THE RELATIONSHIP BETWEEN MOTIVATION, SECOND LANGUAGE LEARNING, AND STRESS IN INTERNATIONAL STUDENTS

by

Rie Sakamoto

An Abstract

of a thesis submitted in partial fulfillment of the requirements for the degree of Master of Science in the Department of Psychological Science University of Central Missouri

July, 2015
ABSTRACT

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Mastering a second language costs time, money, and effort. Identifying factors that help students master a second language is necessary. Motivation has been identified by researchers as an important factor in second language learning. The present study examined relationships between types of motivation and improvement in English proficiency in terms of self-determination theory, specifically whether motivation would be a predictor of improvement in English proficiency after statistically controlling stress. The Language Learning Orientation Scale (LLOS), the Acculturative Stress Scale for International Students (ASSIS), and the English Placement Test (EPT) were administered to 62 international students. None of the subtypes of motivation (e.g., external regulation, introjected regulation, and identified regulation) were significantly correlated with improvement in proficiency. These results may be due to the finding of no significant improvement in English proficiency. Also, although stress was a predictor, motivation was not a predictor of improvement in proficiency. Possible reasons are discussed.
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People decide to learn a second language for many reasons, such as economic, cultural, and academic benefits. The number of people who take second language classes and the number of children of immigrants have been increasing day by day in the United States. Even though many people learn a second language, it is not easy to master a second language. People have to spend a lot of money, time and effort to improve their second language skills. Therefore, it is essential to identify which factors facilitate acquiring a second language.

Factors, such as teaching methods, learners' personalities, anxiety, and motivation are crucial for second language learners (James, 2012). Motivation means that someone is energized and activated to do something (Ryan & Deci, 2000). Motivation can be measured in two ways: different amounts of motivation (how much motivation people have) and different orientations of motivation (what kinds of motivations people have). The orientation of motivation indicates why people have goals, such as learning a second language. According to self-determination theory, in which the orientation of motivation is categorized according to how much people determine to do activities by themselves, the orientation of motivation can be categorized into mainly three parts: intrinsic motivation, extrinsic motivation, and amotivation (Ryan & Deci, 2000).

Ryan and Deci (2000) have described these three categories of motivation as follows. The first type of orientation of motivation is intrinsic motivation, which is the most highly self-determined motivation. When people are intrinsically motivated, they willingly do an activity because they enjoy the activity and they think that the activity is interesting. Second, extrinsic
motivation is not regulated by pleasure from doing an activity per se, but by external forces that are less self-determined than intrinsic motivation. Extrinsic motivation has three subtypes:  

- external regulation
- introjected regulation
- identified regulation

The first subtype of extrinsic motivation is external regulation and is the least self-determined type of motivation. When people are extrinsically regulated, they are motivated by rewards (e.g., money or credits) and punishments. The second least self-determined type of extrinsic motivation is introjected regulation, which is defined as being motivated to perform an activity because of some kind of internal pressure, such as shame and guilt. The most self-determined extrinsic motivation is identified regulation. When people are motivated by identified regulated motivation, they engage in an activity due to personal reasons or goals. The last category for motivation is amotivation. According to Ryan and Deci (2000), amotivation is the state that lacks intention to act. People with amotivation are not motivated to perform an activity because they think that the activity has no value, that they have no competence to do the activity, or that the activity leads to unwanted outcomes.

Research has investigated second language learning and motivation using the self-determination theory that was established by Ryan and Deci. Vandergrift (2005) hypothesized that the orientations of motivation (intrinsic motivation, extrinsic motivation, and amotivation) correlated with French proficiency. Vandergrift collected data about motivation and French proficiency from Canadian junior high school students who learned French as a second language. The results were that there was no relationship between intrinsic and extrinsic motivation and French proficiency although amotivation was negatively correlated with French proficiency. She concluded that there was no relationship between four orientations of motivation (intrinsic and
three types of extrinsic motivation) and French proficiency because these junior high students could not distinguish finely among the five subscales of motivation, but she speculated that university-level students would be able to make the fine distinctions. Therefore, in the current study, data were collected from university-level international students who learned English as a second language.

International students are a unique group of students. Many international students may be extrinsically motivated because they have specific goals (e.g., getting a job in the United States) to achieve using a second language. International students also have different types of stressors compared to domestic students. For example, numerous studies show that international students have language barriers, financial problems, and difficulties in adapting to different cultures. Moreover, the many kinds of unique stress for international students may affect learning. Students who do not have enough sufficient language skill to attend some classes are likely to display lower levels of academic performance (Chalungsooth & Schneller, 2011). Language barriers, such as non-native accents, can cause discrimination on the part of listeners (Lee, 2013). The discrimination that causes stress can decrease people's motivation. Some unique stressors of international students could potentially affect both a student's motivation and academic performance.

My first hypothesis is that the level of identified regulation of extrinsic motivation is positively correlated with the amount of English proficiency. If people have more identified regulated motivation, they are highly motivated because they may have personal goals that they value, and they might have some pressure to achieve their goals in the United States. My second hypothesis is that stress is correlated with both motivation and English proficiency. Specifically,
when statistically controlling for differences in stress, the relationship between motivation and English proficiency is hypothesized to become stronger. The correlation between motivation and English proficiency may be affected by differences in level of stress because even people with a high level of motivation may not achieve high levels of proficiency if they are experiencing a high level of stress. People who experience stressors, such as language barriers that result in discrimination, tend to have lower academic performance (Chalungsooth et al., 2011). Moreover, stressors, such as discrimination, can decrease students' motivation.
In the United States, one out of five people speak a language other than English at home, and the number of non-English speakers is increasing over time (Shin & Kominski, 2010). Moreover, 1,682,627 students in colleges and universities enrolled in language courses other than English in 2009, and between 2006 and 2009, enrollment in these classes increased 6.6 percent (Fruman, Goldberg, & Lusin, 2009). Moreover, the number of children of immigrants in the United States, who need to learn English as a second language, has grown from 13.5% in 1990 to 25% in 2010, and the population of English language learners has risen from 3.5 million in 1998 to 5.3 million in 2008 (Batalova, & McHugh, 2010). The above statistics show that many people learn a second language, and the number of the people who learn a second language is increasing day by day.

People may learn a second language for many reasons. There are three advantages of learning a second language: economic benefits, cultural benefits, and academic benefits. First of all, people learn a second language for economic benefits. Many countries are globalized to enable people to be well-off. For example, many products are produced and sold by interacting with many people around the world. An American car company buys some parts of a car from companies in different countries to assemble a car, and the company sells cars to consumers in many countries. There are many opportunities to use a second language to close business deals smoothly. In some cases, a company prefers to hire people who can speak two or more languages
rather than monolinguals. Moreover, in some countries, such as Japan and Korea, second language skills are needed for people to get jobs with a famous company even though second language skills are not directly used in those jobs. A company often wants people who have many skills and interests because it is thought that they will bring creative unique ideas that can benefit the company. The United States is described as a melting pot of people from different cultures, suggesting that many bilinguals or multilinguals are needed for many purposes, such as legal procedures. The need for foreign language skills in the United States has been increasing since the attacks on the World Trade Center, and federal agencies want more translators and interpreters (United States General Accounting Office, 2002).

The second advantage of learning a second language is cultural benefits. One of the big advantages is to be able to interact with people of other cultures by using a second language. If people acquire a second language, they can open a lot of doors to the other cultures by reading books, visiting websites, watching movies and television, and talking with native speakers. Conversation with people from different countries is pleasurable and interesting for people with a second language. People also can see their own culture from different perspectives. Individuals cannot realize their unique ways of thinking, values, and beliefs until they experience another culture. Conversations with people from another culture in that home language gives people more chances to know the differences because some things do not translate. Experiencing and finding differences helps people evaluate their way of thinking and viewing the world. Therefore, learning a second language can deepen the understanding of different cultures and a person's own culture. If people can speak a second language, they can travel safely and pleasantly and get more opportunities to communicate with local people.
The third advantage of learning a second language is academic benefits. If people can use a second language, they can read academic materials, such as books and literature that are not translated to their own language. They can get more opportunities to access new knowledge. Furthermore, students learning a second language in elementary school have been found to perform better on standardized tests than students not learning a second language (Curtain & Carol, 1994). Abbott, Sullivan Caccavale, and Stewart (2007) found that students who learned a foreign language scored higher not only on the verbal section but also math section of standardized tests. These findings show that learning a second language is an exercise in cognitive problem solving. People who learn a second language show greater cognitive flexibility, such as inhibitory control, attention, and information processing. Bilingual people show more activation than monolingual people in the dorsolateral prefrontal cortex, a brain region that is important for cognitive skills such as attention and inhibition (Marian & Shook, 2012). Bilinguals can also better process information in the environment because of bilingual experiences (Marian & Shook, 2012). The above studies indicate that people who learn a second language can benefit from cognitive advantages such as language comprehension and cognitive flexibility.

Learning a second language can provide advantages, but learning a second language also has disadvantages: cost, time, and effort. Learning a second language can be expensive. The cost depends on which classes or language materials are chosen, but if people go abroad to learn a second language, they have to spend their money not only for second language classes but also for meals, rent, and airfare. For example, international students enrolled in the Intensive English Program for one semester at University of Central Missouri can expect to pay $11,828 including...
tuition, educational materials, rent, meals, and health insurance (Intensive English Program, n.d.). Moreover, international students who go abroad to learn a second language have some limitations on their ability to earn money in the United States. International students are allowed to obtain a job only on the campus, and they can work no more 20 hours per week when school is in session (United States Citizenship and Immigration Services, 2011). To maintain international F-1 student visas (Academic Students Visas), the students must be full-time students in academic institutions such as a university, college, or conservatory, and they have to be enrolled in a certain number of credits, such as 12 credits for undergraduate international students to maintain full-time status (United States Citizenship and Immigration Services, 2013). In the state of Missouri, nonresidents including international students had to pay an average tuition of $11,709 in the fiscal year 2006 while the average in-state tuition was $5,829 (Montee, 2007). Therefore, learning a second language can cost a lot of money.

The second disadvantage of learning a second language is that it is time consuming. People often say that if a person goes abroad and stays for a year, he or she learns to speak another language fluently. However, speaking a second language fluently takes a long time. Two types of language skills are distinguished by Cummins (1979). The first type of language skill is called Basic Interpersonal Communication Skills (BICS). BICS refers to conversation-based skills that people use in social settings. These language skills involve informal speaking because the skills are used in daily life, such as on a bus, at home, and at parties. People with these skills can understand what others want to say not only from informal speech but also from gestures or expressions. These skills develop within about two years after people arrive in another country. On the other hand, Cognitive Academic Language Proficiency (CALP) refers to academic-based
language skills that are used in academic settings. CALP requires formal language skills used to reflect higher cognitive skills, such as analysis, synthesis, and evaluation. Therefore, CALP develops in about five to ten years, so the typical person who starts little or no knowledge of the target language has to spend at least five years learning that language in order to succeed in school (Cummins, 1999).

The third difficulty in learning a second language is that it requires a great deal of effort. This factor is closely tied to the fact that learning a second language is time consuming. If people try to remember vocabulary, they may make flash cards or read the vocabulary out loud every day. Language is very complex because a word can have many different meanings, and spelling in English does not reliably indicate pronunciation. People have to remember spellings, meanings, and pronunciations. To improve reading skills, people try to read books or websites written in the second language. To improve listening skills, they try to watch television or movies. To improve speaking skills, they try to speak to native speakers. To improve overall language skills, people have to try many strategies and invest a lot of effort (Hismanoglu, 2000).

To acquire a second language, people have to spend money, time, and effort, but some factors can facilitate mastering a second language more efficiently. One of the factors is the age on arrival to the second language environment. One study showed that participants who arrived in the United States before the age of seven performed at a native level on a test of language proficiency, and participants who arrived in the United States before puberty had more language learning ability than participants who arrived after puberty (Johnson, & Newport, 1994). Therefore, the age on arrival may closely tie to how well people learn a second language.

A second factor that may facilitate acquiring a second language is personality. Wang and
Liao (2012) stated that their participants who tended to be introverted had more anxiety than their participants who tended to be extroverted. Generally introverts tend to suppress their emotions or thoughts, but extroverts can easily express their emotions and thoughts. Therefore, extroverts tend to improve oral communication skills more quickly than introverts (Tapasak, Roodin, & Vaught, 1978).

A third factor that affects how people master a second language is motivation. Dörnyei (2009) claims that motivation is essential to second learning success. Motivation is controlling "why people decide to do something, how long they are willing to sustain the activity, how hard they are going to pursue it" (Dörnyei, 2014, p. 519). If people are highly motivated to master a second language, they may decide to engage in activities such as reading a book in a second language or going to a language school for a long time. Therefore, motivation plays an important role in learning a second language. Motivation includes very broad concepts and numerous theories. In the following section, I will provide an overview of motivation as it may relate to second language learning.

**Motivation**

**Definition of Motivation**

Ryan and Deci (2000) refer to motivation as "to be moved to do something" (p. 54). Motives include the needs, wants, interests, and desires that move people to behave in certain directions (Wayne, 2011). For example, when a person is thirsty, he or she moves to the kitchen to drink water to satisfy his or her need. When students have motivation to learn a second language, they may move to talk with native speakers or remember vocabulary because they want to satisfy their interests and desires to master the second language. We will now consider
several motivational theories which can apply to many places, such as workplaces and educational settings.

**General Motivational Theories**

**Drive Theory**

When studying motivation, many theories often use the term *drives* to describe motivational forces. Walter Cannon is one of theorists who described the concept of drive to observe that organisms try to maintain homeostasis, meaning a physiological equilibrium (Wayne, 2011). Homeostasis affects humans' internal states. Drive is an internal state of tension that makes people move to do activities that reduce the tension. For example, when people are hungry, they may feel uncomfortable because they may be dizzy or tired. This discomfort can be an internal state of tension which motivates them to eat something. Drive Theory explains basic human motivation in terms of homeostasis, but motivation cannot be explained entirely by Drive Theory because the theory focuses on only internal states related to homeostasis, not external states (Wayne, 2011).

Incentive Theory (Bolles, 1975) involves external goals that motivate people to do something in contrast to the idea of internal states affecting motivation as in Drive Theory. For instance, to get candy, which is an external goal, children are motivated to do an activity such as tidying up the playroom. Food, tests, jobs, and money can be incentives.

Drive Theory and Incentive Theory describe motivation in terms of internal and external goals. In addition, Wayne (2011) suggests that many types of motivation can be distinguished into biological motives and social motives. For example, biological motives include hunger, thirst, sex, sleep and rest, and temperature motives. Social motives include achievement,
affiliation, autonomy, dominance, and play motives. According to Wayne (2011) everyone has the same biological motives, but everyone does not always have the same social motives. Second language learners may have social motives, such as an achievement motive, an affiliation motive that motivates people to get social bonds, and a play motive that motivates people to have fun. In the next section, we will consider motivational theories that can apply more specifically to learning a second language.

**Motivational Theories for Second Language Learning**

A theory of motivation for second language learning originated in Canada where two official languages, English and French, coexist (Dörnyei, 2003). The Canadian social psychologists, Robert Gardner and Wallace Lambert, theorized that motivation strongly affects how people acquire a second language. Gardner defined motivation as "the combination of effort plus desire to achieve the goal of learning the language plus favourable attitudes toward learning the language" (Noels, 2003, p. 100). Motivation is a complex concept that includes efforts, desires, and attitudes. Gardner and Lambert established a motivational theory that had two orientations: integrative orientation and instrumental orientation. *Integrative orientation* means that people learn a second language because they want to interact and communicate with second language communities. *Instrumental orientation* means that people learn a second language because they desire practical consequences such as getting a job or getting credits in schools. Gardner suggested that the more people have integrative oriented motivation, the more competence they have in learning a second language because they make positive efforts to communicate with second language communities. Gardner's approach emphasized social and psychological aspects, especially how people interact with second language communities.
Dörnyei (2003) argued that this theory can apply in Canada where two language communities interact with each other. However, there may be few opportunities to interact with second language communities in some other places. Gardner's motivational theory was influential for three decades, but beginning in the 1990s, researchers emphasized more the cognitive aspects of motivation. One of the most influential cognitive motivation theories is Self-Determination Theory, which was created by Ryan and Deci (2000). According to Ryan and Deci (2000), motivation can be measured in two ways, the levels of motivation and the orientations of motivation. In self-determination theory, Ryan and Deci focus on the orientations of motivation, meaning what kinds of motivation people have in second language learning, and they distinguish motivation depending on what kinds of reasons and goals people have. In Self-Determination Theory, there are three main types of motivation: intrinsic motivation, extrinsic motivation, and amotivation, and these types of motivation are based on different levels of autonomy. *Intrinsic motivation* refers to motivation to do an activity because the activity is interesting, fun, and satisfies the person's needs. Intrinsic motivation is the most highly self-determined motivation: people choose to do an activity on their own initiative (Noels, 2003, p. 101). Deci and Ryan hypothesized that when people are intrinsically motivated to do an activity, they try to find interesting situations where some challenges are included. They make efforts to deal with the challenges, and these efforts help them to develop their competence (Noels, Pelletier, Clément, & Vallerand, 2003).

*Extrinsic motivation* is regulated by external forces that are less self-determined motivation while intrinsic motivation is regulated by internal needs. Extrinsic motivation can be divided into three subtypes: external regulation, introjected regulation, and identified regulation.
(Noels, 2003; Noels et al., 2003). The first subtype of extrinsic motivation is *external regulation* and has the least autonomy of the types of extrinsic motivation. If people are externally regulated, they do an activity because they want to get rewards, such as money or credits in schools, and to avoid punishment. This type of extrinsic motivation is a similar concept to operant conditioning as studied by Skinner (Ryan & Deci, 2000). The second subtype of extrinsic motivation is *introjected regulation*, which has more autonomy than external regulation but less than identified regulation in extrinsic motivation. People with introjected regulation do an activity because they want to reduce a feeling of pressure, such as feeling guilt or shame. For example, students practice a second language to reduce their shame or anxiety that they cannot speak a second language in class. Deci and Ryan (2000, p. 62) also state that people do an activity because they want to "enhance or maintain self-esteem and feeling of worth." For example, people may put great effort into studying a second language to be honor students who can feel superior to other people who are not as accomplished. The third subtype of extrinsic motivation is *identified regulation* and is more self-determined than extrinsic and introjected regulation. When people have identified regulated motivation, they do an activity because they value the activity as something very useful to achieve their personal goals. For example, people practice speaking a second language many times to gain the proficiency that is needed to achieve their goals, such as getting a job. Extrinsic motivations can be distinguished among these three subtypes, but Ryan and Deci made the point that there are no clear cut boundaries among them, as these three extrinsic motivations are a continuum. One person may have more than one subtype of motivation.

People have intentions to do an activity when intrinsically or extrinsically motivated, but
amotivation is a lack of intention to do an activity. When people have amotivation, they do not believe that they can get an outcome they want because they feel that the outcome is out of their control. Thus, they do not continue doing an activity. For example, people do not try to practice speaking a second language because they do not believe that they can master a second language.

**Relationship Between Motivation and Second Language Learning**

In Self-Determination Theory, motivation has three types; intrinsic, extrinsic motivation and amotivation depending on what kind of reasons or goals people have. Intrinsic motivation seems to be the most important motivation when people learn a second language because intrinsic motivation enhances high quality learning and creativity (Ryan & Deci, 2000). However, when people who are intrinsically motivated are given rewards or punishment to do an activity, extrinsic motivation reduces intrinsic motivation and creativity. Based on these ideas, intrinsic motivation may appear to be more effective than extrinsic motivation. However, this may not always be true because having intrinsic motivation is sometimes difficult. For example, when students learn a second language in class, it is impossible for all students to have intrinsic motivation because each student has different interests. Thus, having a goal that requires learning, as in the identified regulation type of extrinsic motivation, can sometimes result in successful learning because it can also motivate students (Ryan & Deci, 2000).

A study of motivation and language proficiency was conducted by Vandergrift (2005) using Ryan and Deci's Self-Determination Theory. Vandergrift (2005) hypothesized that there is a relationship between French proficiency and orientations of motivation (intrinsic, extrinsic motivation, and amotivation). Participants in this research were Canadian junior high school students who learned French as a second language for three to six years. The results indicated
that intrinsic motivation and extrinsic motivation were not significantly correlated with French proficiency while amotivation was negatively correlated with French proficiency. Vandergrift (2005) concluded that the reason why there was no relationship between the first two types of motivation and French proficiency was that high school students could not distinguish subtypes of motivation, such as extrinsic regulation, introjected regulation, and identified regulation of extrinsic motivation. Vandergrift also speculated that college level students might be able to distinguish subtypes of motivation.

**Stress**

**Definition of Stress and Stressor**

Hans Selye defined stress as "the nonspecific response to any demand made upon the body" (Selye, 1979. p. 12). Butcher, Moneka and Hooly (2011) stated that stress is the effect stressors create within the organism. Stressors refer to any stimuli that produce stress, and stressors can be physiological and psychological, such as cold, heat, drugs, hormones, sorrow, and joy (Beckingham, 1993). People tend to think that stress could occur in negative situations, but Selye noted that stress could also occur in positive situations, such as weddings (Butcher et al., 2011).

**Eustress and Distress**

Selye described stress in two ways: eustress and distress (Beckingham, 1993; Rücker, 2012). Eustress refers to good stress or positive pleasant stress. Eustress can activate us to act, and it promotes positive emotion and healthy behaviors (Rücker, 2012). For example, having a baby can be eustress. A mother of a baby gets positive emotions, such as joy, gratitude, courage, and a sense of responsibility, as the mother takes care of the baby. Some pressures also can be
eustress. Athletes use fight-or-flight responses to power an explosive performance using the pressure that the athletes have to achieve first place. Stress can enhance people's performances. On the other hand, detrimental, harmful, damaging, or disagreeable stress is classified as distress (Beckingham, 1993). Distress may be associated with negative emotions. For example, when students experience distress about a test, they may have excessive pressures, anxiety, and self-blame. Having too much of these kinds of distress decrease their performance on the test (Rücker, 2012).

Selye defined eustress and distress, but classifying one's stress as eustress or distress depends on the person's individual perception (Rücker, 2012). For example, a person is motivated to study when he or she has a deadline for a research paper. Having a deadline is eustress for him or her. However, another person feels irritated or anxious because he or she has too much pressure to meet the deadline for the research paper. In this case, he or she feels distress. Rücker (2012) stated that moderate levels of stress enhance people's performance, but high amounts of stress disturb their performance. Individual evaluation and the levels of stress determine whether people feel eustress or distress.

**Effects of Stress on Learning**

When people have stress, biological changes occur in their bodies in two ways: through the sympathetic-adrenomedullary (SAM) system and the hypothalamic-pituitary adrenocortical (HPA) system. In the SAM system, when people feel stress, the hypothalamus stimulates the sympathetic nervous system, which induces the adrenal medulla to secrete adrenaline (epinephrine) and noradrenaline (norepinephrine). These neurotransmitters increase heart rate to enable us to metabolize glucose (Butcher et al., 2011). The second stress response in our body is
the HPA system. When people feel stress, the hypothalamus releases a hormone, corticotropin-releasing hormone (CRH). The CRH hormone stimulates the pituitary grand to release adrenocorticotropic (ACTH) hormone. ACTH hormone induces the adrenal cortex to secrete glucocorticoids. Cortisol is a kind of glucocorticoid, and it helps to prepare for the fight-or-flight response and inhibits the immune system. Short-term cortisol production results in good performance in an emergency situation. People get explosive power to fight or run away from threats using the SAM and HPA systems. However, long-term cortisol production, caused by chronic stress, is problematic for the body and the brain.

High amounts of stress can have a negative influence on learning even though moderate levels of cortisol can aid learning and increase attentiveness. Chronic high stress decreases cognitive functions such as memory (Gazzaniga, Ivery, & Mangun, 2009). Glucocorticoid receptors, which are activated by cortisol, spread in the CA1 region of the hippocampus that has great impact on the consolidation of episodic memory. Chronic high stress, which results in high amounts of cortisol production, impairs long-term memory, especially episodic memory. A study showed that elderly people, who experienced chronic stress and exposure to high levels of cortisol, showed a 14% decreased in hippocampus volume compared to elderly people without chronic stress and high levels of cortisol (Gazzaniga et al., 2009).

High amounts of stress also cause somatic and mental diseases that disturb learning. Cortisol disturbs the immune system because people need to fight or run away rather than heal wounds (Butcher et al., 2011). Students with high stress tend to catch a cold before important tests. Moreover, chronic stress causes excessive inflammation from which pro-inflammatory cytokines are produced, and long-term exposure to the pro-inflammatory cytokines leads to
changes in the brain that induce depression (Butcher et al., 2011). Symptoms of depression, such as fatigue, insomnia or hypersomnia, and lack of concentration and interest, may disturb learning (American Psychiatric Association, 2000).

**Relationship Between Stress and Motivation**

There is not much literature about the relationship between stress and motivation, but some research has indicated that stress can influence motivation, and vice versa. Rücker (2012) reported that there was a significant correlation between amotivation and stress, and he also inferred that a lack of motivation would lead to being stressed. If people are in a situation where they have a lack of motivation and they have to pass a class for graduation, they may feel high stress because they experience being out of control. Rücker showed that the amount of motivation may affect the level of stress, and Reynolds, Sneva, and Beehler (2010) showed that stress could affect motivation; they reported that racism-related stress had an influence on the academic motivation of Black and Latino college students. Specifically, racism-related stress was negatively correlated with intrinsic and extrinsic motivation but positively correlated with amotivation. In other words, this study showed that increased stress may predict lower motivation.

**Relationship Between Stress and Academic Performance (English Proficiency)**

High amounts of stress significantly relate to poor academic performance, but a moderate amount of stress improves individual performance (Womble, 2011). If students have a high level of stress, they become overwhelmed dealing with many tasks, such as working on homework, presentations, and tests. Moreover, academic performance may create stress. For example, students who have a scholarship are required to keep high grades in order to maintain the
scholarship. The students may feel stress because keeping the scholarship depends on their academic performance. Many students feel stress, such as being disappointed or frustrated, when they get a low score on a test.

**International Students**

Many international students study in the United States. The Institute of International Education (2010) reported that the number of international students at colleges and universities in the United States increased by 3% to 690,923 during the 2009/10 academic year. Moreover, a large number of Asian international students who speak English as a second language, such as Indians, Chinese, South Koreans, and Japanese, come to the United States for higher education (Institute of International Education, 2009).

International students study abroad for many reasons. Some international students study abroad to get advanced knowledge or a job which they cannot obtain in their own countries. Some international students go abroad to master a second language or experience different cultures, which widens their international horizons. Clark (2009) defined international students as people who cross borders for the specific purpose of studying. An example of a specific purpose is that many international students try to get a job in the United States (Mahadevan, 2010). I conjecture that international students have more specific goals than domestic students.

One of the characteristics of international students is unique stress. All university students may experience certain stressors, such as making new friends, living in dormitories, and being independent from parents (Boyer & Sedlacek, 1989). In addition to these stressors, international students have unique sources of stress including adapting to a new culture, having greater financial problems, and experiencing language barriers. Adapting to a new culture is challenging
for international students. For example, international students often have to change their life styles, including living in a dormitory and eating the other countries' food, and learning styles in order to succeed in a foreign country (Lee, 2013).

International students experience financial difficulties. As described in the section on disadvantages of learning a second language, international students often encounter more financial challenges. For example, international students at public universities have to pay higher tuition as nonresidents (Montee, 2007). Moreover, international students cannot earn much money for tuition in the United States because they are limited to work only on campus no more than 20 hours per week (United States of Citizenship and Immigration Services 2011). Because of higher tuition and the limitations on working, some international students have scholarships or financial aid, so they may have stress to perform well in classes and to maintain high grades.

A language barrier is one of the unique stresses for international students. Language is one of the most important tools to connect with others and to understand the world around us (Marian & Shook, 2012). Thus, students with underdeveloped language skills may feel loneliness in the class, and they may not be able to understand what is going on in classes. If international students cannot speak what they want to express, teachers may misunderstand that they do not understand or think enough in the class. International students often worry about being misunderstood by classmates or teachers. Furthermore, international students experience discrimination because of language barriers. Speakers with nonnative English accents may experience prejudice and discrimination from American listeners who think of them as less intelligent or as being less educated (Lee, 2013). Lee (2013) also stated that speakers with nonnative English accents tend to experience less social belonging and to feel less confident in
A large population of international students in the United States comes from Asia. Asian countries are influenced by collectivism in which people have obligation to family and community (Nilsson, Butler, Shouse, & Joshi, 2008). If international students fail to succeed in school (e.g., dropping out of school or getting low grades), they bring disgrace to their family and put their family to shame (Chiu & Kosinski, 1995). Asian international students may feel more stress because they have to fulfill their parents' high expectations and struggle against their parents' pressure.

Hypothesis

Some international students come to the United States to take classes to gain special skills or advanced knowledge that they cannot acquire in their own countries. Moreover, many international students seek internships or jobs. Some international students in PsyD or PhD programs hope to get work experience and psychological licensure in the United States because the licensure is valuable when they work as psychologists in their own countries (Lee, 2013). Thus, international students are more likely to have specific goals than domestic students. Having specific goals is important to learn a second language. Having specific goals, which may indicate the identified regulation of the self-determination theory, may push students to learn a second language. My first hypothesis is that the identified regulation of extrinsic motivation is positively correlated with improvement in English proficiency.

International students are a unique sample, compared with domestic students, because they may have different values, different cultures, and different languages. To study in the United States, international students may have large amount of unique stress, such as anxiety, shame,
and frustration, because of cultural differences, financial problems, and language barriers. Chronic stress reduces the ability of the brain to memorize (Gazzaniga et al., 2009). A large amount of stress affects English language learning. Moreover, stress may affect motivation. Race-related stress, such as discrimination, lowers academic motivation for African and Latino students (Reynolds et al., 2010). I hypothesize that stress is correlated with both motivation and English proficiency (and learning). International students may have large amounts of stress that strongly affect second language learning and proficiency because of their unique types of stress and the normal stress that all students have. My second hypothesis is that the relationship between motivation and English proficiency becomes stronger when the levels of stress are statistically controlled.
Participants

Sixty nine international students from University of Central Missouri originally participated in the study. Participants were voluntarily recruited from the Intensive English Program (IEP), Spoken English as Second Language Class (ENGL 1180), Written English as Second Language Class (ENGL 1190), and E-mail that was sent to all international students. Among the students, 20 (32.3%) were IEP students, 17 (27.4%) were freshmen, 3 (4.8%) were sophomores, 11 (17.7%) were juniors, 7 (11.3%) were seniors, and 4 (6.5%) were graduate students. Twenty-two students (35.5%) were male and forty students (64.5%) were female. Their ages ranged from 18 to 26 years (M = 21.41, SD = 2.003). Their first languages were Japanese (33.9%), Korean (24.2%), Arabic (19.4%), Chinese (14.5%), Taiwanese (3.2%), Hindi (1.6%), Laos (1.6%), and Spanish (1.6%). Seven students who took the first part of the study did not complete the second part of the study, and their data were eliminated from this study. A total of 62 international students completed whole study. To include more participants, extra credit was given to students in the IEP, ENGL 1180, and ENGL 1190 after completing the second part of the study.

Instruments

The Language Learning Orientation Scale, which is a motivational questionnaire validated by Noels et al. (2003), contains 20 questions to assess amotivation, three types of extrinsic motivation, including external, introjected, and identified regulations, and three types of
intrinsic motivation, including knowledge, mastery, and stimulation. In the present study, I used five types of motivation as variables: amotivation, external regulation, introjected regulation, identified regulation, and intrinsic motivation. According to Noels et al. (2003), factor analysis indicated that there is a clear distinction among subtypes. Moreover, the Cronbach's alpha was in the acceptable range for all subtypes: from .67 to .88 (Noels et al., 2003). The instructions indicate that participants should rate the extent to which each question describes their own reasons why they learn English using a scale ranging from 1 to 7. A low score means that they do not agree with the statement. The mean of each subscale response is used as a score of each subtype of motivation.

The Acculturative Stress Scale for International Students (ASSIS) was developed by Sandhu and Asrabadi (1994) to assess acculturative stress among international students. The scale consists of 36 statements including seven subscales: perceived discrimination (8 items), homesickness (4 items), perceived hate (5 items), fear (4 items), stress due to change/culture shock (3 items), guilt (2 items), and miscellaneous (10 items). The participants were asked to rate the statements from 1 (strongly disagree) to 5 (strongly agree). The ASSIS has high reliability and the Cronbach’s coefficient alpha is 0.94 (Poyrazli, Thukral, & Duru, 2010).

The CaMLA English Placement Test (EPT) was used for the English proficiency test. The University of Michigan originally created the EPT in 1972 to assign incoming Intensive English Program students to six levels. Now the EPT is used for placement not only in educational contexts but also occupational contexts. The EPT measures listening comprehension, grammatical knowledge, vocabulary range, and reading comprehension (Walter, & Hentschel, 2013). The EPT is a paper and pencil test that is administered in 60 minutes, and there are 80
multiple choice questions (25 listening items, 20 grammar items, 20 vocabulary items, and 15 reading comprehension items). A plot test was conducted four times for the CaMLA, and the reliability of each plot test was excellent, over 0.90. The standard error estimates of the four plot tests were also within an acceptable range (Walter, & Hentschel, 2013).

**Procedure**

Participants were invited into a quiet room. The participants were informed that participating in this study was voluntary and that they could withdraw from this study at any time. They were told that their answers would be kept confidential. All participants received written information about the study. After a brief explanation about the study, the participants were asked six personal questions: name, e-mail address, age, gender, nationality, and educational background (academic year, the language of their native country, and the languages they could speak other than their mother tongue). After responding to the questions, the English Placement Test (EPT) was administrated. Then, after completing the EPT, they were asked to complete the Language Learning Orientation Scale and the Acculturative Stress Scale for International Students. About five to six weeks later, the participants took the EPT again. After completing both parts of the study, participants received a debriefing.

**Analysis**

The data obtained from the surveys and the EPT test were analyzed using SPSS. First, I computed the difference between two EPT scores (Pre-Test and Post-Test). For the first hypothesis, I computed Pearson correlation coefficients to determine whether there were significant correlations between the types of motivation and English proficiency. I hypothesized that the score on identified regulations would be positively correlated with the EPT score.
For the second hypothesis, I used hierarchical multiple regression to predict English proficiency improvement as measured by changing scores on the EPT. For the first step, I entered scores on stress levels in order to control that variable in the hierarchical multiple regression. Then, for the second step, I entered the types of motivation variables. After controlling stress, motivation is expected to still predict English proficiency.
CHAPTER 4
RESULTS

The mean and standard deviations of total score on the CaMLA English Placement Test (EPT) were computed, and group means and standard deviations were also computed for IEP students and for other students (Table 1). The CaMLA shows score cutoffs based on 6 levels: Beginner, Beginner (High), Intermediate (Low), Intermediate, Advanced (Low), Advanced (Cambridge Michigan Language Assessments, 2013). The IEP students scored Intermediate (Low) on both pre and post-tests, while other students scored at the Intermediate level. An Independent Samples t-test was conducted to compare the mean of improvement of IEP students with the mean of improvement of other students. The Independent Samples t-test indicated no significant difference in improvement of test scores for the IEP students ($M = .75, SD = 9.3$) and the other students ($M = -1.33, SD = 6.2$), $t(60) = 1.05, p = .296$.

Table 1

<table>
<thead>
<tr>
<th>Participants</th>
<th>N</th>
<th>Pre-Test</th>
<th>Post-Test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>$M$</td>
<td>$SD$</td>
</tr>
<tr>
<td>All students</td>
<td>62</td>
<td>59.3</td>
<td>12.21</td>
</tr>
<tr>
<td>IEP</td>
<td>20</td>
<td>48.9</td>
<td>11.85</td>
</tr>
<tr>
<td>Other</td>
<td>42</td>
<td>64.2</td>
<td>8.92</td>
</tr>
</tbody>
</table>

*Note. Possible range of each test score is 0 to 80.*

The mean difference between Pre-Test and Post-Test scores on the EPT was computed (Table 1). The mean scores for each type of motivation for the Language Learning Orientation Scale were also calculated. A paired sample t-test was conducted to assess improvement on the EPT between Pre-Test and Post-Test. There was not a significant difference in the scores for Pre-
Test ($M = 59.26, SD = 12.21$) and Post-Test ($M = 58.44, SD = 12.26$); $t(61) = .87, p = .39$ (Table 2). The mean scores on the Acculturative Stress Scale for International Students were computed ($M = 2.46, SD = 23.73$). Previous research has reported similar means: Yea and Inose (2003): $M = 3.02, SD = .90$; Wei, Heppner, Mallen, Ku, Liao, and Wu (2007): $M = 2.58, SD = .48$; Chavajay and Skowronek (2008); $M = 2.40, SD = .50$. Chavajay and Skowronek (2008) stated that international students whose total scores (possible total score of 36 to 180) are above 109 can be perceived as having evidence of high levels of acculturation stress which are of concern, and 19% of the participants in the study had total scores above 109.

Table 2

<table>
<thead>
<tr>
<th>Scale</th>
<th>$M$</th>
<th>$SD$</th>
<th>Possible range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improvement on the EPT</td>
<td>-.66</td>
<td>7.29</td>
<td>-80-80</td>
</tr>
<tr>
<td>Stress level</td>
<td>2.45</td>
<td>0.66</td>
<td>1-5</td>
</tr>
</tbody>
</table>

Type of motivation

<table>
<thead>
<tr>
<th>Type of motivation</th>
<th>$M$</th>
<th>$SD$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amotivation</td>
<td>1.66</td>
<td>1.03</td>
</tr>
<tr>
<td>External Regulation</td>
<td>5.11</td>
<td>1.20</td>
</tr>
<tr>
<td>Introjected Regulation</td>
<td>3.40</td>
<td>1.38</td>
</tr>
<tr>
<td>Identified Regulation</td>
<td>5.02</td>
<td>1.47</td>
</tr>
<tr>
<td>Intrinsic Motivation</td>
<td>5.03</td>
<td>1.13</td>
</tr>
</tbody>
</table>

Note. $N = 62$. Each score is rounded off to the second decimal place.
For the first hypothesis, the correlation coefficients between improvement on the EPT and each type of motivation were examined (Table 3). All variables were measured at interval or ratio level. According to scatterplots, there were no outliers, and the scatterplots did not indicate nonlinear relationships. After the visual inspection of the frequency distribution, the histogram for improvement on the EPT was determined to be approximately normal. There was not a significant relationship between improvement on the EPT and amotivation, $r(60) = -.062$, $p$ (two-tailed) = .63. Improvement on the EPT was also not significantly related to external regulation, $r(60) = -.200$, $p = .12$, or to introjected regulation, $r(60) = -.203$, $p = .11$. Improvement on the EPT was not significantly related to identified regulation, $r(60) = -.131$, $p = .31$. Improvement on the EPT was not significantly correlated with intrinsic motivation, $r(60) = .000$, $p = .998$. All relationships except one (improvement on the EPT and intrinsic motivation) were weak and negative.

Pearson Correlations between improvement on the EPT, types of motivation, and Stress are presented in Table 4. Stress was significantly and negatively correlated with improvement on the EPT, $r(60) = -.308$, $p = .015$. Stress was significantly and positively correlated with amotivation. There was a significant negative correlation between stress and intrinsic motivation.
External regulation, introjected regulation, and identified regulation were not significantly correlated with stress.

Table 4

*Correlations Between Improvement on the EPT, Each Type of Motivation, and Stress*

<table>
<thead>
<tr>
<th>Measure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Improvement</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Amotivation</td>
<td>-.062</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. External Regulation</td>
<td>-.200</td>
<td>-.160</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Introjected Regulation</td>
<td>-.203</td>
<td>-.138</td>
<td>.331**</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Identified Regulation</td>
<td>-.131</td>
<td>-.296*</td>
<td>.325**</td>
<td>.275*</td>
<td>—</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Intrinsic Motivation</td>
<td>.000</td>
<td>-.223</td>
<td>.327**</td>
<td>.366**</td>
<td>.377**</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>7. Stress</td>
<td>-.308*</td>
<td>.264*</td>
<td>-.005</td>
<td>.149</td>
<td>-.051</td>
<td>-.433**</td>
<td>—</td>
</tr>
</tbody>
</table>

*Note. N = 62. *p < .05 (2-tailed). **p < .01 (2-tailed).*

Correlations were also computed separately for IEP students and other students. There was no significant relationship between improvement on the EPT and each type of motivation for the IEP students (Table 5). Moreover, there was no significant relationship between improvement on the EPT and types of motivation for the other students except for the relationship of improvement and amotivation (Table 6).
Table 5

*Correlation Between Improvement on the EPT and Types of Motivation in IEP Students*

<table>
<thead>
<tr>
<th>Measure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Improvement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Amotivation</td>
<td>.161</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. External Regulation</td>
<td>-.220</td>
<td>.022</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Introjected Regulation</td>
<td>-.335</td>
<td>-.007</td>
<td>.105</td>
<td>—</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Identified Regulation</td>
<td>-.098</td>
<td>.016</td>
<td>.399</td>
<td>.327</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>6. Intrinsic Motivation</td>
<td>-.291</td>
<td>-.163</td>
<td>.597**</td>
<td>.376</td>
<td>.507</td>
<td>—</td>
</tr>
</tbody>
</table>

*Note.* N = 62. *p < .05 (2-tailed). **p < .01 (2-tailed).*

Table 6

*Correlation Between Improvement on the EPT and Types of Motivation in Other Students*

<table>
<thead>
<tr>
<th>Measure</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Improvement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Amotivation</td>
<td>-.312*</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. External Regulation</td>
<td>-.154</td>
<td>-.216</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Introjected Regulation</td>
<td>-.173</td>
<td>-.218</td>
<td>.448**</td>
<td>—</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Identified Regulation</td>
<td>-.111</td>
<td>-.393*</td>
<td>.250</td>
<td>.288</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>6. Intrinsic Motivation</td>
<td>.164</td>
<td>-.227</td>
<td>.221</td>
<td>.374*</td>
<td>.325*</td>
<td>—</td>
</tr>
</tbody>
</table>

*Note.* N = 62. *p < .05 (2-tailed). **p < .01 (2-tailed).*
Hierarchical multiple regression was performed to predict improvement on the EPT from types of motivation after controlling for stress level. The hierarchical multiple regression showed approximate normality of errors based on visual inspection of scatterplots, skew, kurtosis, P-P plot, and the histogram of regression standardized residual. Examination of scatterplots indicated no nonlinear relationships and approximate homoscedasticity. Additionally, the correlations among predictor variables were examined to examine multicollinearity. All correlations were weak to moderate, ranging between $r(60) = -.438, p < .05$ to $r(60) = .271, p < .05$. These correlations indicate that multicollinearity was not a problem.

In the first step of the hierarchical multiple regression, one predictor was entered: pre-stress. This model was statistically significant $F(1, 60) = 6.15, p = .016$ and explained 9% of variance in improvement on the EPT (Table 4). In the second step of the hierarchical multiple regression, five predictors were entered in addition to Pre-Stress: amotivation, external regulation, introjected regulation, identified regulation, and intrinsic motivation. The second model was not statistically significant, $F(6, 55) = 1.61, p = .16$, and the total variance explained by the model was 15%. However, the adjusted $R$ square of the first model was .078, and the adjusted $R$ square of the second model was slightly lower (.057).
**Hierarchical Regression Model of Improvement on the EPT**

<table>
<thead>
<tr>
<th>Step</th>
<th>R</th>
<th>$R^2$</th>
<th>Adjusted $R^2$</th>
<th>B</th>
<th>SE</th>
<th>$\beta$</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>.305</td>
<td>.093*</td>
<td>.078</td>
<td>Pre-stress</td>
<td>-094*</td>
<td>.038*</td>
<td>-0.305*</td>
</tr>
<tr>
<td>Step 2</td>
<td>.387</td>
<td>.150</td>
<td>.057</td>
<td>Pres-stress</td>
<td>-0.092</td>
<td>.048</td>
<td>-0.301</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Amotivation</td>
<td>-0.323</td>
<td>.963</td>
<td>-0.046</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>External Regulation</td>
<td>-0.882</td>
<td>.841</td>
<td>-0.146</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Introjected Regulation</td>
<td>-0.423</td>
<td>.781</td>
<td>-0.080</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Identified Regulation</td>
<td>-0.381</td>
<td>.710</td>
<td>-0.077</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Intrinsic Motivation</td>
<td>-0.235</td>
<td>1.091</td>
<td>-0.036</td>
</tr>
</tbody>
</table>

*Note.* Statistical significance: *$p < .05$*
For the first hypothesis, I suggested that external motivation, in particular identified regulation, would be correlated with improvement in English proficiency because international students may have specific goals to learn a second language abroad. However, the results showed no relationship between improvement in English proficiency and types of motivation. These results may be due to the finding of no improvement in English proficiency. The average score on the EPT was a little lower after about six weeks. Moreover, there was not a significant difference in improvement on the EPT between IEP and Other students, so the lack of improvement did not appear to be related to the beginning level of English proficiency of the students.

There are five main reasons that may explain why participants did not significantly improve their EPT scores from Pre-Test to Post-Test: short time interval, differing time frames for improvement depending on different levels of English proficiency, several additional variables affecting the second administration of the EPT, motivation, and different study styles. First, the time interval may have been too short to see improvement. All participants had at least a five week interval between Pre-Test and Post-Test. Almost all participants had six weeks in between tests. Some researchers have indicated that it takes a few years to improve second language proficiency. Cummins (1979) noted that Basic Interpersonal Communication Skills (BICS), which refers to conversation based skills, take at least two years to attain, and Cognitive Academic Language Proficiency (CALP), which refers to academic-based language skills, takes
about five to ten years to attain. Hakuta, Butler, and Witt (2000) conducted research about time to attain second language proficiency in two California districts based on Cummins' theory. They found that BICS took three to five years to develop, and CALP took four to seven years. Eaton (2011) suggested the "10,000-Hour Rule" to attain language proficiency at an expert level. Therefore, the time frame of about six weeks was too short. Ideally, the time frame should be several years to see the difference in proficiency clearly.

The second possible reason is that different groups of participants may have differed in their ability to improve over the time frame of the study. The mean scores of the IEP students were more than 10 points lower than the other students (see Table 1). Students in the IEP slightly improved their mean scores on the Post-Test (compared with Pre-Test) while the mean scores of Post-Test for the other participants and overall participants were lower than Pre-Test. Students at a low intermediate level of proficiency, such as the IEP students, may rapidly improve English proficiency up to a certain level for a short time, but high intermediate and advanced levels of students may take longer to improve their English proficiency. Therefore, the six-week time interval in the current study may have been enough for the IEP students to improve, but the students other than the IEP students could not improve their English proficiency in such a short time. Future research should take into account different groups of students that may require different time intervals to see improvements.

Several additional variables may have affected the results of the study. Health conditions could affect the test scores. For example, a lack of sleep and tiredness might distract participants from paying attention to English tests and reduce their performance. Busy schedules at the end of the semester may have lowered the test scores. International students have to make more effort to
do well on tests, presentations, papers, and homework due to their second language. These stressful tasks consume their physical and mental energy. Anxiety and stress for a presentation may distract from attention to the test. Timing of the second part of study might have affected test scores because it was conducted right before the fall break. Participants might have wanted to finish the study as soon as possible and begin their breaks. Personal life events may have also reduced the test scores, for instance, quarrels with friends, breaking up with boy/girlfriends, or getting low scores in classes may also be distractions for the test. Mental instability can affect mood, attention, or motivation during the tests. These variables are possible factors that may limit learning the second language, and further research is needed on these factors.

A fourth possible reason why participants did not get better scores on Post-Test than Pre-Test is that they may not have had strong will and motivation to perform well on the EPT. To protect participants’ privacy, their test scores were accessible only to the researchers, not to the participants or their teachers. Unknown test scores may reduce participants’ motivation for two reasons. First, participants may have wanted to see their test scores to monitor their own language proficiency over the six week interval. Second, participants’ test scores were not shared with their teachers and did not affect their grades or their reputations in classes. Moreover, to get more participants, extra points were given to the participants in the Intensive English Program, Spoken English as Second Language Class (ENGL 1180) and Written English as Second Language Class (ENGL 1190). Some participants actively took the EPT test only to get the extra points, and they may not have been interested in the scores they achieved. For example, some participants finished the reading section within 10 minutes out of the allotted 35 minutes. The other problem is that some participants’ lack of motivation may have affected other participants
who were taking the test seriously. Once several of the participants quickly finished the entire section, some of the participants who saw them tried to finish their tests quickly so that they could leave. One participant with a lack of motivation might change the atmosphere of the room and the other participants’ behaviors.

To increase participants’ motivation to get the best score on each test in future research, the English Placement Test could be taken as part of tests in classes, not as extra credit. Provided that participants take the EPT as part of the class, they will likely try to get as many points as possible. When researchers provide participants extra credit, they should note that extra credit may extrinsically motivate participants and may decrease their intrinsic motivation (Ryan & Deci, 2000). Extra credit itself is a good motivator, but extra credit should be given only when students meet some expectations such as improving a certain test scores, not when they participate in a study. Participants can be given more extra credit for achieving higher scores, which should motivate them to do their best.

A fifth reason for poor improvement on the EPT is that participants may have had different study styles. For the EPT, participants have to pay attention to the time limit, make quick decisions, apply their vocabulary knowledge, and complete a conversation style listening test. However, participants who are taking regular classes study more special areas of language that are more slowly-paced and include technical terms. They may spend a lot of time thoroughly reading textbooks, writing papers, and listening to lectures. This is one of many limitations for measuring language proficiency as there are many kinds of language proficiency that the EPT cannot measure. The EPT is a simple test that does not test participants in all language capacities. For future research, writing and speaking sections could be added.
One of the reasons why university–level students were used as participants for this study was related to Vandergrift’s (2005) findings. He found no significant relationship between each subtype of motivation (e.g., extrinsic regulation, introjected regulation, and identified regulation) and French proficiency, similar to the results of the present study. Vandergrift suggested that junior high school students could not distinguish the subtypes of motivation, but university–level students may be able to distinguish them. In the present study, even university–level students may not have been able to distinguish the subtypes of motivation. More research is needed to explore reasons for the results.

The second hypothesis was that the relationship between English proficiency and motivation might be stronger when stress levels were statistically controlled because international students are a unique group who may have more stress than domestic students due to greater language barriers, culture differences, and financial problems. The results showed that only stress turned out to be a predictor for this study. The second step of the hierarchical multiple regression, with a lower adjusted $R$ square than the first step, indicated that types of motivation were not predictors when stress was controlled.

Stress may have influence in academic performance, and vice versa (Lee, 2013, Murff, 2005; Womble, 2011). University students experience stress for several reasons: making adjustment to college life, interpersonal relationships, changes in life style, and pressure of studies and careers. International students experience not only the stress described above, but also acculturative stress such as language barriers, academic struggles, cultural-adjust issues, and greater financial problems. Furthermore, international students express negative emotion less frequently than domestic students (Hyun, Quinn, Madon & Lustig, 2007). Thus, international
students might have a lot of stress, and the results of the present study show that stress was a significant predictor of improvement on the EPT. Stress was significantly and negatively correlated with improvement on the EPT (Table 4), indicating that students who experienced higher levels of stress did not improve their proficiency as much as students who had lower levels of stress.

Moreover, the results showed a significant positive relationship between stress and amotivation and a significant negative correlation between stress and intrinsic motivation (Table 4). Amotivation is a lack of intention to do activities and may prevent individuals from learning a second language. Intrinsic motivation, which enhances high quality learning (Ryan & Deci, 2000), may help students improve their English proficiency. Stress may affect improvement on the EPT through motivation, but more future research is needed to explore this relationship.

Three possible reasons why motivation was not a significant predictor in this study may be considered. The first reason is that motivation is changeable and malleable over time. Campbell and Storch (2011) examined second language learners’ motivation levels for one semester. They found that all of the second language learners experienced changes in their motivational levels, and more than half of them experienced decreasing motivation during the semester. Moreover, motivation changes can occur in short periods of time. Only one experience of environmental change suddenly can drop learners’ motivation. Hsieh (2009) reported that one university student from Taiwan lost his motivation after experiencing an environmental change. When he talked to his supervisor and professors, they could not understand what he tried to say, and he had to repeat himself again and again. He felt frustrated and lost his confidence and motivation. As illustrated by this example, motivation can changeable and malleable even within
one day. It may be possible that even students with high levels of motivation could score at low levels of motivation after experiencing environmental changes during the course of this study.

The second reason may be that each type of motivation could not be measured validly. Some participants in the Intensive English Program used a dictionary, and some of them had difficulty understanding the meaning of sentences in the questionnaires and needed explanation. Some participants may have misinterpreted the intended meanings of the questions. Furthermore, participants might have not answered each question seriously because providing the ratings was not beneficial for some of them and because some participants were too tired to read each question after completing a one hour English Placement Test.

The third reason that may explain why motivation was not a predictor of language proficiency improvement could be complex mixed factors from many different motivational theories (Taguchi, 2006). Research indicates interrelations between motivation and other factors. Several factors have been found to be predictors of improved language proficiency: attitude, self-efficacy, and autonomy. For example, attitude is considered an important factor for second language learning success (Karatas, Alci, Yurtseven, & Yuksel, 2015). Motivation is influenced by attitudes (Liu & Huang, 2011), and motivated students may have positive attitudes toward language learning. Other possible factors are anxiety, personality, learning experiences, and teaching strategies including classroom activities and materials. Horwitz (2001) mentioned that there is a consistent negative correlation between language anxiety and achievement. Intrinsic motivation and identified regulation were negatively correlated with language anxiety (Khodadady, & Khajavy, 2013). Another factor could be personality. Chamorro-Premuzic and Furnham (2003) found that Conscientiousness may bring about higher academic achievement,
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While Neuroticism hinders academic achievement, Kaufman, Agars, and Lopez-Wagner (2008) conducted a study on motivation and personality. They found that there was a positive and significant correlation between intrinsic motivation and extroversion, agreeableness, conscientiousness, and openness to experiences. Thus, the important point from these studies is that many factors, such as attitude, anxiety, and personality, could be considered as predictors of language success. However, these factors can also relate to motivation. In the present study, motivation was not a predictor for language proficiency, but motivation may indirectly and complexly relate to these factors and language learning. Motivation may still be considered an important factor because many studies still show significant relationships between motivation and language learning success (Kaufman, Agars, & Lopez-Wagner, 2008; Hernandez, 2008; Engin, 2009). Researchers should note that motivation affects many factors in second language learning, is influenced by many complex factors, and can change over time.
Mastering a second language is time, money, and effort consuming. To learn a second language efficiently, the important factors underlying success need to be identified. Many researchers have recognized that motivation is one of the important factors in language learning (Jafari, 2013; Khodadady & Khajavy, 2013; Liu & Huang, 2011). The goal of the present study was to examine how types of motivation may be related to second language learning and stress in terms of the self-determination theory. One finding of this study was that types of motivation were not significantly correlated with English proficiency, likely because there was no improvement in the English proficiency test scores over five weeks. The results of the present study suggest that a longer time period is needed to see English proficiency improving clearly. In addition, a motivator that is provided simply for taking a test, such as extra credit, might decrease the likelihood of improvement of the test scores. To measure language proficiency, researchers should consider giving rewards to participants based on their improving test scores, not just for taking a test. Additionally, researchers may consider including the proficiency test as a part of the class.

The second finding of this study was that stress was a predictor of English proficiency, but motivation was not. Second language learning can be affected by many factors, such as motivation, health conditions, environmental changes, anxiety, and personality. Motivation is also influenced by many factors, such as attitude, personality, and anxiety. The relationship between motivation and English proficiency might be hidden in the complex interrelationships among these factors. Future research should further explore the relationships among the factors. Moreover, researchers should note that motivation changes over time and is easily influenced by
some factors, such as environmental changes and rewards. It is essential to find reliable and valid ways to measure motivation. In this study, the results were not as hypothesized. However, the findings suggested some important points and limitations that researchers should consider for future research.
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