals, grit might not be a good predictor for those participants who have studied Japanese for a short period.

As seen in the Table 2, grit which is a combination of the two subscales does not have the significant association with each components of the grade. This means that how much students are gritty doesn't matter on their grades in an intermediate level language classroom. As mentioned in chapter 3, grit is considered as a reliable predictor of various fields, such as military training completion, academic GPA, and results in National Spelling Bee tournament. However, such positive and significant correlations were not seen in Japanese language classroom in a public university in the U.S.

Although this survey did not show any correlation between overall grit score and grades, sub-factors of the grit scale, "perseverance of effort" and "consistency of interest" showed interesting relationships with the students' performance. As seen in Table 3, participants' grit scores were negatively correlated with their grades. Their score of perseverance of effort did not predict the attendance or submission of daily homework. However, the data showed significant negative correlations with the lesson test, speaking test, final project, final exam, and total grades ($p < 0.05$). Also, perseverance score was negatively correlated with the grades in quiz and total grade even though those did not reach the significant level ($p = 0.07$). On the other hand, another subscale "consistency of

interest” showed positive correlations with some grading criteria even though those data were not reached the significant level. As seen in the Table 3, consistency of interest slightly correlated with their grades in the quiz and final exam ($p=0.1$). This means that students who have the higher score at the consistency of interest achieve comparatively higher grades in some components.

There are some possible reasons why the data extracted from intermediate level course showed more definite correlation than that of the introductory level course. Students who are in the intermediate class have studied Japanese for more than a year, and most of them intend to have a Japanese minor degree at least. Also, each students’ grades of this class are varied, compared to introductory level Japanese class, because this is an intensive course which has classes every day, and each students’ accumulated knowledge also affects their performance to some extent.

Table 4: The Bonds of Each Factor with the Grades in the Intermediate Language Classroom

Grit	No relationships
Perseverance of Effort	Negatively correlated
Consistency of Interest	Positively correlated comparatively

There should be several reasons why “perseverance of effort” is not positively correlated with each grade in the intermediate level language classroom. First of all, according to (Anderson, 1985), he argues SLA is associated with skill acquisition theory. This theory is based on Anderson’s Adaptive Control of Thought (ACT) which itself is a part of the cognitive stimulus-response theory (Ellis, 2013). According to Dekeyser

(2007), the basic concept of skill acquisition theory is “that learning of a wide variety of skills shows a remarkable similarity in development from initial representation through initial changes in behavior to eventual fluent, spontaneous, largely effortless, and highly skilled behavior, and that this set of phenomena can be announced for by a set of basic principles common to acquisition of all skills” (p. 97). According to Speelman (2005), skill acquisition refers to a specific form of learning, where learning has been defined as “the representation of information in memory concerning some individual or cognitive event” (p. 26). In ACT model, there are two kinds of knowledge stored in one’s long-term memory: one is declarative knowledge, and the other is procedural knowledge. According to Richards and Schmidt (2010), declarative knowledge is conscious understandings of facts, concepts or ideas of the target language. Procedural knowledge refers to unconscious knowledge of how an activity is done. In the skill acquisition process, learners acquire declarative knowledge first, learning grammar rules and vocabularies. Input and output of declarative knowledge have to be repeatedly done, and learners need to come to use the skill fluently. After the stage, declarative knowledge is transferred to procedural knowledge, and moreover, procedural knowledge needs to be automatized to acquire the natural use of the target language. In short, acquiring a language is learning a skill, not a body of information. This skill acquisition process is pretty similar to sports; although people learn to fundamental movement or motion first, they can do it unconsciously when they acquire the skills. That is, learners must not only understand the ideas and concepts, have information at hand, but they must make themselves accustomed to using that information in physical activity. In SLA, physical activity associated is major four skills: reading, listening, speaking, and writing. Unlike

other classes which need to understand concepts and store them as knowledge, second language learners' need skills to accustom themselves to the language.

Perseverance is considered as a significant factor to make continuous efforts and improve skills in various fields. Likewise, in SLA field, learners need to keep studying and refining their language proficiency even if they face difficulties in the language acquisition process. However, language acquisition associates with many factors as well as personal traits. As mentioned earlier, according to skill acquisition theory in SLA, learners can improve their language proficiency when they come to be able to use procedural knowledge unconsciously, and automatization happens after that. In short, language acquisition proceeds when learners acquire knowledge of “knowing how” in unconscious level, rather than knowledge of “knowing what” in conscious level. Due to the concept of language learning process, how much one can persist efforts and have ‘Never give up’ attitude was not a significant factor in language acquisition process. However, of course, perseverance is an important skill to confront difficulties or continue language learning to some extent.

Secondly, the fact that language acquisition is related to many factors other than personal traits could be the reason why grit can't be a predictor of success in language classroom at a university. As one of the most influential factors in SLA, many researchers have studied language aptitude for a long time. Language aptitude is defined as a set of abilities which enables some learners to acquire new language material more quickly and with greater ease than others (Dörnyei, 2005), and it has been thought as a significant and robust predictor of second language learning process. Because of the individual difference in language aptitude, how fast or deep learners can improve the

language proficiency is varied between each learner, and the attainment of the target language is different even if they have the same length of the learning period. Also, as the most influential factor after language aptitude, affective factors, including learner's motivation, anxiety, and personality (other than grit) on language learning process, influence SLA. Since emotional elements are directly involved in the performance in a language classroom, those could be related to the grades in a language classroom as well. Therefore, even if grittier learners make more effort than others who are less gritty, it is not necessarily that the former learners attain higher language proficiency. In short, since there might be the more influential factor than grit, individuals' grit score was not correlated with their grades in a university language classroom.

Third, the participants' academic majors might affect the result. Even though the research revealed that the participants who got higher in "perseverance of effort" were lower in their grades, why did this happen in a language classroom specifically? Because previous studies have revealed that grittier students got higher in their academic GPA, it seems to be natural that grittier students would perform better in a university language classroom as well. To figure out this question, the data was analyzed again after the participants were divided into two based on their academic majors: Japanese major (10 students) or other majors (17 students). As long as "Japanese" is included in their major even if they are multiple majors, they are included in Japanese major. Below is a table of result showing the relationship between "perseverance of effort" and each grading criterion depending on their majors.

Table 5: Analysis of the Relationship between Perseverance of Effort and the Grades between Students Who Are in Japanese Major or Other Majors

	Total grade	Quiz	Lesson Test	Speaking Test	Final Project	Final Exam
Japanese Major	-.274	-.252	-.302	-.306	-.402	-.229
Other Majors	-.407 ($p=0.08$)	-.433 ($p=0.08$)	-.528*	-.584*	-.562*	-.593*

* $p < 0.05$

As seen in Table 5, the negative correlation between perseverance and grades became stronger for students who are not in Japanese major. This result might be related to the system of the university. Students are usually taking six or seven classes at the same time, and most of them are more interested in and focusing on their major-related courses. Grittier students should want to achieve good grades in all classes because they have more passion and perseverance toward what they are engaged in. However, the capacity of memory or time for putting effort on each class is limited; students need to set priorities among their current courses if they are beyond one's capability. In the case, it is natural that most students would try to put their effort more on courses related to their majors. Because grittier students should get higher academic GPA than others who are less gritty (Duckworth, 2007), students who are higher in "perseverance of effort" might be making so much effort and getting good grades in their major-related courses, not in Japanese language class which is not their major. This is not an analysis related to SLA theories; however, because of the university system that students are taking many classes at the same time, students sometimes might be required to set priorities on the classes. The result of negative correlation extracted from intermediate Japanese course can have

the significant relationship with the learner's capacity and capability to manage many classes at the same time.

Also, as mentioned earlier in the analysis of the introductory Japanese class, the longer period might be needed to find a relationship between individuals' grit scores and their grades. Even though students in the intermediate language course have learned Japanese more than a year, it might not be enough length of time to see the more significant result. Possibly, gritty individuals might gradually improve their language proficiency taking longer time. This point might be a reason why any correlations were not seen between participants' grit and their performances in the intermediate Japanese course.

Concerning the relationship between individuals' "consistency of interest" scores and grades as seen in Table 3, some criteria showed slight positive correlation even though it did not reach the significant level of .05 probability. Since students who are in the intermediate course have taken Japanese for more than a year, their consistency toward their interest should be associated with their grades to some extent. Especially in language learning, one's interest is a source of motivation to learn the language, and motivation is a significant factor which might determine success in language learning. Among the all grading criteria, since quiz and final exam especially need daily efforts and cumulative knowledge of Japanese language, more clear correlation was seen in them. It is estimated that students in other majors more engaged their regular study time in their majors, and spent more time in preparation for classes of their major during the final exam week.

5.2.1. Research Question 2: To what extent is there a relationship between students' grit score and the changes of their answers in a self-report questionnaire during a semester?

A Pearson Product Moment Correlation was calculated to reveal the strength and direction of the relationship between participants' grit score and their grades in each language course. The main purpose of this research question was to see if individuals' grit scores are related to the subjective evaluation based on a self-report questionnaire in extensive reading. The variables of this research were the participants' grit score and their changes of their responses in a self-report questionnaire between the beginning and the end of the semester.

As a result of the research, regarding the change of the subjective evaluation from the answer B (There are a couple of words I don't know per page, but I easily understand without using a dictionary.), and C (There are 3-4 words I don't know per page, but I can probably read without using a dictionary.), tendencies of positive correlation were seen. Especially, the data found that grit score ($r = .402, p = .20$) and consistency of interest score ($r = .467, p = .13$) had relationships with the change of the responses from answer C through above levels. However, any positive correlations were not seen in the change from answer D (There are more than five words I don't know per page. I feel like using a dictionary.), and in the change of each student's most comfortable reading material. Probably because of the small number of participants, any correlations did not reach the significance level of 0.05 probability.

Table 6: A Summary of the Relationship between Extensive Reading and Grit and Its Subscales

	n	Grit	Perseverance of Effort	Consistency of Interest
Change from answer B	11	.304 (<i>p</i> = .36)	.275	.253
Change from answer C	12	.402 (<i>p</i> = .20)	.267	.467 (<i>p</i> = .13)
Change from answer D	9	-.162	-.247	-.069
Change of reading materials	17	.192	-.277	-.045

5.2.2. Analyzing Research Question 2

As seen in Table 7, the research showed some tendencies of positive correlations between several variables. In the extensive reading activity, learners can choose whatever reading materials they are interested in, and those materials should be comfortable. Therefore, unlike the traditional language classroom, no one pushes learners in the extensive reading classroom which is a relaxed environment. In other words, however, each learner should regulate and control their learning; self-regulation skill is probably essential for them to proceed an extensive reading activity properly. According to Joanne et al. (2012), individual's grit is positively correlated with self-regulation skills (See Table 1 on page 21). Based on the fact, it is estimated that individual's grit score is also an important factor to succeed in a student-centered language learning and achieve a full effect of the learning style. Although the results of the current study did not reach the statistically significant level, grit might be a significant factor in an extensive reading activity.

Secondly, grit might relate more when learners improved in a level of books which is not too easy and not too difficult for them. Some tendencies of positive correlation were seen in the change of subjective evaluation from Answer C and Answer B. Answer C refers to “There are 3-4 words I don't know per page, but I can probably read without using a dictionary”. Because students still can read without a dictionary at this level, although it's harder than materials of A or B level, this could be an appropriate level for grittier students. If grittier students have read around C level materials a lot through a semester, it is understandable that the research showed a tendency of the positive correlation between grit and the change of their response from answer C. On the other hand, answer D refers to “There are more than five words I don't know per page. I feel like using a dictionary”, and it is difficult for students to read D level books without a dictionary. Of nine subjects for this analysis, six participants changed their answer from D to the upper level, and four of them answered A in the end of the semester. However, the participants' grit score and their changes of subjective evaluation did not show the relationship. Although some students changed their subjective evaluation a lot between the beginning and the end of the semester, the change from answer D was not positively correlated with their grit scores. According to the result of this research, grit might be an important factor for the change of subjective evaluation within a reading material which is not too hard and not too easy, while grit was not related to the change of participants' answer within a reading material which needs a dictionary to comprehend.

In conclusion, the current research slightly showed some tendencies of positive correlations between grit comprised of two subscales and the change of the participants' subjective evaluations between the beginning and the end of the semester in the extensive

reading activity. One of the essential findings of this research was individuals' grit score had a relationship with the change of the participants' subjective assessment from Answer B and Answer C which indicate the appropriate levels of an extensive reading activity. The results did not reach the significance level of 0.05 probability, but If there were a more substantial number of research participants, it might show stronger correlations. Also, students' reading ability is not a skill which can be improved in only one semester, so future research observing students through the more extended period would show more significant correlation. Furthermore, considering the results of the current research, grit might have close relationships with one's learner autonomy or self-regulation in language learning. If observing the relationship between students' grit scores and reading hours outside the extensive reading course, there might be a significant relationship between them.

CHAPTER 6

CONCLUSION AND FUTURE DIRECTION

6.1. Conclusion

The primary purpose of this study was to examine whether individuals' grit and its subscales can predict one's performance in Japanese language classroom at a public university. Furthermore, this research investigated the relationship between participant's grit score and the change of their subjective evaluations based on the self-report questionnaire in Japanese extensive reading classroom. The number of participants in this research was 78 students in total who were taking either introductory or intermediate Japanese language course or Japanese extensive reading course. All of the classes were held at a four-year public university in the fall semester, 2017 academic year. All participants were required to answer the Duckworth's 10-item grit scale, and those who were in the extensive reading course had to complete a self-report questionnaire. Pearson product moment correlation coefficients were calculated to determine the strength and direction of the relationship between the dependent and independent variables.

Over the course of the long history of SLA, the importance of non-cognitive skills has been examined. As one of the most influential non-cognitive skills today, grit is considered as a critical factor for success in the 21st Century (U.S. Department of Education, 2013). Grit is defined as "passion and perseverance for long-term goals" (Duckworth, 2006, 2015 and Duckworth and Quinn, 2015), and a growing corpus of research evidence suggests that grit can be just as necessary as intellectual abilities (U.S. Department of Education, 2013). For example, Duckworth et al. (2007) found the

positive correlation between grit and completion of severe training in U.S. military, and also pointed out grit can be a significant predictor of performance in children's spelling competition. The current research tested whether grit has a considerable impact on SLA for further development the field of study. It could provide new perceptions to the SLA field, and explore the new approaches that may increase success for second language learners.

The current study found some tendencies of the relationship between grit and Japanese extensive reading activity, while different results were found in the relationship between grit and the grades in Japanese language class. Given that students' non-cognitive skills seem to be important in the student-centered learning, the tendency of a positive relationship between grit and Japanese extensive reading is understandable. The research suggested a potential limitation of the relationship at the same time; the statistical tendency was observed in the change of participants' subjective evaluations from answer C and answer B. In short, the relationship between the two variables were stronger when the participants' subjective evaluations changed in the moderate level of books during a semester. On the contrary, grit was not related to the change of the students' response from a level of books which felt difficult at the start of the semester. This result brings the assumption that grit might be more an essential factor for the proper extensive reading activity.

The current study did not show the significant correlation between learners' grit and their grades in Japanese language courses. Rather, the relationship between the perseverance of effort and some of their grading components showed negative correlations. In other words, those who have better perseverance skill achieved lower

grades and vice versa. Their score of consistency of interest tended positive correlation with grit, but it did not reach the significant level. Even though this study did not reveal the validity of grit as a significant predictor of success in SLA, this result was not too surprising. As mentioned in chapter five, when learning a second language, the variety of elements could influence the students' performance, such as language aptitude and learning environment. Also, a characteristic of language learning associated with skill acquisition theory is another possible factor. Besides, the fact that this research was conducted for four-year university students could affect the result. The number of courses each participant was taking or which class the students set priority on varies among the research subjects because they were taking some courses at the same time. Those are the possible reasons why individuals' grit was not positively correlated with their grades in Japanese language classroom.

Finally, to determine the strength and direction of relationships between individuals' grit and performance in the regular language classroom and extensive reading activity was worth examining. In a language learning process, learners should make continuous efforts and sustain their motivation because the acquiring process takes time. Therefore, in addition to brain-based skills or language aptitude, non-cognitive skills which determine one's engagement toward the learning process are considered as one of the influential factors in SLA. Recently, grit has gathered attention as an important factor as well as intellectual abilities (U.S. Department of Education, 2013), and previous empirical research suggested grit is a reliable predictor of one's success. Furthermore, previous studies revealed that grit had the significant connection with other non-cognitive skills which are influential factor in SLA. Given that non-cognitive skills, such as

motivation, self-regulation, self-efficacy, personality, and resiliency, affect performance in language learning process, grit also should be an important skill to achieve language proficiency to some extent. Also, the current research found the different correlation between grit and each performance in a teacher-centered language course and a student-centered language class. Considering the results of this study, it is assumed that students' grit have a stronger relationship with extensive reading activity. It was one of the essential findings of this research which can bring the further development of extensive reading activity. The results of the current study did not conclusively indicate that grit can be a predictor of one's performance in Japanese language learning. However, examining the relationship between grit and SLA may be able to lead the further development of the field and bring better learning environment. Non-cognitive skills, including grit, should be essential to individual's mindset to strive for and accomplish a goal in SLA process.

6.2. Future Directions

The primary purpose of this research was to examine the relationship between individuals' grit and their performance in Japanese language classroom as well as the change of subjective evaluations during a semester in Japanese extensive reading course. Therefore, quantitative research was conducted and Pearson product moment correlation was calculated. However, there are a couple of factors that can be addressed in order to improve a research situation for future work.

First of all, having a more substantial number of participants is one of the most significant factors. Usually, when quantitative research is conducted, the participation of

a large number of people is required in order to get clear and statistically significant data. Nevertheless, because there were only 34 students in an introductory course, 27 in an intermediate course, and 17 in Japanese extensive reading course, only several correlations reached the statistically significant level. For example, as stated in Table 3 and Table 7, statistically significance were not found in an introductory Japanese course and Japanese extensive reading course. It is due to the small sample size and the low variance of their grades and the change of response in the self-report questionnaire. Therefore, increasing a sample size would help produce better statistical evidence to support the influence of grit to language learning.

Second, carrying out this research over a longer period is another important factor to get more apparent and useful data from participants. Because grit scale is to measure one's passion and perseverance for long-term goals, grittier individuals might gradually improve their language proficiency as time goes by. Duckworth (2013) argued that there would be a relationship between students' improvement on standardized tests through multiple years and their grit scores as compared to a single years' time because the concept of grit includes perseverance sustained over the years. Moreover, though it depends on each learner, language acquisition tends to take a long period of time. In the learning process, learners acquire linguistic knowledge, output and practice them, and achieve skills related to reading, listening, speaking, and writing activities. When acquiring a second language, the most important point is to keep learning over a long period to become an expert of the target language. This research found a negative correlation between one's perseverance and performance in an intermediate Japanese classroom. However, gritty individuals might show a skill to keep making an effort and

eventually achieve higher language proficiency if a longitudinal study were conducted. Ideally, a study tracking one's grit score and performance in Japanese language classes from first-year to fourth-year would bring more significant findings. The observation examining how his/her grit score would be changing and how it would be affecting his/her performance in a language course accordingly could show some clear and meaningful results.

Third, there might be the potential bias from the use of a self-report questionnaire which participants may answer more positively than they actually are. This research utilized two kinds of self-report surveys: 10-item grit scale and a survey of improvement of one's reading proficiency in extensive reading. Duckworth and Quinn (2009) found that grit can reliably be assessed by informants. Chang (2014) suggested that future research on grit should use a combination of informant-report versions of grit surveys and grit scale in order to validate the self-reported grit scores. Faculty members or peers who are familiar with the subjects could serve as informants and provide the informant-reported grit scores. Although an informant-engaged survey is not still accurate for describing one's personality, individual's grit score answered by him/herself and his/her informant should show the personality more precisely. Also, student's study record might help the development of the research. Study record would be a significant data which can provide their perseverance over time (e.g., how long they studied outside of class and how much they engaged in the study). Seeing the correspondence with individual's grit score would help more accurate analysis.

Fourth, in terms of a study conducted in the Japanese extensive reading course, the more meaningful analysis could be done if other questions were added to the

subjective evaluation. Because the extensive reading course used as the subject for the current study is held only once a week, the participant's attendance is a significant factor which can affect one's subjective evaluation. Also, considering the frequency of in-class extensive reading activity, it is important for students to do extensive reading outside a classroom as additional work in order to improve their reading skills. In short, attendance to the extensive reading course and study hours outside of class might be important factors for future studies.

Finally, executing this type of research in a language-specialized institution is also an essential factor in diminishing some external factors as much as possible. This research was conducted in language classrooms at a public university in the United States, in which students are taking several subjects at the same time in a semester. Therefore, some external factors might affect the results. For example, the difference of the number of classes each student was taking or variance of each academic major. In fact, this study found that students' academic major affected the correlation between grit and their grades. Students in a language-specialized institution might be the best subject for this type of study since it is expected to diminish external factors such as seen in this study. Or, adding questions to ask "how many courses are you currently taking?" or "how much time do you spend studying Japanese a week?" might bring more significant analysis of this research.

Therefore, these shortcomings as mentioned above suggest a variety of research directions for future study. These need to be analyzed for further development of SLA field and to better understand the powerful effect of non-cognitive skills.

APPENDICES

APPENDIX A
10-ITEM GRIT SCALE

- Mostly like me
 - Somewhat like me
 - Not much like me
 - Not like me at all
6. I finish whatever I begin.
- Very much like me
 - Mostly like me
 - Somewhat like me
 - Not much like me
 - Not like me at all
7. My interests change from year to year.
- Very much like me
 - Mostly like me
 - Somewhat like me
 - Not much like me
 - Not like me at all
8. I am diligent. I never give up.
- Very much like me
 - Mostly like me
 - Somewhat like me
 - Not much like me
 - Not like me at all
9. I have been obsessed with a certain idea or project for a short time but later lost interest.
- Very much like me
 - Mostly like me
 - Somewhat like me
 - Not much like me
 - Not like me at all
10. I have overcome setbacks to conquer an important challenge.
- Very much like me
 - Mostly like me
 - Somewhat like me
 - Not much like me
 - Not like me at all

APPENDIX B

IRB

Consent Form for Participation in a Research Study
University of Massachusetts Amherst

Researchers: Takuhiro Yamashita (MA, Japanese)
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Study Title: A research of the relationship between grit and age in SLA

1. What is this form?

This form is called a Consent Form. It will give you information about the study so you can make an informed decision about participation in this research. This consent form will give you the information you will need to understand why this study is being done and why you are invited to participate. It will also describe what you will need to do to participate and any known risks, inconveniences or discomforts that you may have while participating. We encourage you to take some time to think this over and ask questions now and at any other time. If you decide to participate, you will be asked to sign this form and you will be given a copy for your records.

2. Who is eligible to participate?

Any students in the JPN110 (Non-intensive beginning Japanese), JPN327 (Intensive intermediate Japanese), JPN297G (Special Topics- Extensive Japanese Reading I), and JPN497G (Special Topics- Extensive Japanese Reading II) class who is over 18 years of age.

3. What is the purpose of this study?

My research title associated with this survey is "A research of the relationship between grit and age in SLA. Grit is a term to indicates individual persistency and passion toward long-term goal, and "grit scale", created by Angela Duckworth, will be used for this survey. This scale is consisting of 10 simple questions, and it is estimated to take less than five minutes. Through this research, I hope to find the relationships between age, grit, and grade in the class.

4. Where will the study take place and how long will it last?

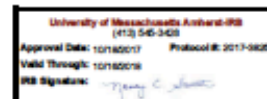
The grit scale will be taken in the JPN110, JPN327, JPN297G, and JPN 497G classroom, and it'll take only five minutes to answer it. No more participation will be needed.

5. What will I be asked to do?

If you agree to take part in this study, you will be asked to answer ten simple questions associated with grit. Those questions are multiple choices choosing 1(Not like at all) through 5(Very much like me). This is a survey to see your personality as to grit, so you don't have to think deeply. After the survey, I will analyze results of the survey, and see how relate them to your grade of the class in the current and past semester.

6. What are my benefits of being in this study?

You may not directly benefit from this research; however, I hope that your participation in the study may connect to better language learning in SLA.



7. What are my risks of being in this study.

As to a breach of confidentiality, the data could be leaked from the computer somehow. The grit scale sheet and informed consent also could be lost or taken from the office. To minimize those risks, the data will be kept in password protected computer and locked files, and the documents will be kept in the locked office.

8. How will my personal information be protected?

Any computer hosting the files of this research will have password protection to prevent access by unauthorized users. Only the members of the research staff will have access to the passwords. The researchers may publish their findings, but you will not be identified in any publications or presentations.

9. What if I have questions?

Take as long as like before you make a decision. We will be happy to answer any question you have about this study. If you have further questions about this project or if you have a research-related problem, you may contact the researcher, Takuhiro Yamashita: phone number 413-309-6634). If you have any questions concerning your rights as a research subject, you may contact the University of Massachusetts Amherst Human Research Protection Office (HRPO) at (413) 545-3428 or humansubjects@ora.umass.edu.

10. Can I stop being in the study?

You don't have to be in this study if you do not want to. If you agree to be in the study, but later change your mind, you may drop out at any time. There are no penalties or consequences of any kind if you decide that you don't want to participate.

11. What if I am injured?

The university of Massachusetts does not have a program for compensating subjects for injury or complications related to human subjects research, but the study personnel will assist you in getting treatment.

12. Subject statement of voluntary consent?

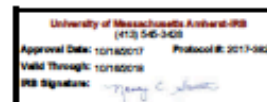
When signing this form I am agreeing to voluntarily enter this study. I have had a chance to read this consent form, and it was explained to me in a language which I use and understand. I have had the opportunity to ask questions and have received satisfactory answers. I understand that I can withdraw at any time. A copy of this signed Informed Consent Form has been given to me.

Participant Signature: _____ Print Name: _____ Date: _____

Please write your initial if you agree to have researchers access your grade. _____

By signing below I indicate that the participant has read and, to the best of my knowledge, understands the details contained in this document and has been given a copy.

Signature of Person Obtaining Consent _____ Print Name: _____ Date: _____



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