CULTURAL EXPERIENCE FROM STUDYING ABROAD: WILL IT ENHANCE CREATIVE THINKING?

By

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There is a growing need for cross-cultural competency in today’s diversifying society. Cultural experiences from study abroad programs have found to be an effective means of providing students with an opportunity to develop valuable skills associated with cultural understanding and awareness. The present study investigated a possible cognitive benefit of studying abroad, focusing on creative thinking. In addition, this study investigated the nature of creativity, aiming to shed some light on the debate in regards to whether creativity is a domain general or domain specific construct. The relationship between cultural experience gained from studying abroad and creative thinking was assessed in a sample of undergraduate and graduate students (n=90) from the University of Florida. The Abbreviated Torrance Test for Adults (ATTA) and the Cultural Creativity Test (CCT) were administered and analyzed between three groups: study abroad, plan to study abroad, and no study/no plan. An ANOVA analysis showed that cultural experience predicted enhanced creative thinking only on the CCT, indicating that creativity is a domain specific construct. Findings from this study indicate that a cognitive benefit gained from studying abroad is the facilitation of creative problem-solving abilities in culturally diverse settings.
CHAPTER 1
STATEMENT OF THE PROBLEM

Introduction

Today’s society is comprised of a rich blend of ethnically and culturally diverse groups. Currently, approximately 30% of the U.S. population is made up of ethnic minority groups such as African American, Latino/Hispanic, Asian-Pacific Islander, and Native American (U.S. Census Bureau, 2000) and this trend towards diversity is on the rise. It is predicted that by the year 2015, ethnic minorities will constitute approximately one third of the United States population, and by the year 2050, students of color will consist of approximately 48 to 50% of the school-age population (U.S. Census Bureau, 2000). The increasing diversity in our nation is clearly represented in the growing numbers of individuals from different ethnic and cultural groups within our schools and workplaces, resulting in more and more frequent interpersonal communications among individuals of different backgrounds. As our nation develops into a multicultural demographic, fostering an awareness and understanding of different worldviews is a significant goal; this goal is especially important for our schools to accomplish in order to produce open-minded and informed individuals. Although the need for cultural studies has been recognized for some time, the implementation of effective cultural development curricula has been limited (Miranda, 1999). One area showing movement in students’ development of cultural awareness is study abroad programs.

Benefits of Studying Abroad

Study abroad programs provide students with the opportunity to experience a culture different from their own by immersing themselves in a foreign country. Study abroad programs constitute all educational programs that occur in a foreign country outside of the geographical boundaries of the country of origin (Carlson & Widaman, 1988; Kitsantas, 2004). Such programs
offer students enriching experiences to develop cross-cultural effectiveness and global understanding, including a greater awareness of one’s own country and foreign countries (Kitsantas & Meyers, 2001). In a study conducted by Carlson and Widaman (1988), 450 questionnaires were sent out to students who studied abroad during their junior year, designed to assess attitudes towards international understanding (e.g., awareness of problems common to many nations, desire for international peace) and the degree of change in perspectives (e.g., negative feelings towards foreigners, critical views of your own country) prior to and after their study abroad experiences. Results showed that students who studied abroad during their junior year reported higher levels of international political concern, cross-cultural interest, and cultural diversity (Carlson & Widaman, 1988). Furthermore, results indicated that these students developed a more mature and objective perception of their home country compared to a similar group of students who stayed on their home campuses (Carlson & Widaman, 1988). Similar results were found by McCabe (1994) who investigated the changing worldviews of twenty-three students who participated in a study abroad program at sea. The Semester at Sea program offered exposure to a variety of cultures, including visits to countries in South America, Africa, and Asia. The research included in this study was conducted in the Bahamas, Venezuela, Brazil, Hong Kong, Japan, and the United States. Results indicated that studying abroad contributed to the development of students’ global perspectives by expanding consciousness and knowledge of the global system, increasing cultural awareness, and developing new sensitivity to other cultures (McCabe, 1994). Study abroad programs have consistently shown to be successful in providing the experiences that foster cultural understanding and awareness.

In addition, research supports the benefits of study abroad experiences in multiple domains of students’ lives. Following study abroad experiences, students demonstrate not only
an increased awareness of multicultural issues, but also an improvement in their personal well-being including increased self-awareness, reflective thought, self-reliance, and self-confidence (Kuh & Kaufman, 1984). In a study conducted by Kitsantas (2004), students were assessed before and after their study abroad experience on four dimensions of the Cross-Cultural Adaptability Inventory (CCAI) (Kelley & Meyers, 1995). The four dimensions assessed emotional resilience, openness/flexibility, perceptual acuity, and personal autonomy (Kitsantas, 2004). The study found that in the final assessment, students reported higher scores on all four dimensions.

Overall, our review of the research on study abroad programs suggests that these programs promote cultural and personal growth in students. However, much of the work on study abroad programs focuses upon the positive affective benefits (e.g., feelings towards foreign countries, feelings of personal well-being) of studying abroad, and research that explores the possible positive links between study abroad programs and cognitive processes remain largely underdeveloped. This link is important to study because the ability to engage in cognitively complex ways with regards to multicultural information is becoming an increasingly valuable skill to develop in today’s diversifying society. Therefore, the purpose of this study is to investigate the benefits of undergoing a study abroad program on cognition, focusing specifically on creative thinking. The growing field of research in creativity is showing that developing the cognitive skills and abilities associated with creative thinking is linked to an enhanced ability to navigate through every day social situations, as well as through academic and professional realms.

**Defining Creativity**

Before reviewing the literature on the link between study abroad programs and creativity, it is first necessary to define creativity. Creativity is difficult to define because it is not an isolated
construct, but one that is influenced by internal, personal as well as external, environmental factors. A widely used definition of creativity is that it is an interaction between ability and process which results in a novel idea or work that is accepted as practical and appropriate by a group of people (Amabile, 1982; Lubart, 1990; Niu & Sternberg, 2002; Plucker & Beghetto, 2004; Sternberg, 2006). Sternberg (1993) argued that creativity encompasses a wide range of valuable skills that contribute to improving students’ academic performance. Creative individuals engage in decisions that involve redefining problems and exploring alternative perspectives, analyzing one’s thoughts, convincing other’s to adopt one’s ideas, overcoming obstacles and taking risks, being patient and tolerant in times of ambiguity, and learning from their mistakes (Sternberg, 1993). He stressed that these cognitive processes associated with creativity are found to be beneficial in the academic domain.

In addition to being a cognitive process, creativity should be perceived as a cultural phenomenon as well. In the Investment Theory of Creativity, Sternberg and Lubart (1991) suggest that creativity can be understood as a combination of variables including abilities, intellectual processes, knowledge, personality, motivation, and environmental variables which includes the physical setting and culture of an individual. According to this theory, people are “buying low and selling high” (Sternberg, 2006, p. 87) with respect to ideas. Creative individuals will pursue ideas that are initially unknown or out of favor but then develop them to their potential (Sternberg, 2006). Csikszentmihalyi (1988) proposed a dynamic systems perspective which views the person as part of a system in which social, historical, and cultural factors influence the individual’s development and expression of creativity. In Csikszentmihalyi’s (1988) dynamic system, creativity involves the interaction between three forces: the culture, the
social system, and the individual. Therefore, an individual’s creativity occurs within a context, and there exists a bidirectional relationship between the individual and their context.

All in all, a comprehensive definition of creativity needs to include both the personal characteristics of an individual and the multitude of variables in the individual’s environment that will influence their creativity. In the present study, I am interested in examining the cultural component of an individual’s environment with respect to creative thinking. Specifically, the purpose of my study is to develop a better understanding of the relationship between experiences in new cultures and creative thinking. The following section of my literature review will present studies that have investigated this link, focusing on the relationship between multicultural experience and creativity.

**Multicultural Experience and Creativity**

Multicultural experience is operationalized in terms of the amount of time living abroad, extensive interactions with foreign cultures, and exposure to a foreign culture (Leung et al., 2008). Studying abroad provides a unique multicultural experience that involves living in a foreign country for an extended period of time. This is a quantitatively and qualitatively different experience when compared to other foreign experiences such as travel (Leung et al., 2008). Compared to short visits to foreign countries, living abroad provides individuals with various opportunities to cognitively and behaviorally adapt to a new culture. When living abroad, individuals are immersed in an unfamiliar environment and challenged to learn and become familiar with the conventional knowledge and behaviors of a foreign culture (Leung et al., 2008; Leung & Chiu, 2010) whereas when traveling abroad or visiting shortly, individuals have only a superficial introduction to the new culture.

One positive cognitive outcome of multicultural experience from studying abroad may be enhanced creativity. Research investigating the relationship between multicultural experience
and creativity show that students who have studied abroad demonstrate increased interest in travel, art, foreign languages, history, and architecture; domains that are all linked to creative pursuits (Carsello & Creaser, 1976). In a study examining if creative performance results from multicultural experience, European American undergraduates who had little knowledge of Chinese culture were shown a 45-minute PowerPoint presentation and then asked to complete a creativity test (Leung et al., 2008). The presentation included pictures, music, and videos based on one of the following five conditions: unicultural Chinese culture condition which consisted of Chinese arts, architectures, food and other elements from China; juxtaposition condition which consisted of images from both Chinese and American cultures; fusion condition which consisted of images that depicted the American-Chinese fusion culture; the American culture control which consisted of images from the American cultures; and the no-slide control in which the participants did not watch a presentation. The creativity task required participants to read a summary of the original Cinderella story and rewrite a new version for Turkish children. Two coders rated the creativity tasks on a 7-point Likert scale based on their subjective definition of creativity. The participants in the conditions that exposed them to more than one culture (the American and Chinese cultures in juxtaposition and the American-Chinese fusion conditions) wrote more creative Cinderella stories compared to participants in the other three conditions who were exposed to either one or no culture (Leung & Chiu, 2010). These findings showed that even one hour of multicultural exposure may engage some cognitive skills that promote creative thinking. In addition, these creative benefits were present five to seven days after the original study indicating possible long-term effects of multicultural exposure. Leung & Chiu (2010) also investigated the link between multicultural experience and the tendency to retrieve ideas from diverse cultures and generate unconventional ideas. The Multicultural Experience Survey (MES)
was administered to a group of European American undergraduates to assess their level of multicultural experiences. The MES consists of items including whether or not an individual speaks a foreign language, the percentage of an individual’s lifetime spent in a foreign country, home country of an individual’s parents, the extent of exposure the individual has had to other cultures, their five favorite restaurants and the type of cuisine served, their five favorite musicians, and their five favorite friends and their friends’ nationalities (Leung & Chiu, 2008). The participants were asked to write down the first five gift ideas that came to mind. Each participant was given dominance/rank ratio score based on how readily the idea was generated by all of the participants. Results showed that the extent of multicultural experiences was negatively correlated with the average dominance/rank index for the gift ideas. Therefore, a link between greater multicultural experience and the generation of more unconventional ideas was found. Finally, a third study was conducted in which participants were asked to develop a creative research idea. The participants were given the opportunity to draw from writings of 15 scholars (5 Americans, 5 Turks, and 5 Chinese) who had written on the nature of happiness (Leung & Chiu, 2010). Results showed that individuals with greater multicultural experiences chose a higher percentage of foreign sayings. Based on these findings, the authors suggest that multicultural experience engage cognitive skills such as retrieval and integration of seemingly unrelated ideas that support creative thinking (Leung & Chiu, 2010).

A qualitative study conducted by Miranda (1999) also found a relationship between cultural experience and enhanced creativity. Four case studies using a naturalistic inquiry method was used to investigate four individuals’ experience in different cultures. The participants had spent three or more months in a different culture, and were asked what they perceived were the effects of the cultural experiences on their creative development. A major theme that emerged
from the interpretations of the data was that the cultural experiences provided the opportunity for the individuals to be more adaptive, innovative, and divergent thinkers (Miranda, 1999). In addition, the participants reported that divergent thinking and risk taking was encouraged in the culture that had a diverse international community (Miranda, 1999). Multicultural experiences have shown to cultivate creativity by exposing individuals to situations in which they are faced with foreign cultures that challenge them to acquire alternative interpretations, seek out ideas from diverse sources, and engage in cognitive exploration.

In a study related to the investigation of the link between cultural experience and creativity, Kharkhurin (2005) found that cultural experience is closely tied to the introduction of a new language. Language is inextricable linked to culture, as it shapes thought and guides a person’s understanding of the world. It allows people from different cultures to communicate their unique worldviews with each other, affecting each other’s constructions of reality (Kharkhurin, 2005; Miranda, 1999). The cognitive processes involved in the acquisition of a new language, therefore, overlap with the cognitive processes involved in accommodating a new culture. The simultaneous attainment of two different language systems from two different cultures has shown to impact individuals’ cognitive abilities that are associated with creativity (Kharkhurin, 2005; Miranda, 1999; Pearl & Lambert, 1962). In a study investigating the possible roles of bilingualism and biculturalism on creativity, Kharkhurin (2005) found that factors involved in learning a new language, including language color terms, language-specific descriptors of personality, and verbal or figural modes of communication have all shown to positively influence creativity. Two factors in bilinguals’ development, including linguistic skills and cross-cultural experience, were assessed using the Abbreviated Torrance Test for Adults (ATTA) composed of three divergent thinking tasks. Findings showed that both factors were
related to fluency, assessed by the ability to rapidly generate ideas and solutions to a problem, and elaboration, assessed by the ability to engage in a detailed analysis of an idea and carry it out (Kharkhurin, 2005). In addition, cross-cultural experience was also related to originality, assessed by the amount of novel ideas generated on the divergent thinking tasks (Kharkhurin, 2005). These findings indicate that the cultural experience that accompanies the acquisition of a new language plays a positive role on an individuals’ creativity.

Overall, research has found creative benefits from experiences with new cultures, whether it is through a living abroad experience, seeing images of different cultures, or learning a new language. Cultural experiences provide cognitively challenging tasks of adapting and integrating differing ideas, values, and behaviors from an unfamiliar worldview and have shown to produce creative gains.

**Creativity as a Domain-General or Domain-Specific Construct**

Another challenge involved in the endeavor to define creativity revolves around the debate over whether creativity is a domain general or a domain specific construct. In *Frames of Mind*, Howard Gardner (1983, 1999) proposed a theory of multiple intelligence that views creativity as a partially domain specific construct, consisting of eight distinct intelligences. Based on his research studying the performance of prodigies and savants, Gardner (1983) concluded that an innate capacity to rapidly learn material relevant to one of his proposed intelligences existed among exceptionally talented individuals. According to Gardner, each intelligence can be relied upon and applied in order to manifest into creativity. However, Gardner also believed that particular intelligences can converge to produce creative outcomes (Sternberg, 2005), suggesting that creativity can also be a domain-general construct made up of different combinations of his proposed intelligences.
Plucker and Beghetto (2004) take a hybrid position on the debate of domain generality and specificity, and argue that both domain specific and domain general features of creativity need to be examined. Drawing from the body of research on general cognitive abilities and processes as well as those focused on creativity and problem-solving (Carroll, 1993; Runco, 1994; Runco & Okuda, 1988), the authors believe that creativity is possible across domains (Plucker & Beghetto, 2004). However, while creative ability may be a domain-general construct, the interest and commitment that an individual must invest in a particular area is the domain-specific aspect of the creative process. As an individual gains experience in a particular domain or task, they become more domain-specific in their commitment, interest, time, and effort put towards that domain. As a result, the individual is more likely to develop a creative product in that specific domain. In addition, the context in which a product is evaluated for creativity includes both domain-general and domain-specific aspects as well. A collective agreement within a society that a product is novel and useful exists; however, there are also contextual boundaries within particular domains that provide guidelines on whether a product is creative or not (e.g., assessing a science fair project versus assessing an invention for the Nobel Prize) (Plucker & Beghetto, 2004). The authors conclude that the empirical definition of creativity views it as a domain-general construct; however, features of creativity such as the process and evaluation of creativity are domain-specific.

Other researchers suggest that creativity is a construct including both domain-specific and domain-general features (Amabile, 1996; Sternberg & Lubart, 1995, 1996). In the Investment Theory of creativity, Sternberg and Lubart (1995) state that creativity consists of multiple components that include abilities, knowledge, thinking styles, personality, motivation, and environmental variables. Each component differs in its degree of domain specificity and domain
generality. For example, the abilities component, including analytic, creative, and practical abilities, can range from domain-specific to domain-general or sometimes even cut across domains (Sternberg, 2005). In contrast, the personality and knowledge components are more domain-specific (Sternberg, 2005). In addition, the individual’s creative attitudes (i.e., their willingness to redefine difficult obstacles and to analyze solutions to problems), play an important role in their creative ability in both domain-specific and domain-general aspects (Sternberg & Lubart, 1995; Sternberg, 2005).

There is currently a dearth of information on the topic of whether creativity is a general aptitude or an ability that is specific to a particular domain. Research on expertise can be drawn from to shed some light on this matter. Ericsson and Charness (1994) investigated the structure and acquisition of expertise, reviewing the works of influential philosophers and theorists including Gardner (1983), Suzuki (1963, 1981), Young (1759), and Galton (1869/1979) who believed that talent stemmed from inherited abilities. Although this has been the traditionally held view on the nature of exceptional abilities among individuals, empirical evidence for innate talent is lacking (Ericsson & Charness, 1994). In actuality, studies are showing that superior performance in multiple domains including musical, athletic, spatial, mathematical, and physiological activities are due not to innate ability, but rather, the accumulation of skills acquired only through deliberate practice (Ericsson & Charness, 1994). Deliberate practice requires individuals to engage in effortful, individualized structured learning that targets a specific set of knowledge and skills relevant to a particular domain. Studies investigating experts including master chess players, professional athletes and musicians provide evidence that expertise is reached only by engaging in consistent, deliberate practice for an extended period of time. The development of expertise is also facilitated under optimal environmental conditions.
that provide resources such as trainers, teachers, and mentors who effectively guide the individuals’ progress (Erisson & Charness, 1994). Furthermore, the authors’ review of the literature on expertise demonstrate that the mechanisms underlying expert performance, such as the ability to construct efficient representations of a problem, improved working memory capacity and encoding strategies, and the ability to anticipate future events, are specific to the knowledge and skills of the domain that the individual has been deliberately practicing in (Ericsson & Charness, 1994). The authors contend that creative processes and ideas are produced after expertise is achieved in any particular domain and, thus, creativity is likely viewed as domain-specific.

In addition to exploring the relationship between exposure to new cultures and creativity, this study also investigates the construct of creativity itself. Based on my review of the literature, the proposed research aims to clarify the nature of creativity as a domain-general or domain-specific construct, focusing specifically on whether a culture-specific domain exists in creativity.

The Creative Process

Creativity is a process in which a person perceives gaps, contradictions, challenges, or opportunities and then considers possibilities and different perspectives to develop new and innovative alternatives (Shoshani & Hazi, 2007). It is most often considered to be a process of divergent thinking, which starts at a certain point and then branches out in many different directions. In order to understand how a creative product is achieved, it is important to consider the factors that are involved in the creative process. Several theories exist, providing varying explanations of possible elements that are part of the creative process. The following review will introduce theories addressing the general creative process in regards to the cognitive processes involved, as well theories addressing the creative process in the cultural domain.
The creative cognitive approach views the creative process as a result of specific cognitive operations on available knowledge (Rietzschel, Nijstad, & Stroebe, 2007). According to this view, as long as the individual effectively utilizes knowledge from accessible domains, anyone has the potential to produce creative outcomes (Leung et al., 2008; Rietzschel et al., 2007). The creative process includes a generative process and an explorative process. In the generative process, the individual actively retrieves or seeks out relevant information to generate ideas that have creative potential. In the explorative process, the individual explores and inspects the ideas to determine which should be further processed. The final ideas are modified, elaborated upon, and transformed to produce a creative end result (Leung et al., 2008). In respect to the present study’s focus of investigation, the creative cognitive approach provides an explanation for the positive link between cultural experience and creativity. In contrast to individuals who have experience with only one culture and therefore have one highly accessible cultural category, individuals who have adapted another culture have two or more highly accessible cultural categories from which they can draw upon during the creative process. Therefore, these individuals have an advantage during the creative process due to the broader range of knowledge they can access from which they can generate and explore ideas.

The dynamic constructivist approach provides a framework for understanding the creative process specifically in regards to using cultural knowledge (Chiu, Hong, Morris, & Menon, 2000; Morris & Fu, 2001). This view models cultural knowledge as a set of different knowledge structures that can be activated by conditions such as priming (Chiu et al., 2000; Morris & Fu, 2001). When an individual encounters culturally relevant stimuli in a particular context, they are able to access their cultural knowledge structures to retrieve and apply the information to produce high-quality creative products (Hong, & Chiu, 2001; Hong et al., 2001; Hong, Benet-
Martinez, Chiu, & Morris, 2003; Morris & Fu, 2001). According to the dynamic constructivist approach, an individual who possesses a large bank of cultural frameworks still needs to be primed with appropriate stimuli for that information to be accessed and used to its full potential. Bicultural individuals have been the main focus in the area of study investigating the use of cultural knowledge and the creative process. The following section of the literature review will present findings on this body of research.

**Cultural Diversity during the Creative Process**

Culture provides an individual with a familiar script that embodies their values and beliefs, as well guides their thoughts and behaviors in a broad range of situations (Lubart, 1990; Tadmor & Tetlock, 2006). Cultural scripts include but are not limited to physical attributes, eating habits and familiar foods, clothing, and socioeconomic status. When an individual is exposed to a new culture, the automatic scripts from their familiar culture that are activated may not be applicable or even contradictory in the new setting. The individual experiences cognitive dissonance as they face value conflicts between their old and new cultures (Tadmor & Tetlock, 2006; Tadmor, Tetlock, & Peng; 2009). Resolving this conflict has shown to lead to cognitive complex abilities, including the ability to recognize, generate, and synthesize multiple ideas or concepts. One outcome of cognitive complexity may be enhanced creative thinking, as both are associated with divergent thinking, perspective taking, and integration of multiple ideas.

As mentioned earlier in my review of the literature on cultural experience and creativity, studies have shown that cultural experience leads to the development of multiple cultural frameworks for individuals to employ during the creative process. The following studies provide evidence that the exposure to and combining of these differing worldviews promotes cognitively complex abilities. The present study is specifically interested in the cognitive benefits associated with creative thinking that may result as a possible byproduct of the cognitive complexity among
individuals who have adapted more than one cultural framework. Also related to the present study, the following section will provide evidence that a culture-specific domain of creativity exist, supporting earlier theories that suggest that creativity is a multidimensional construct.

**Cultural Diversity in Groups**

Particularly in the field of management, research on cultural diversity in group work indicates that there is value in having culturally diverse individuals work together on problem-solving tasks. A study by Watson, Kumar, and Michaelsen (1993) explored the effects of high cultural diversity on group interaction and group problem-solving. Participants consisted of undergraduate students enrolled in a management course who were randomly assigned to either a group in which all members were of the same nationality and ethnic background (homogeneous), or a group in which at least two members were of different nationality and three members of a different ethnic background (heterogeneous) (Watson et al., 1993). The groups were given case studies over a 17 week period and required to analyze these real-life company situations (Watson et al., 1993). The case study analyses were evaluated on four criteria: the range of perspectives, the number of problems identified, alternatives generated, and the quality of the solutions (Watson et al., 1993). The results showed that at the end of the 17 weeks, the heterogeneous group were more effective on identifying problems, seeing different perspectives, and generating multiple alternatives (Watson et al., 1993). A follow-up study conducted by McLeod et al. (1996) investigated the difference in performance on a brainstorming task between all Anglo-American (homogenous) groups and ethnically diverse (heterogeneous) groups consisting of Anglo, Asian, African, and Hispanic Americans. Undergraduate and graduate students from different academic majors were selected. All Anglo-American participants were randomly assigned to either the homogenous or heterogeneous groups, and participants of other ethnicities were randomly assigned to a heterogeneous group. The groups were given a brainstorming task
called the *Tourism Problem* (Taylor, Berry, & Block, 1958) in which participants were required to formulate as many ideas as possible on how to attract more tourists to the United States. Responses were rated in terms of their feasibility and effectiveness. In line with Watsons et al.’s (1993) findings, results showed that ethnically heterogeneous groups produced higher quality creative ideas that were significantly more feasible and more effective ideas compared to ethnically homogeneous groups (McLeod et al., 1996). One explanation for this difference was that the Tourism Problem is a culture-specific task in which the ethnically heterogeneous group would have an advantage over the ethnically homogeneous group due to the diverse range of cultural knowledge present in former group.

**Cultural Diversity in Individuals**

Research also supports the creative benefits of cultural diversity within an individual. Studies investigating the creative benefits of cultural experience have compared biculturals to monoculturals. Biculturals are individuals who have internalized two cultures, whereas monoculturals have internalized a single culture (Benet-Martinez, Lee, & Leu, 2006). Research on biculturals reveals that being exposed to a culture different from one’s own facilitates the development of cognitively complex skills that support the creative process. Empirical studies examining bicultural individuals have found that creativity is found in relatively high rates among individuals who are first or second generation immigrants and for immigrants who are ethnically diverse (Lambert, Tucker, & d’Anglejan, 1973; Simonton, 1997, 1999).

In a study by Tadmor et al., (2009), the acculturation process and effects of second-culture exposure on individuals’ integrative complexity was investigated. Within the cultural domain, integrative complexity was defined as the acknowledgement of differing cultural perspectives on the same issue (differentiation), and the ability to integrate the two perspectives by finding connections between two seemingly contrasting worldviews (integration) (Tadmor et al., 2009).
Biculturals who adapted two cultural worldviews were compared to individuals who had abandoned their old culture and assimilated the new culture (assimilated individuals), and to individuals who separated from the new culture and maintained their old culture (separated individuals). Participants included 75 East-Asian undergraduate students. Ward and Kennedy’s (1994) Acculturation Index (AI) was administered to determine if the participants were going to be in the bicultural, the assimilated, or the separated group. Integrative complexity was measured by open-ended questions which were analyzed to determine the degree of differentiation and integration on a 7-point scale. Two questions assessed cultural complexity (e.g., “What does it mean to you to be bicultural? Would you define yourself as a bicultural?”) and two questions assessed general complexity (e.g., “Some people feel that organizations waste too much time listening to different points of view and opinions during group meetings. Others feel they don’t spend enough time. How do you feel? What do you think should be the right balance?” (Tadmor et al., 2009, p. 112). Results supported the benefits of biculturalism, showing that biculturals were more integratively complex compared to assimilated and separated individuals (Tadmor et al., 2009). In addition, integrative complexity among biculturals was greater for questions of cultural complexity compared to questions of general complexity, indicating that level of integrative complexity may depend on the domain of the task (Tadmor et al., 2009). Tadmor et al. (2009) concluded that biculturals generally demonstrate greater cognitive complexity compared to monoculturals; however, this difference is most pronounced when the task is specific to the cultural domain.

Benet-Martinez et al. (2006) proposed that biculturals think about culture in more complex ways than monoculturals, because they are forced to navigate between two cultural frameworks, a process known as cultural frame switching. Cognitive complexity is measured by the degree of
differentiation, articulation, and abstraction on a given task (Benet-Martinez et al., 2006). It is suggested that the higher creative ability among biculturals derive from their increased flexible approach due to this dual perspective. The hypothesis was tested by presenting the participants with either cultural or neutral pictures and having them write a description of the pictures. The study found that Chinese American biculturals’ free descriptions of both American and Chinese cultures are higher in cognitive complexity than that of Anglo-American monoculturals. Findings suggest that cultural frame switching may trigger complex cognitive processes that include detecting, processing, and organizing diverse cultural meanings (Benet-Martinez et al., 2006).

Benet-Martinez et al. (2006) also proposed that the creative superiority (measured by cognitive complexity) exhibited by biculturals are limited to tasks that contain cultural schemas and cues. This proposition is in line with Tadmor et. al’s (2009) study mentioned earlier, which showed that biculturals exhibited greater integrative complexity on tasks of cultural complexity over tasks of general complexity. It was argued that in culturally neutral domains where explicit cultural references are not present, biculturals will not exhibit increased cognitive complexity compared to monoculturals (Benet-Martinez et al., 2006). Findings from their study supported this hypothesis. Chinese-American biculturals’ representations of culture (Chinese or American) were more cognitively complex (higher in density and abstractness) than those of monoculturals largely specific to the cultural domain (Benet-Martinez et al., 2006). Benet-Martinez et al. (2006) argue that biculturals’ superiority on cognitive complexity tasks are present only on tasks that allow them to draw from their knowledge bank of multiple cultural representations, and absent on tasks outside of the cultural domain.

Based the literature reviewed on cultural diversity within groups and individuals, there is considerable evidence that cultural diversity is positively linked to creativity. Exposure to
unfamiliar cultures with differing beliefs, attitudes, and values has shown to lead to the development of multiple conceptual frameworks which provides individuals with a rich bank of cultural information. This allows individuals to sample from a broad range of ideas during the creative process. In addition, the process of integrating and synthesizing multiple cultural worldviews has been linked to cognitive complexity. Cognitively complex abilities facilitate the generation and innovative use of ideas during the creative process which results in highly creative products. Finally, studies on biculturals show that the cognitive complexity acquired from their experiences with multiple cultures are limited to tasks in the cultural domain.
CHAPTER 2
PURPOSE OF THE STUDY

The existing literature on study abroad programs provides substantial evidence that a multitude of benefits exist from the cultural experiences gained while living abroad. Individuals who have studied abroad demonstrate increased development in cultural understanding and awareness as well as higher levels of overall personal well-being (Carlson & Widaman, 1988; Kitsantas, 2004; Kuh & Kaufman, 1984; McCabe 1994). The purpose of this study is to pursue another possible benefit from study abroad programs: creativity. The literature reviewed provides evidence for the relationship between cultural experience and enhanced creativity. In the past, this relationship has been studied by manipulating cultural experience through the use of cultural images (Benet-Martinez et al., 2006; Leung et. al, 2008), conducting qualitative case studies of individuals who have studied abroad (Miranda, 1999), and examining the relationship between bilingualism and creativity (Kharkhurin, 2005). The aim of the present study is to contribute to this area of research by integrating the findings on study abroad programs as well as the findings on cultural experience and creativity by conducting an empirical study using study abroad experiences as the criteria for having cultural experience to investigate the possible influence it may have on creativity.

Significance for theory: Also related to the present study is the research on biculturals that show a relationship between experiencing and adapting a new culture and increased cognitive complexity (Benet-Martinez et al., 2006; Tadmor & Tetlock, 2006; Tadmor et al., 2009). I am interested in this line of work due to the similar cognitive processes that exist in cognitively complex tasks and creative tasks. However, these studies have been limited to studying biculturals who are of another ethnicity, primarily first or second generation Asian-Americans. The present study aims to extend these findings to a broader population by examining the
relationship between cultural experience and creativity among any individuals who have adapted a new cultural worldview through the study abroad experience. Therefore, this study will include individuals who are biculturals not necessarily because of their ethnic background, but instead due to their cultural experiences from studying abroad. Drawing from the study abroad and multicultural fields of research, it is assumed that the cultural experience gained from living abroad develops biculturalism among students as they immerse themselves in a foreign country and adapt the values, attitudes, and behaviors from that new cultural worldview.

Finally, the present study aims to contribute to the ongoing debate concerning the nature of creativity. Some researchers argue that creativity is a domain-general construct (Gardner, 1983, 1999; Plucker and Beghetto, 2004), while others argue that is domain-specific (Benet-Martinez et al., 2006, Leung et al. 2008). There are also researchers that argue creativity can be both domain-general and domain-specific (Amabile, 1996; Sternberg & Lubart, 1995, 1996; Tadmor & Tetlock, 2006; Tadmor et al., 2009). Recent empirical studies conducted on biculturals point to creativity being a domain-specific construct, specifically in regards to the cultural domain (Benet-Martinez et al., 2006; Leung et al., 2008; Tadmor & Tetlock, 2006; Tadmor et al., 2009). Research in the area of expertise also point to the abilities associated with creativity being domain-specific in nature (Ericsson & Charness, 1994). The present study aims to provide further clarification on the nature of creativity in regards to whether it is a domain-general of domain-specific construct.
Based on the literature reviewed, three hypotheses were generated:

In hypothesis 1, I propose that individuals who have studied abroad will produce higher-quality responses on the *Cultural Creativity Task* (CCT) (measure of cultural creativity) compared to individuals who have not studied abroad. Support for the first hypothesis will provide evidence that cultural experiences from study abroad programs will increase creative ability in the domain of cultural creativity. Evidence for this hypothesis will support previous findings that cultural experiences increases creativity in the cultural domain by providing individuals with ideas from multiple cultural worldviews as well as cognitively complex skills to employ when engaging in culture-specific tasks.

In hypothesis 2, I propose that individuals who have studied abroad will not produce higher-quality responses on the *Abbreviated Torrance Test for Adults* (ATTA) (general measure of creativity) compared to individuals who have not studied abroad. In other words, I propose that individuals who have studied abroad will not differ significantly from individuals who have not studied abroad on general measures of creativity which do not have any specified domains. Evidence for this hypothesis will support findings from previous studies which indicate that creative benefits from cultural experiences are most pronounced in activities specific to the cultural domain. Previous studies investigating biculturals that showed cultural experiences increasing creativity in the *cultural domain*. Compared to monoculturals, biculturals demonstrated higher creative abilities on tasks that targeted culturally relevant information; however, on tasks that were culturally neutral, this creative gap between biculturals and monoculturals disappeared. Such findings indicate that creative expression is limited to domains in which individuals have acquired expert knowledge and skills domain (Benet-Martinez et al.,
Empirical research on experts from varying domains revealed that the knowledge and skills acquired to demonstrate mastery was limited to the domain in which the individuals had extensive practice and training (Ericsson & Charness, 1994). Evidence for this hypothesis will suggest that creativity is a domain-specific construct; that individuals’ creative abilities depend on the degree of relevant experience and knowledge they have accumulated for that specific domain.

In hypothesis 3, I propose that individuals who have not yet studied abroad but are planning to study abroad will not differ on measures of cultural or general creativity compared to individuals who have not and are also not planning to study abroad. Evidence for this hypothesis will strengthen my predicted findings that cultural experience is the variable underlying increased cultural creativity. This hypothesis accounts for the possibility that initial differences in cultural creativity may exist between the individuals who plan to study abroad and the individuals who do not plan to study abroad.
CHAPTER 4

METHOD

Participants

A total of 90 students from a large southeastern university were recruited for this study. The students were recruited from the university’s International Center by means of the study abroad listserv as well as from a research participants’ pool. Participants consisted of 30 students who have studied abroad (Study Abroad group), 30 students who have not studied abroad but are planning on studying abroad in the future (Plan to Study group), and 30 students who have not studied abroad and are not planning on studying abroad in the future (No Study/No Plan group). The Study Abroad group participants (5 male and 25 female) were between 18 to 35 years of age ($M = 20.27, SD = 3.11$), and consisted of 12 Caucasian/White, 3 African American, 5 Latino/Hispanic, 8 Asian American, and 2 Other students. The Plan to Study group participants (5 male and 25 female) were between 18 to 21 years of age ($M = 19.03, SD = .67$), and consisted of 19 Caucasian/White, 5 African American, 4 Latino/Hispanic, and 2 Other students. The No Study/No Plan group participants (5 male and 25 female) were between 18 to 22 years of age ($M = 19.76, SD = 1.64$), and consisted of 21 Caucasian/White, 4 African American, 3 Latino/Hispanic, and 2 Other students.

Measures

Based on the hypotheses proposed, two measures of creativity will be employed. The *Abbreviated Torrance Test for Adults* (ATTA; Goff & Torrance, 2002), was administered to assess domain general creativity, and *The Cultural Creativity Test* was administered to assess domain specific creativity in the cultural domain.
Measure of Domain General Creativity

*Abbreviated Torrance Test for Adults* (ATTA; Goff & Torrance, 2002). The Torrance Tests of Creative Thinking (TTCT; Torrance, 1966) is the standard measure for assessing creative abilities. The TTCT requires about 45 minutes for the Verbal tests, and 30 minutes for the Figural tests (TTCT; Torrance, 1966). The Abbreviated Torrance Test for Adults (ATTA; Goff & Torrance, 2002) is a converted form of the Demonstration Form of the Torrance Tests (D-TTCT; Torrance, Wu, & Ando, 1980). The D-TTCT consists of activities utilizing the same rationale as activities in the original TTCT, but in abbreviated form, requiring considerably less testing time. The ATTA is used to assess participants’ divergent thinking abilities. The ATTA contains three 3-minute tasks scored based on four norm-referenced measures (fluency, originality, elaboration, and flexibility) and 15 criterion-referenced indicators (e.g., richness and Colorfulness of Imagery, Openness: Resistance to Premature Closure) (TTCT; Torrance, 1966). The total scores from the norm-referenced measures and criterion-referenced indicators combine to yield a Creativity Index (CI).

The ATTA begins with a written instruction that explains the general guidelines of the task and encourage participants to use their imagination and thinking abilities. In the verbal component of the task (Activity 1) participants are asked to suppose that they could walk on air or fly without being in an airplane or similar vehicle, and then to identify the troubles they might encounter. This activity provides verbal fluency and originality norm-referenced scores and five verbal criterion-referenced responses. In the picture completion task (Activity 2), the participants are presented with two incomplete figures and asked to draw pictures with the figures and make the pictures as unusual as possible. This activity provides figural fluency, originality, and elaboration norm-referenced scores. In the picture construction task (Activity 3) the participants were presented with a group of nine identical isosceles triangles arranged in a 3 x 3 matrix and
were asked to draw as many pictures or objects as they can using the triangles. This activity provides figural, fluency, originality, elaboration, and flexibility scores. Activities 2 and 3 provide 10 figural criterion-referenced responses. Each of the raw scores from the norm-referenced measures is converted to a normalized scaled score which are summed to produce a total scaled score. The criterion-referenced creativity indicators are scored on a three-point scale of 0 to 2. The sum of the total scaled score and creative indicators yield a Creativity Index (CI) (Goff & Torrance, 2002).

The Abbreviated Torrance Test for Adults has been reviewed and found to be reliable and valid measures of creative thinking (Chase, 1985). A meta-analysis of creative thinking included only studies that used the ATTA in order to insure a valid and reliable measure (Rose & Lin, 1984). The ATTA has been normalized. The norms reported in the ATTA manual are based upon adults who had completed the D-TTCT prior to the year 2000. The manual reports the Kuder-Richardson (KR21) reliability coefficient for the total raw score for the four creative abilities measured by the ATTA as .84, and for the total raw score with the creativity indicators score as .90 (Goff & Torrance, 2000b). Inter-rater reliabilities range from .95 to .99.

**Measure of Domain Specific Creativity**

*The Cultural Creativity Task (CCT):* The CCT consists of five 3 minute brainstorming prompts intended to target creativity in the cultural domain. Each prompt is located at the top of an 8.5” x 11” piece of paper. Participants are given three minutes for each prompt, and are asked to come up with as many ideas as possible for each of the five prompts in the CCT. The first prompt included in the CCT is an altered version of The *Tourism Problem* (Taylor, Berry, & Block, 1958). The Tourism Problem is a task developed for a brainstorming activity. It consists of the following statement:
Each year a great many American tourists go to Europe to visit. But now suppose that our country wanted to get many more Europeans to come to America during their vacations. What steps can you suggest that would get many more Europeans to come to this country as tourists? (Taylor, Berry, & Block, 1958, p.28).

For the purposes of this study, the statement was altered:

Each year a great many American tourists go to foreign countries to visit. But now suppose that our country wanted to get many more people from foreign countries to come to America during their vacations. What steps can you suggest that would get many more foreign people to come to this country as tourists?

This task is relevant to cultural creativity because of the international focus of the task. In the original Tourism Problem task, the participants are required to spend 10 minutes to generate as many ideas as they can on 8.5” x 11” paper. Taylor, Berry, and Block (1958) pre-tested a total of about twenty problems with Yale students both individually and in small groups. From the pre-tests, three problems (including the Tourism Problem) were selected based on findings that showed these tests were most conducive for brainstorming, seemed to be of most interest to the participants, and produced many and varied responses. McLeod, Lobel, and Cox Jr. (1996) employed the Tourism Problem to study the relationship between ethnic diversity and creativity in small groups.

The Tourism problem was administered to each small group, and the participants were given 15 minutes to individually produce as many ideas as they could to get more tourists to visit the United States 8.5’’ x 11’’ paper (McLeod et al., 1996). Each idea was then transferred to an index card with a group identification code on the reverse side (McLeod et al., 1996). Redundant responses were eliminated for each group’s set of ideas. Each idea was then judged for effectiveness and feasibility based on a 5-point scale. Effectiveness was defined as “how much of a contribution the idea make toward the objective of getting more tourists to visit the U.S.” (Lamm & Trommsdorff, 1973, p. 363). The scale for effectiveness ranged from 1- would attract hardly anyone to 5- would attract almost anyone (McLeod et al., 1996). Feasibility was defined
as “the extent to which the ideas could be carried out, given the constraints of reality” (Lamm & Trommsdorff, 1973, p. 363). The scale for feasibility ranged from 1- definitely infeasible to 5- definitely feasible (McLeod et al., 1996). Two faculty members in relevant departments, who were experts in the travel industry, served as judges assessed the ideas. They were instructed to use the effectiveness and feasibility scales independently (McLeod et al., 1996). The judges were considered to be in agreement if their ratings of the idea fell within 1 point of each other on the 5-point scales (Diehl & Stroebe, 1987, 1991). The average of each judge’s rating was determined to produce a single rating for each idea, and the mean score of the ratings for all of the ideas was determined by adding the ratings for each idea and dividing this number by the total number of ideas produced by the group (McLeod et al., 1996).

The modified version of the Tourism Problem was combined with four prompts developed by the researchers to create the culture-specific measure of creativity, which we called the Cultural Creativity Test (CCT). The additional four prompts provide a broader measure of cultural creativity and take a more comprehensive approach in assessing individuals’ ability to retrieve culturally relevant knowledge and produce novel ideas and solutions. They were modeled after the verbal activity in the ATTA; however, the content of the brainstorming prompts were designed to target creativity in the cultural domain. The CCT requires participants to draw from their knowledge bank of culturally relevant information, including topics such as waking up with a different skin color, demonstrating high social status, developing new dishes using exotic ingredients, and creating a product that will have universal appeal.

The CCT is scored for fluency and originality. The fluency score is given for each of the five prompts in the CCT, representing a tally of the number of ideas produced. The originality score is a number that represents the degree of novelty an idea exhibits. Each idea produced in
the CCT is scored for originality based on a Likert-type scale ranging from 1 to 5: 1 (*Not at all*), 2 (*Little*), 3 (*Somewhat*), 4 (*Much*), and 5 (*Very much*). The sum of the originality scores is then divided by the sum of the fluency scores to produce a final creativity score for the CCT.

**Procedure**

**Data Collection**

As participants arrived to the laboratory at their designated time, they were given a consent form to read and sign. The experimenter provided each participant with the *Abbreviated Torrance Test for Adults* (ATTA). The ATTA was administered according to the instructions in the ATTA Manual (Goff & Torrance, 2002). The experimenter then distributed the *Cultural Creativity Task* to each participant, and it was administered next. The experimenter read the instructions aloud at the beginning of each activity for both the ATTA and CCT. Each activity was timed by the experimenter with a stopwatch. At the completion of the experiment, the participants were given a demographics sheet to complete. All of the forms and tasks were collected and the participants were thanked for their time. Participants from the research participants’ pool were granted one research credit towards their corresponding course.

**Scoring**

The ATTA and CCT tasks were coded by one of the authors and a volunteer. Both coders were both blind to the group which participants belonged to. To ensure that we were following unitary coding procedures, twenty ATTA and CCT tasks were randomly selected and coded separately, then compared for consistency.

The Creativity Index (CI) from the ATTA was used to determine whether or not the ratings were in agreement. In the case of a disagreement where the CI ratings were not the same for a participant, the total scaled score and the creativity indicators on the ATTA Scoring Sheet of each rater was examined. We referred to the ATTA Manual together, discussed the differences in
the points assigned for the norm-referenced and criterion-referenced measures, and reached an agreement. The rest of the ATTA tasks were coded. There was a moderate inter-rater reliability coefficient \((r = .76)\).

The standard deviation for the fluency scores of each of the five activities in the CCT was determined for both ratings for each participant. The ratings were considered to be in agreement for scoring fluency if the fluency score for each of the five activities fell within the average of their individual standard deviations for each activity. We discussed and agreed upon the necessary adjustments needed to be made to our coding procedures for originality. The remainder of the tasks was coded. We were considered to be in agreement if our final creativity score (sum of the originality scores divided by the sum of the fluency scores) for the CCT fell within 1 point of each other. The average of the final CCT scores for each participant was used for analysis. There was a strong inter-rater reliability coefficient \((r = .89)\).

Once all of ninety ATTA and CCT tasks were coded, we met to discuss any remaining disagreements for both tasks. A 100% agreement on the ATTA and CCT scores for every participant was reached before the data was analyzed.

Analysis

Two one-way between groups ANOVAs were conducted to compare the effect of cultural experience from studying abroad on domain-general creativity (Creativity Index scores) and domain-specific creativity (Cultural Creativity Test scores). Where an overall omnibus F test was significant, we employed a follow-up Tukey post-hoc test to identify specific difference between the three groups with respect to our hypotheses. The criterion for significance was set at an alpha level of .05.
CHAPTER 5
RESULTS

The Creativity Index (CI) scores from the Abbreviated Torrance Test for Adults (ATTA) were used to assess participants’ creative abilities in respect to domain general creativity. The first column on Table 1 presents the means and standard deviations of the CI scores for each of the three groups (Study Abroad, Plan to Study, and No Study/No Plan). Results revealed that no significant differences existed on the CI scores between the three groups; Study Abroad group (M = 4.20, SD = 1.03), Plan to Study Abroad group (M = 3.87, SD = .97), and No Study/No Plan group (M = 3.90, SD = 1.24), F (2, 87) = .85, p > .05 (See Table 5-1).

The scores from the Cultural Creativity Task (CCT) were used to assess participants’ creative abilities in the culture-specific domain. The second column of Table 1 presents the means and standard deviations of the CCT scores for each of the three groups. Results revealed that significant differences on the CCT scores existed between the three groups; Study Abroad (M = 3.14, SD = .38), Plan to Study Abroad (M = 2.62, SD = .25), and No Study/No Plan (M = 2.59, SD = .21), F (2, 87) = 34.97, p < .05.

To further examine the significant differences between the three groups on the CCT, a Tukey post-hoc analysis was performed. The analysis revealed that the Study Abroad group significantly outperformed the Plan to Study group and the No Study/No Plan group on the CCT, F (2, 87) = 34.97, p < .001. In addition, no significant difference existed between the Plan to Study and No Study/No Plan groups in regards to the CCT scores.

Table 5-1. The means and standard deviations for the ATTA and CCT measures.

<table>
<thead>
<tr>
<th>Condition</th>
<th>ATTA</th>
<th></th>
<th>CCT</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Study abroad</td>
<td>4.20</td>
<td>1.03</td>
<td>3.14*</td>
<td>0.38</td>
</tr>
<tr>
<td>Plan to study</td>
<td>3.87</td>
<td>.97</td>
<td>2.62*</td>
<td>.25</td>
</tr>
<tr>
<td>No study/no plan</td>
<td>3.90</td>
<td>1.24</td>
<td>2.59*</td>
<td>.38</td>
</tr>
</tbody>
</table>

*p < .05, * Significant pairs
CHAPTER 6
DISCUSSION

General Discussion

Based on my review of the literature examining cultural experience and creativity, I hypothesized that students who have undergone a study abroad experience (Study Abroad group) will produce significantly higher quality creative ideas on the measure of cultural creativity assessed by the Cultural Creativity Task (CCT) compared to students who have not participated in a study abroad program (including both students who have not studied abroad but plan to studying abroad; Plan to Study group, and students who have not studied abroad and do not plan on studying abroad; No Study/No Plan group). My findings showed that students who studied abroad did in fact outperform the students who have not studied abroad on the CCT. These significant differences between the Study Abroad group and the No Study/No Plan group are in line with previous studies that showed enhanced creative abilities among students who have been exposed to a culture different from their own compared to students who have experienced only one culture (Kharkhurin, 2005; Leung & Chiu, 2008; Leung et. al, 2008, Lubart, 1990; Miranda, 1999). In addition, the significant difference between the Study Abroad group and the Plan to Study group strengthens my conclusion that cultural experience is the variable which accounts for increased creativity in the cultural domain. It was assumed that individuals in both the Study Abroad and Plan to Study Abroad groups are interested in foreign cultures; however, the results show that the actual experience of immersing oneself in a foreign culture has found to be related to increased cultural creativity while interest in foreign cultures without the cultural experience is not. This is consistent with the literature on multiculturalism and creativity which states that cultural experience gained from living abroad is qualitatively different than other cultural experiences such as travel or visits (Leung et al., 2008).
Another aim of my study was to investigate the long-standing debate regarding whether creativity is a domain-general or domain-specific construct. Drawing from the studies comparing individuals’ abilities on culturally relevant tasks compared to culturally neutral tasks (Benet-Martinez et al., 2006; Leung et al., 2008; Tadmor & Tetlock, 2006; Tadmor et al., 2009) as well as the literature on expertise (Ericsson & Charness, 1993), I hypothesized that no significant differences would exist between the Study Abroad, Plan to Study, and No Study/No Plan groups on our domain-general measure of creativity assessed by the *Abbreviated Torrance Test for Adults* (ATTA). Research investigating individuals who have experienced and acculturated two different cultures showed that biculturals demonstrate advanced creative abilities on culturally relevant tasks in comparison to their monocultural counterparts (Benet-Martinez et al., 2006; Tadmor & Tetlock, 2006; Tadmor et al., 2009). This line of research in addition to the literature on expertise provide support for expert and creative abilities being specific to the domain in which individuals’ have acquired extensive knowledge and skills (Ericsson & Charness, 1993).

As predicted, my results showed no significant differences among the three groups on the ATTA, supporting previous claims that creativity is a domain-specific construct. I found that cultural experience affects creativity the domain of cultural knowledge; however, it does not increase performance on general creativity tasks. These results suggest that creativity is a multidimensional construct, and experiences which foster knowledge in a particular domain of creativity will increase creative abilities in only that corresponding domain.

My findings of the positive link between studying abroad and enhanced cultural creativity are further strengthened by the results that showed no significant differences between the two groups that have not studied abroad, the Plan to Study and the No Study/No Plan groups, on both the ATTA (domain-general measure) and CCT (domain-specific measure). The comparison
between these two groups was made to account for differences that may have existed among individuals who have not studied abroad. For example, interest in cross-cultural experiences was a factor that was present in the Plan to Study group and absent in the No Study/No Plan group, but it did not make a significant difference on the two groups’ performance on either the general creativity or cultural creativity tasks. The lack of significant differences between these two groups on both tasks indicates that the cultural experience from study abroad programs is the critical factor for increasing creativity in the cultural domain. The aim of the present study was to focus on the relationship between cultural experience and creativity. The findings from my study provides further evidence that a positive relationship between the cultural experience gained from study abroad programs and enhanced creativity exists, particularly in respect to the cultural domain of creativity.

**Implications for Cultural Experience and Creative Thinking**

There is a growing awareness for the need of cross-cultural competency in today’s diversifying society. The cultural experiences gained from studying abroad has consistently proven to be an effective means in developing cultural and personal growth in individuals who undergo such experiences (Carlson & Widaman, 1988; Carsello & Greaser, 1976; Kitsantas, 2004; Kitsantas & Meyers, 2001; Kuh & Kauffman, 1984). In the current study, we have found that creativity is yet another benefit from the cultural experiences gained by studying abroad. Specifically, our study shows that by living abroad, individuals will gain skills that enhance their performance on creativity tasks which require them to employ information from different cultural worldviews to create novel and practical ideas or solutions. With the increasing need of multicultural aptitude, creative ability in the cultural domain is an especially valuable skill to acquire. Our study provides support that study abroad programs provide students with the cultural experiences that support creative development in the cultural domain. A significant
benefit of studying abroad seems to be the facilitation creative problem-solving abilities in culturally diverse settings.

The current study also has broader implications for the benefits of cultural experience on individuals’ overall cognitive capacities. Studies of bicultural individuals show that the experience of immersing oneself in a foreign culture provides a cognitively complex challenge. Creativity includes many of the skills that are involved in cognitively complex tasks such as differentiation and integration of ideas (Benet-Martinez et al., 2006; Tadmor & Tetlock, 2006; Tadmor et al., 2009). Similar to cognitively complex cultural tasks, individuals who produce high-quality culturally relevant creative ideas engage in the attainment and synthesis of two or more cultural frames (Tadmor et al., 2009), and are able to more efficiently generate and explore relevant information during the creative process (Leung et al., 2008; Rietzschel et al., 2007). In the present study, we found evidence that these cognitively complex abilities are developed within the culture-specific domain in which individuals have gained knowledge and experience during their time abroad. However, implications for these findings can be applied to the creative process outside of the cultural domain. To achieve the skills required to effectively utilize information at a cognitively complex level in order to demonstrate creativity, individuals must undergo in-depth experiences within specific domains. This journey requires a profound and reflective immersion into a specific domain in order to notice and attempt to resolve all of the nuances, exceptions, and contradictory information that may be present. For example, in the present study, individuals who studied abroad were challenged to adapt their culturally familiar script in order to incorporate their new cultural experience that contained foreign beliefs, attitudes, and behaviors. A broad implication of the current study’s findings is that the achievement of a creative product in any domain is not possible without first developing a
certain degree of expertise in the area. This is not easily achieved, often involving personal challenges, struggles, and even resistance from within oneself or others. However, overcoming the initial cognitive difficulties has shown to result in valuable cognitive skills and abilities that lead to the production of quality creative ideas.

Finally, the current study has provided some insight in clarifying the construct of creativity. The nature of creativity has been debated for decades. One of these debates revolves around whether creativity is a domain-general or domain-specific construct. Many of the arguments have been theoretical in nature (Amabile, 1996; Gardner, 183, 1999; Sternberg & Lubart, 1995, 1996); however, recent research has begun to empirically examine the possible multidimensional nature of creativity, focusing on the culture-specific domain (Benet-Martinez et al., 2006; Tadmor & Tetlock, 2006; Tadmor et al., 2009). In line with previous findings, our study suggests that a domain of cultural creativity exists. The mounting evidence that creativity is in fact a domain-specific construct has implications for the assessment of creativity across all types of creativity tasks. Multiple measures of creativity need to exist, targeting specific domains of knowledge in order to accurately assess creativity. In addition, the findings from the current study imply that any individual has the potential to be creative; however, their creative ability will depend on the extent to which they are proficient with a specific domain and will be limited to that domain. Future research is needed to identify additional domains creativity in order to gain a deeper understanding of this construct.

Limitations and Directions for Future Research

Limitations in the current study include the selection of participants. All participants in the study were chosen from the University of Florida, including undergraduate and graduate students. Because of the highly educated participant sample, findings may not be generalizable to the rest of the population. Future research is needed to include individuals outside of the
college environment that have undergone cultural experience from living abroad so that our findings may be applicable to a broader population.

The current study also did not account for the variability in the study abroad experiences that individuals may have undergone. Factors such as the length of the study abroad program, the country in which they lived abroad, and whether or not they lived with a host family were not considered in the current study. Participants from the present study reported a wide range of study abroad experiences. Countries in which students studied abroad included Australia, Belgium, Germany, Hong Kong, Paris, Puerto Rico, India, Italy, Japan, London, Mexico, Spain, Thailand, Yucatan Peninsula and a Semester at Sea which included visits to Spain, Italy, Croatia, Greece, Turkey, Bosnia, Bulgaria, Egypt, and Morocco. The length of time spent studying abroad ranged between 3 weeks to 4 months. Research regarding study abroad programs suggest that depending on the cultural context, creativity can be encouraged or stifled across different domains of creativity (e.g. arts, politics, economics, and religion) (Oner, 2000; Paletz & Peng, 2008; Rudowicz, 2003; Weiner, 2000). In addition, cultures may vary in the degree to which divergent thinking versus conformity in thinking is encouraged or condemned (Miranda, 1999; Rudowicz, 2003). Future research is needed to more carefully examine the variability across study abroad experiences and the possible effects these variables may have on creativity. For example, a possible area for future research is to investigate if there is a linear pattern in the amount of cultural experience and creativity, or if there is a specific amount of time that the individual must spend abroad before creative benefits begin to emerge.

There is also a concern with the measure used for assessing cultural creativity. The measure used in the current study (CCT) was a broad assessment for determining whether or not an individual possessed cultural creativity. The CCT has not been established as a valid and
reliable culture-specific creativity test. Therefore, our findings do not provide conclusive answers on whether the CCT accurately measured cultural creativity or simply knowledge of different cultures. Future research is needed to develop a reliable measure of the cognitive processes that are involved in the creative process, specifically for tasks in the cultural domain. Measures of cultural creativity should reflect the individual’s breadth of knowledge about different cultures as well as their ability to effectively retrieve and synthesize the cultural knowledge to generate creative (novel and practical) ideas. Findings from the current studies as well as previous studies provide evidence that cultural experience enhance creative ability on tasks that are associated with the cultural domain; however, the measures for assessing this relationship range widely and are most often broad and subjective in nature. There exists no measure that explicitly targets cultural creativity, and future research is needed to develop a valid and reliable method of assessment in this area.
LIST OF REFERENCES


BIOGRAPHICAL SKETCH

Christine S. Lee is a doctoral student in the Department of Educational Psychology at the University of Florida. Her research interests include the cognitive processes involved in creative thinking as well as factors that influence creativity, and educational topics related to this field of study. She received her Bachelor of Arts in Psychology from the University of Florida in 2007.