The Impact of Collectivist Self-Identity, Collectivist Social-Identity on Creative Self-Identity and Creative Self-Efficacy from a Japanese Context: Implications on Creativity Education

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Abstract

A quick search in Google Scholar for documents containing both keywords “Japan” and “collectivism” revealed 28,100 results. This fact alone is enough to support the notion that collectivism is a commonly reoccurring descriptive in discussions about Japanese society. This is also enough to give serious consideration to the impact of collectivism when thinking about the development of educational programs that foster the development of creativity. More specifically it raises the question: if some people within Japan believe in the collectivist nature of themselves and their society how does that belief influence creative self-identity and creative self-efficacy? Since creativity and innovation require the ability to think divergently, understanding the impact of the alleged pressure towards conformity on creativity should be a top priority. Furthermore, understanding this relationship becomes important when considering methodologies and potential barriers to learning in the creativity classroom or workshop. With this in mind, a questionnaire was given to 50 Japanese participants of various ages and backgrounds. Using open-ended questions and a Likert scale, the questionnaire examines the collectivist self-identity, the collectivist social-identity, creative self-identity, and creative self-efficacy. Through narrative qualitative analysis of the open-ended questions and quantitative analysis of the scaled questions the relationships between the four categories were examined to see if any influenced the others. From this study we can see that the quantitative data and the qualitative data both showed the similar findings. Within the group the majority did not identify as having a collectivist self-identity, the results on collectivist social-identity were split down the middle, and a majority of the participants did identify with having a creative self-identity. It is also clear from both the qualitative and quantitative data that creative self-identity and creative self-efficacy are linked. It appears that if the person does not believe that he or she is a creative person then that same individual is very likely to believe they do not have the capacity to do creative things.
Declaration

I declare that “The Impact of Collectivist Self-Identity, Collectivist Social-Identity on Creative Self-Identity and Creative Self-Efficacy from a Japanese Context: Implications on Creativity Education” is my own work, that it has not been submitted for any degree or examination in any other university, and that all the sources I have used or quoted have been indicated and acknowledged by complete references.

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Introduction

I began this research with a hypothesis. My hypothesis was that collectivist self-identity hinders the creative self-identity and creative self-efficacy. This hypothesis was born from two decades of participating in and observing Japanese society, which I believe leans heavily towards collectivism. As a musician, poet, and photographer I have had the opportunity to work with many Japanese artists. During my interactions I observed that the people who did not see themselves as collectivist seemed to be the most creative while those who saw themselves as collectivist were mechanically adept but lacked creativity. As an educator I am also very interested in teaching creativity to my Japanese students. However, if my hypothesis is correct then teaching creativity to the collectivist minded might prove to be a challenge. Of course it is not enough to believe that something is true, it needs to be supported by evidence. This research sets out to uncover evidence that supports or refutes my hypothesis that collectivist self-identity hinders the creative self-identity.

A quick search in Google Scholar for documents containing both keywords “Japan” and “collectivism” revealed 28,100 results. This fact alone is enough to support the notion that collectivism is a commonly reoccurring descriptive in discussions about Japanese society. This is also enough to give serious consideration to the impact of collectivism when thinking about the development of educational programs that foster the development of creativity. More specifically it raises the question: if some people within Japan believe in the collectivist nature of themselves and their society how does that belief influence creative self-identity and creative self-efficacy? Since creativity and innovation require the ability to think divergently, understanding the impact of the alleged pressure towards conformity on creativity should be a top priority. Furthermore, understanding this relationship becomes important when considering methodologies and potential barriers to learning in the creativity classroom or workshop.

Over the 20 years I have been living in Japan I have personally observed that the notion of Japan as being a collectivist society is one that is widely held both within the country and without. This can be evidenced by the countless conversations I have had over lunch or in local pubs with Japanese people about how cultural and social
importance is placed on the preservation of social harmony. My conversations have revealed that many people, at least those that I have talked to, hold the well being of the group above all else. So much so that in many cases it influences the decision making process of many individuals.

As far as my experience has shown, many people tend to use what I call the *futsu* paradigm to make all decisions, from the simplest to the most difficult. *Futsu* in Japanese means “ordinary” and “just like everyone else”. The *futsu* paradigm refers to the model of what the group, as others, values as being the norm. When faced with a problem many of the Japanese people I have met during my two decades here will start the problem solving process by first asking, “what would others normally do?” I saw the *futsu* paradigm is a symbol of collectivistic ideals and the desire to maintain social harmony. If creativity is categorized by the ability to think divergently then what impact does the *futsu* paradigm have on the creative process?

Through this study I have set out to determine whether or not the belief in collectivism or individuality is enough to influence both creative self-identity and creative self-efficacy. Studies by scholars such as Noguchi (2007) and Zha et al (2006) have indicate that members of traditionally collectivist societies may have less creative ability than those from traditionally individualistic societies. Is it collectivism itself that impacts on creativity? Could the real impetus for more or less creativity be rooted in the way individuals think? Perhaps if a person sees himself as being collectivist then the tendency of that person to value their own creativity or their belief in their own ability to do creative things will be lower than it would be in a person who does not identify as conforming to a collectivistic society.

The proof or disproof of my hypothesis may have a significant implication for the field of creativity education. If I can show a link between collectivist self-identity, collectivist social-identity, creative self-identity, and creative self-efficacy then those relationships uncovered in this study will provide a useful foundation for developing tools for creative education in Japan as well as in multicultural environments. If this study fails to make the connections described above then the study still has value as it may indicate that focus should not be placed on the notions of collectivism and individualism when developing creative education curriculum in Japan.
Based on the research presented below by Frager (1970) and Noguchi (2007), it is clear that there is a precedent for the notion that Japan might be a collectivist society and that collectivism and individualism as social characteristics can influence creative ability. The job of determining whether or not Japan is a collectivist society is not the objective of this study. Nor is this paper attempting to establish a concise definition of creativity that is based on the cultural constructs mentioned below by Zha et al. Again, the purpose of this study is to determine the relationship between four key elements in the context of Japan. Those elements are 1. collectivist social-identity, 2. collectivist self-identity, 3. creative self-identity and 4. creative self-efficacy.

Collectivist social-identity refers to the degree in which individuals perceive the society in which they live to be collectivist. Collectivist self-identity refers to the degree in which individuals perceive themselves to be collectivist. Creative self-identity refers to the importance an individual places on creativity as part of their self. Creative self-efficacy refers to how much an individual believes in his or her own ability to do something creative. This research is not meant to be a definitive study. Instead it is meant to open up pathways to further research in this area.

As I will describe below, Zha et al (2006) show a possible connection between collectivism and creative ability, as measurable by a creative assessment test. Their findings, though not conclusive, have led me to question the underlining role of identity in the relationship between collectivism and creativity, a notion that has not been addressed by Zha et al. If I were to take their research as it is then I would have to come to the conclusion that Japan, being what Noguchi (2007) describes as a collectivist society, must have less creative aptitude than a country like America, which is seen as being typically individualistic. The problem with this type of conclusion is that it is overly simplistic and does not take into account other factors such as identity. It is possible that some Japanese people do not see themselves or their country as collectivist even though some studies indicate that it is. This begs the question, is belief or disbelief in oneself or society as collectivist enough to influence creativity?
Research Purpose

The purpose of this research is to determine what impact collectivist self-identity and collectivist social-identity have on creative-self-identity and creative self-efficacy in Japan. In pursuing these main concepts this research also hopes to discover other factors that may also impact upon Japanese creative self-identity and creative self-efficacy. Finally the underlining aim that drives this research is a desire to clarify the depth of collectivism’s impact on creative identity and motivation in order to better understand how it may also impact creativity education in Japan.

Questions

How does having a collectivist self-identity and/or a collectivist social-identity influence the level of creative self-identity and/or creative self-efficacy?

What other factors play a role in the formation of creative self-identity and strong creative self-efficacy?

What implications does the relationship between collectivism and creativity have on creativity education?

Outline

In this paper I will examine the research of Frager and Noguchi in order to establish a framework for the understanding of collectivism and its social implications. This is crucial since the objective of this research is to determine how collectivism impacts creativity. Next, I will look at the work of Zha et al. and explore the possible impact of collectivism on creativity. In the above two literature reviews I will attempt to show that there is a precedent for the consideration of collectivism’s impact on creativity. In all of these works the authors address the issue of collectivism and creativity but none of them mention the role of identity in this relationship. Since it is also my hypothesis that a collectivist identity has influence on creative identity, which in turn impacts creative self-efficacy, I will examine the work of Jaussi et al. in order
to explore creative self-identity and creative self-efficacy. In this section I will also describe the difference between the two concepts.

The above mentioned literature review is there to illustrate the context of this research. Once I have established the context and background of my hypothesis I will outline the research methodology and discuss why I chose it. I will also talk about the findings of my research, and their implications on proving my hypothesis. Finally I will demonstrate how the findings of this research play a key role in Japanese creativity education.

**Literature review**

**Collectivism**

Frager (1970) states that research on Japanese conformity is of value as a way of understanding Japanese social psychology. Based on this notion it is important for us to first explore collectivism before we can determine how it impacts creative behavior. Frager explains that when Japanese social behavior is discussed there is often an importance placed on social forces and the pressure towards conformity. Almost all talks about Japan also focus on the importance of group membership. Frager calls Japan a culture of shame in which social standards rather than personal values determine behavior (Frager 1970).

Perhaps one of the most insightful studies done on Japanese collectivism was by ken Noguchi (2007) from the department of psychology at the university of Mississippi. Noguchi sets out by first explaining that the terms individualism and collectivism, which he abbreviates as IND and COL respectively, have been used as a way to contrast Western cultures and Eastern cultures. Although these descriptors have been widely used in research their definitions are broadly constructed and vary widely between researchers. IND is characterized by zooming in on the boundary between self and others, freedom, and a concept of self that is independent of context. COL is characterized by heavy dependence on context in communication, shifts in behavior depending on the situation, sensitivity to hierarchy, internal constraints, and emphasis on harmony within the group. Noguchi described col as the tendency to give priority to the collective self over the private self, especially where there is a conflict between
the two. Self is interdependent in col and independent in IND. Personal and group goals are closely aligned in col and not in IND (Noguchi 2007).

Many researchers have mentioned collectivism and allocentrism as interchangeable concepts of interdependent self. Noguchi believes that this lacks empirical evidence and has led to confusion in cross-cultural research (Noguchi 2007). Noguchi mentions that Takano and Osaka called the idea that Japanese are more collectivistic and Americans more individualistic a common view but that this view was not supported by comparative data. According to Noguchi, Oyserman et al did conduct meta-analyses of IND/COL but there results were mixed. Their results showed that Americans were more individualistic than East Asians but in terms of col East Asians were slightly more collectivistic than Americans. In a national level study of comparisons, Americans were not less collectivistic than Japanese or Koreans despite the fact that these countries have frequently been indicated as indicative of collectivistic cultures (Noguchi 2007).

Some researchers attribute Oyserman’s inability to provide data that supports differences between American, Japanese and Korean levels of collectivism to methodological flaws. These flaws have been attributed to the reference group effect in which people tend to evaluate themselves by comparison with members of their reference group (Noguchi 2007). What this means is that under the assumption that Japanese are more collectivistic, individual Japanese may tend to think they are not as collectivistic when comparing themselves to other Japanese who are also collectivistic (Noguchi 2007).

When thinking about human relational issues, Noguchi states that Japanese are more sensitive to external information and what others think. Relations with others may influence behavior and attitudes. Therefore attitude measure should be included when trying to reveal the concept of others. If this concept can be revealed then devices like the Likert-type scale can be implemented to find cross-cultural differences in col (Noguchi 2007).

With these notions in mind Noguchi constructed items that assessed previously neglected aspects regarding the use of internal and external information. He did this
by narrowing down the human relations aspects by using one’s viewpoint of self and others in order to make it more compatible to IND/COL (Noguchi 2007). The test consisted of 250 participants from a university in the US south as part of another study (34% men and 66% women). In Japan, 197 undergraduate students who were enrolled in a university in Tokyo participated (55% men and 45% women). They completed the survey as a requirement of a class. The mean ages were 19.75 years in the USA and 20.63 years in Japan (Noguchi 2007). The results of the test showed that Americans scored higher on the factors focusing on one’s own self and on the factor helping others. However, Japanese scored higher on the factor concerning external focus on which cultural difference is theoretically supposed. Also Japanese were more likely than Americans to take others’ viewpoint into account, and the hypothesis that Japanese focus on external information was supported (Noguchi 2007).

Noguchi conducted a second study in which he introduced forced choice items. In this study undergraduate students who attended a university in the US south participated as a part of another study. 182 individuals (41% men and 59% women) completed the scale. In Japan, 219 undergraduate students (73% men and 27% women) who attended a university in Tokyo completed the scale as a requirement for class work. Mean ages were 19.93 years in the USA and 19.48 in Japan. What Noguchi found was that the results had not changed. In both tests Japanese scored higher on the dimension of others focus (Noguchi 2007). In total, Noguchi conducted 5 separate studies using 5 different methods. In each case the data indicated that Japanese were more likely than Americans to take other’s viewpoint into consideration (Noguchi 2007).

Noguchi’s study provides the foundation upon which this research intends to explore how collectivism impacts creative self-identity and creative self-efficacy. It shows that there is validity in assuming that collectivism might play a valuable role in creative outcomes. Regardless of the conclusiveness of his research, the most interesting idea that Noguchi presented is the notion that behavior can change based on what Noguchi calls the group effect (Noguchi 2007). Again the Noguchi’s notion of group effect states that individuals may change their behavior based on their own identity and relationship to the group.
The notion of the group effect is significant to this study because it is at the core of my hypothesis. Based on the works of Frager and Noguchi et al, which indicate that Japan is a collectivist society, we see that there is a precedent for assuming that within the Japanese social context collectivism is a key issue. Even if someone disproves that Japan, as a whole, is actually a collectivist society it matters not to this research. All this paper is concerned with is the belief in collectivism and the impacts of that belief on creativity.

Collectivism’s impact on creativity
In a paper by Zha et al entitled the impact of culture and individualism–collectivism on the creative potential and achievement of American and Chinese adults, the authors set out to determine how collectivism influences creative potential and achievement. First they define creativity as the ability to detect problems that others may not recognize; or the ability to generate original, exceptional, adaptive, or effective solutions to problems. Creativity has been recognized as a characteristic that can and should be nourished through education (Zha, et al. 2006).

Culture can in fact influence the frequency, definition, and assessment of creativity (Zha, et al. 2006). Zha et al cite Csikszentmihalyi who proposed that creativity is a phenomenon that is bound by culture and not only a mental process. So, this idea suggests that creativity is born from social systems, evolutions of ideas, and products of individuals or groups (Zha, et al. 2006). They also cite Simonton who said that prevailing economic, political, social, and cultural conditions have a significant effect on the person’s perception of what creativity is. They go on to cite Sternberg and Lubart’s elaboration on the affects of culture on creativity and how it can manifest in four ways: 1. How it’s defined; 2. Its process; 3. The impact of creativity in one domain on others; 4. The extent to which creativity is nurtured (Zha, et al. 2006).

According to Zha et al, creativity is crucial to education. They cite Starko who noted the importance of nurturing creativity in schools by saying that the process of creativity parallels that of learning. Starko argued the students who use content in creative ways learn it well. They also learn strategies for better identifying problems, making choices, and finding solutions both in school and beyond (Zha, et al. 2006).
Individualism and collectivism, two dimensions that are commonly used to compare cultures, may also influence the incidence of creativity within a society. Cross-cultural psychologists have judged these two criteria to be two of the most concise, coherent, integrated, and empirically testable aspects of cultural variation (Zha, et al. 2006). Zha et al mention how Feist concluded that creative individuals were generally more receptive to new experiences, autonomous, doubtful of social norms, self-confident, self-accepting, motivated to succeed, dominant, hostile, and impulsive. Zha et al say that Cropley echoes this by suggesting that creative children were more impulsive, nonconforming, disorganized, adventurous, and imaginative (Zha, et al. 2006).

Zha et al also point to research that was done by Markus and Kitayama’s in 1991 on individualistic and collectivistic differences. This research showed similar findings to the research done by Noguchi in 2007. Just like Noguchi, Markus and Kitayama found that citizens of the east, including Chinese, Indians, or Japanese, tended to hold an interdependent perspective of the self in which meaning depends more on interpersonal relationships (Zha, et al. 2006). This relates to creativity because, according to Zha et al, the cultural dimensions of individualism and collectivism impact education, which means they also impact every aspect of society. Zha et al state that Cheng proposed the main goal of western education is to develop individualistic potential. The goal of eastern education is to mold individuals to be responsible, obedient, qualified members of a larger society (Zha, et al. 2006).

Gardner (1989) identified five values that permeate Chinese society and its educational system: (a) life should unfold like a play with carefully delineated roles; (b) art should be beautiful and should lead to good behavior; (c) control is essential and must emanate from the top; (d) education should take place by continual, careful shaping; and (e) mastery of basic skills is fundamental. Gardner warned, however, that such a society and its educational system may stifle creative potential because they do not allow enough opportunities for students to pursue individual interests or initiatives (Zha, et al. 2006, 357).

Zha et al do acknowledge that there is still insufficient cross-cultural research on
creative potential and culture. Therefore, not much is known if cultural differences in creative potential persist into adulthood. For instance, differences may become more pronounced at higher levels of education due to the extended time during which acculturation has taken place (Zha, et al. 2006).

Zha et al set out in their study to determine the impact of culture both on creativity and academic achievement. Their expectation was that graduate students who received their education in places that are seen as being individualistic would score higher in creativity than graduate students who were educated in the collectivist east. They surmised that since eastern education focuses more on the mastery of basic skills, then adults who were trained in this system would have a greater difficulty with divergent thinking but would have greater achievement (Zha, et al. 2006).

Zha et al tested creative ability using the creative assessment packet, which was developed by Williams in the 1980s. As expected by Zha et al, American graduate students displayed greater creativity potential than Chinese graduate students. American graduate students had higher observed scores on all divergent thinking measures except flexibility. Zha et al further state that educational systems, parental and societal expectations, and other sociocultural forces are known to affect the frequency and quality of creative ideas that a society generates (Zha, et al. 2006).

What is interesting to note is that Zha et al also tested their hypothesis within the cultural group. Despite finding that American’s showed higher creative potential, no correlation could be shown between individualistic or collectivistic members of the same cultural group (Zha, et al. 2006).

H4. It was expected that within each culture of this sample greater creative potential would be associated with more individualism.

Hypothesis 4 tested whether individualism–collectivism was associated within cultural differences with creative potential. Specifically, it was expected within each that citizens who were more individualistic would be more creative as well…. The overall pattern of data failed to support Hypothesis 4 (Zha, et al. 2006, 364).
Creative Self-Identity Vs. Creative Self-Efficacy

Since this research is concerned with how much importance the individual places on creativity as part of their constructed identity and one’s belief in his or her own creative ability it is not crucial that I define creativity here. However as point of reference let me cite Zha et al. who described creativity in the following way:

Intellectual creativity is the ability to view what is ordinary in a novel or atypical way; the ability to detect problems that others may not recognize; or the ability to generate original, exceptional, adaptive, or effective solutions to problems. It has also been described as the interpersonal and intrapersonal process by which unique, superior, and genuinely valuable products are developed (Zha, et al. 2006).

With this notion of creativity as a reference point I am looking to discover the relationship between creativity and identity. Identity theorists have shown that identity is a product that has been either derived from a comparison to another group (Hogg, Teny and White 1995) or a self focused construction that comes from the level of importance the individual places on some aspect of self-definition (Jaussi, Randel and Dionne 2007). Personal identity places priority on self-concept. It is created within the individual through the consideration of the individual’s unique background, and experience. It is not social-identity, which is identity constructed relative to a group. Personal identity is built up over time (Jaussi, Randel and Dionne 2007).

Creative personal identity is made up of the overall importance the individual places on creativity in general as part of his or her self-definition. This comes from the individual’s past experiences and formative opportunities to participate in creativity. When compared to one’s role identity, which is based on the relationships and expectations of others and can fluctuate depending on the social environment, personal identity tends to remain more constant even when the social environment changes (Jaussi, Randel and Dionne 2007).

Research has shown that behavior is influenced by identity. Jaussi et al made a reference to Shamir who suggested that the reaffirmation of identity is a key
motivating force for action. Jaussi et al also point out that creative research has shown that creativity is largely dependent on the intrinsic motivation to be creative. According to Jaussi et al self-motivation is second only to personality traits as an important factor that influences creativity. Creative motivation is necessary for innovation (Jaussi, Randel and Dionne 2007). Individuals who see creativity as an important part of who they are (i.e., have a strong creative personal identity) are more likely to engage in creativity to reaffirm this important identity (Jaussi, Randel and Dionne 2007).

Self-efficacy is defined as a person’s belief in his or her capabilities to produce the necessary levels of performance needed to carry out a task. Self-efficacy plays a central role in the self-regulation of motivation through goal challenges and outcome expectations. Previous studies have shown that self-efficacy has an influential effect on human behavior and competence in various domains, such as work-related performance psychosocial functioning in children and adolescents, academic achievement and persistence, health, and athletic performance (Wu 2009).

Tierney et al refer to bandura who stated that strong self-efficacy is a necessary condition for creative productivity and the discovery of "new knowledge." because self-efficacy impacts the motivation and ability as well as the desire to pursuit certain tasks the concept of self-efficacy is crucial to understanding creative action. Tierney et al cite Ford who pointed to self-efficacy beliefs as a key motivational component in his model of individual creative action (Tierney and Farmer 2002).

Creative self-identity plays a role in determining the importance of creativity in one’s overall concept of self; creative self-efficacy, however, captures how the individual feels about whether or not he or she can be creative. Although Tierney and farmer defined creative self-efficacy as a capacity judgment, it is important to consider creative self-identity in order to gain a wider understanding of how creativity is being influenced.

Jaussi et al. (2007) point out that a somewhat creative person in his or her job may be confident in his or her ability to deliver a creative presentation but he or she may not do so all the time. Even if this person is constantly making creative presentations,
creativity may not be shown in everything he or she does at work. Therefore, creative self-efficacy does not imply continually tapping into one’s creativity. In fact, the connection between creative self-efficacy and creativity at work, although positive and strong, may still have unexplained variance.

A creative self-identity may explain some of that variance since it propels an individual to behave in ways that reinforce the creative aspect of his or her self-definition on a consistent and wide ranging basis because it has been developed over time, and is the individual’s core sense of self. Also, a person with a strong creative personal identity will display creativity in many areas of daily life (e.g., when talking to colleagues in the hallways). That consistency and widespread application will bring about repeated displays of creativity at work. Therefore, creative self-identity will be positively related to creativity at work, and will explain variance in creativity at work above and beyond creative self-efficacy (Jaussi, Randel and Dionne 2007).

From various studies cited above we can see that the relationship between collectivism and creativity may be more complex than Noguchi cited in his research. Rather than collectivism or individuality alone it may be possible, based on the research of Jaussi et al, it is one’s identity that influences one’s creative ability. If that is the case, then it becomes even more important to study the relationship between collectivist self-identity, collectivist social-identity, creative self-identity, and creative self-efficacy in order to better understand how to develop creativity curricula in Japanese schools and workshops.

Until now, researchers such as Noguchi and Zha et al have focused on the concept of collectivism as a blanket term to describe a society. Since every society, be it a country or a classroom, is made up of individuals and since I have observed that no two individuals are identical I believe that there must be variance in social behavior. When I ask myself what the source of variance might be the logical conclusion I am left with is identity.
Methodology

Mixed methodology
A mixed methodology of qualitative and quantitative analysis was used. I chose to focus the bulk of the study on the qualitative findings since I believe they offer the best way to understand human behavior and motivation. The quantitative analysis was provided as a means of corroborating the quantitative findings. Since qualitative analysis involves interpretation, which is subjective by nature, I felt it was important to confirm my interpretations by comparing the qualitative findings with the quantitative findings.

Qualitative analysis
I used a type of narrative analysis to process the qualitative data. Bryman defines narrative analysis as the approach to bringing out data that is sensitive to the temporal sequence that people convey, as they tell the story of their lives or some event. The attention isn’t on what happened per se but how the storyteller makes sense of what happened (Bryman 2008). As Taylor-Powell and Ellen point out, narrative data comes in many forms. Of the several that can be considered, they list open-ended questions and written comments on questionnaires (Taylor-Powell and Renner 2003).

Although narrative text has a temporal element consisting of order duration and frequency (Franzosi 1998) I believe non-linear descriptions and explanations can also tell us a great deal about who the respondent is and what motivates him or her. This fundamental element of the story is of great value to this study since it will shed light on the role of identity in the interplay between collectivism and creativity. So, although many of the answers in the questionnaire are brief, some even one word, they do tell a story.

In order to understand what the story was trying to convey I read the data several times then grouped the responses into categories in order to identify patterns. Since each response was short I tagged the whole response or broke the response into smaller groups if the answer was complex. Here again is a sample response from above. This response was given to the question do you believe you are a group oriented person?
“If you mean to be in a group just to be in a group that is not who I am. I change jobs many times I change schools many times I enjoy being by myself but it doesn't mean I hate people.”

Several tags were assigned to this question they include:

- No (denying collectivist self-identity)
- Strong no
- Positive attitude
- Negative attitude

“That’s not who I am” and “I enjoy being by myself” were tagged as “no (denying collectivist self-identity) and “strong no” because the respondent clearly denies being group oriented. “I enjoy being by myself” was tagged as “positive attitude” because the respondent associates positive qualities to being alone. “It doesn't mean I hate people” was tagged as “negative attitude” because that answer indicates that the respondent believes that the author of the questionnaire or others will interpret the fact that he or she likes to be alone to mean a hatred of people, which is a negative association.

Once each of the responses were tagged in this way, I went back to look at the big picture in order to analyze the narrative being told so that I could interpret meaning from the data. In the case of the example above, my interpretation was that the respondent did not believe him or herself to be group oriented because the respondent believed that being group oriented means sticking to one group. There is some defensiveness in the answer as well; “I enjoy being by myself but it doesn't mean I hate people”. This expands the story and tells me that the respondent may have felt some negative feedback from people for not sticking to one group.

By looking at the entire response as a whole I now have a more complete story, which can be compared to the other answers in order to paint a better picture of how this person’s collectivist self-identity and collectivist social-identity effect creativity. This is the approach I used to analyze all of the open-ended responses.
Quantitative analysis
For the Likert scale questions I used a Pearson’s correlation test to measure the strength of association between the four groups. The results were then plotted on a scatter plot chart in order to visually show the results. I chose a scatter plot chart because it is easy to understand. I also included bar charts of the answers for each group of questions. I chose a bar chart because it is also easy to understand.

Data collection
Data from a total of 50 Japanese participants aged 19 to 71 was collected via an online survey, which was hosted by a data collection service called survey monkey. The survey was conducted over a one-month period between June and July 2012. Participants were recruited by Japanese acquaintances, who distributed the survey’s URL to their Japanese associates. In one case, 8 of the 50 participants filled in the survey by hand and the data was manually added to the digital body of information. This was done at the request of a friend who felt it would be easier to get responses that way.

This method of data collection is often referred to as the snowball technique or snowball sampling. Bryman suggests that the problem with this approach is that the sample collected in this way is seldom representative of the population (Bryman 2008). While this may be true in some cases I believed that this issue was less problematic since the population being tested was no more clearly defined than that they be Japanese people. For the sake of this study I thought it was enough that all of the participants came from varied backgrounds, demographics, and were natural born Japanese. Although Bryman believes that the snowball technique leads to inaccurate sampling Lopes et al have found that it is useful for minimizing selection bias.

The snowball technique seemed to be particularly useful because it allowed us to combat the problem of selection bias by matching because study participants were automatically matched on friendship. Matching has been used to minimize selection bias in studies in which the population base has not been precisely defined or because there is no accurate way of sampling it.13 In these situations, matching on friendship or neighborhood, which represent a number of un-definable sociodemographic factors that are impossible to
quantify, increases comparability and thus, decreases the likelihood of selection bias. (Lopes, Rodrigues and Sichieri 2008, 1268)

All recruiters were instructed to not reveal the source of the survey in order to conceal from the participants the fact that author was not Japanese. My acquaintances were also told that they were not allowed to fill in the survey themselves. The reason for hiding the source of the survey was to minimize the possibility that participants would answer the questions based on expectations instead of their own natural opinions. I wanted to avoid what Noguchi called the group effect (Noguchi 2007).

As described earlier in this paper, the group effect is the phenomena where individuals alter their behavior based on their perception of expectation and their identity with the group. Although I believe total avoidance of the group effect is impossible given my belief that humans tend to define themselves and their actions based on others, I do believe that by hiding the fact that the author of the survey was not Japanese I could minimize this kind of bias.

There were eight recruiters in total ranging from age 21 to 50. Three of them were male. The backgrounds of the recruiters varied from physician, physical therapist, professor, student, office worker, and freelancer. Since the age and occupations of the recruiters varied it was my belief that my method of recruitment would also allow me to gather a wider variety of participants from various backgrounds. In this way I hoped to minimize selection bias. If, for example, I had gathered the participants myself then they would have all been friends or students and would have likely been similar in age, background, and general outlook. If I collected strangers on the street they may have been grouped by geographic location.

Regarding the randomness of the group, since this study is concerned with the general correlation between collectivist identity and creativity I felt it was not necessary to test a specific demographic. If I were to test a specific demographic then I believed I would only be able to draw a conclusion for that specific group instead of a more general conclusion. Furthermore, over my 20 years of experience and observation as an adult education professional in Japan, the classroom is often varied with students from many social classes, age groups, and professional backgrounds. For the purpose
of this study I felt it was important to gain a generalized view, one that is more reflective of what the classroom might look like.

Finally, it is my hope that this study be used in future studies that explore, in more detail, the relationship between collectivist identity and creativity. For these reasons, I used the recruitment method described above.

Another approach would have been to gather data through interviews in order to do a deeper qualitative analysis. I decided not to follow that path. Given constraints with time and manpower the research needed to be done in a way that was manageable by a couple of volunteers and me. Also given the limitation of my Japanese ability, interviews were not an option as they would have been impossible for me to transcribe accurately. Even if transcription were possible, the amount of hours needed to do so and then translate the results into English so that I could analyze them made interviewing impractical. For these reasons I chose to use a survey for data gathering. I used an online survey in order to make it easier for recruiters to collect participants. An online survey also made it easier to keep track of and analyze data since all data is digital.

**Questionnaire**

The questionnaire has been included in the annex section of this paper.

As mentioned above, I discovered through my literature review that while there is wide spread research done on the relationship between creativity and collectivism, there does not seem to be any data on the role of identity in this relationship. In order to discover this role I built a questionnaire that asked questions based on four groups:

1) Collectivist Self-Identity
2) Collectivist Social-Identity
3) Creative Self-Identity
4) Creative Self-Efficacy

The questionnaire consisted of nine open-ended questions and 16 closed questions. Five of the open-ended questions corresponded to the four groups listed above.
Creative self-identity was assigned two questions so that I could explore creative self-identity from two angles; a) Whether or not the participant thought of him or herself as a creative person and b) how much importance the participant placed on creativity. Four additional open-ended questions were added in order to expand the depth of analysis. With regard to the closed questions, four questions each were asked per category. The closed questions were based on a five point Likert scale with a score of 5 indicating a strong identity in the corresponding category.

I chose a Likert scale for the closed questions because I wanted to know if strong belief or weak believe in one group would result in a similar finding in another group. The Likert scale is a straight forward, easy to understand scale for measuring degrees of belief.

An interpretive qualitative analysis was done on the open-ended questions in order to find patterns within the answers. Also a quantitative analysis was done of the qualitative groupings. Quantitative analysis was done on the Likert scale results, which serve to highlight and corroborate the findings of the open-ended results. The survey questions that were related to collectivist self-identity and collectivist social-identity were based on a scale that was developed by Noguchi (2007). The questions related to creative self-identity and creative self-efficacy were based on a scale that was developed by Karwowski (2010).

The questions were grouped according to whether they corresponded to collectivist self-identity, collectivist social-identity, creative self-identity, and creative self-efficacy. The nature of the grouping was not revealed to the participants. The full purpose of the survey was also hidden in order to minimize influencing the answers given by the respondents. Although this has some ethical implications as I mentioned above, I felt it was necessary in order to minimize bias. For example, it is possible that some may have taken a defensive stance if they perceived the study to be a way for foreigners to label Japanese society. For this reason the recruiters only told the respondents that the survey was for a friend’s thesis paper. They were instructed not to reveal my identity.

The respondents were all anonymous. No names, addresses, or phone numbers were
collected. The only personal data that was collected was age, gender, educational background, and length of time in a foreign country. This personal data was included in the questionnaire for possible analysis if needed. However, none of the personal data collected was used in this study.

Research ethics

Ethical considerations for this research were based on Polonsky and Waller’s guidelines for ethical issues in research, which are 1. Voluntary Participation, 2. Informed Consent, 3. Confidentiality and Anonymity, 4. The Potential for Harm, 5. Communicating the Results, 6. Research Specific Ethical Issues (2011).

All participation in this study was voluntary. No one was tricked or coerced into participating. The participants were only partially informed about the nature of the research. They were told that the survey was for a graduation thesis on the relationship between collectivism and creativity. They were not told who initiated the study nor where they given an in depth explanation of the research questions. All participation was done anonymously. None of the data collected was shared with anyone except research staff and the faculty of Linköping University. To the best of my knowledge there is absolutely no potential for harm to anyone who participated as a result of this research. The results of the research have been made available to the participants through the research assistants who recruited them. With regard to ethical issues that are directly relevant to this research one breech of ethics may have occurred by keeping the identity of the researcher and the full nature of the research questions. These steps were necessary in order to avoid bias in the answers of the participants. By disclosing my name to the participants two major factors could have potential cause extreme bias in participant response. The first is nationality. Because I am not Japanese the participants may have answered out of defensiveness rather than reflecting on their true feelings. The second is that I have spent the last six years as a performing artist with Japan’s most well known pop band, Dreams Come True. I ordered the research assistants not to mention my name or my affiliation with the band. By disclosing my name I risked the participants making a connection to the band and possibly giving responses that were unnatural. While these actions may go against Polonsky and Wallers (2011) guidelines for ethics in scholarly research, they
were necessary in reducing potential bias from the respondents.

**Findings**

In the quantitative portion of this research the responses were given a score of 5 to 1. A score of 5 signifies the respondent strongly identifies with the group category while a score of 1 indicates that they do not identify with the group category. Because of the nature of the questions those listed below that are marked with an asterisk are questions whose results were given a reverse weight so that they corresponded with how strongly or weakly the participant identified with the category in question.

Quantitative data was collected in order to corroborate the qualitative findings. The numbers, both on the quantitative and qualitative side, show that there is a negative correlation between collectivist self-identity and creative self-identity. The same was shown in the correlation between collectivist self-identity and creative self-efficacy (see figure 6 and figure 7 of the appendix). This indicates that a stronger collectivist self-identity correlated to a weaker creative self-identity and weaker creative self-efficacy. When it came to collectivist social-identity, however, no correlation to any of the other groups could be found in either the quantitative or qualitative data.

It is important to note that in the interest of seeing how the respondents answered across all groups all of the participant’s quotes will be marked as follows:

(+CSI) Collectivist Self-Identity | Positive Association
Do you think of yourself as a group oriented person?

(-CSI) Non-Collectivist Self-Identity | Negative Association
Do you think of yourself as a group oriented person?

(+CSoI) Collectivist Social-Identity | Positive Association
Do you think it is difficult to be different from everyone else in Japan?

(-CSoI) Non-Collectivist Social-Identity | Negative Association
Do you think it is difficult to be different from everyone else in Japan?

(+CrSI₁) Creative Self-Identity | Positive Association
I think I am a creative person.

(-CrSI₁) Non-Creative Self-Identity | Negative Association
I think I am a creative person.

(+CrSI₂) Creative Self-Identity | Positive Association
Do you wish you were more creative?

(-CrSI₂) Non-Creative Self-Identity | Negative Association
Do you wish you were more creative?

(+CrSE) Creative Self-Efficacy | Positive Association
I think I have a lot of creative ability.

(-CrSE) Non-Creative Self-Efficacy | Negative Association
I think I have a lot of creative ability.

Group 1 - Collectivist Self-Identity

Quantitative Results

Questions
• I think about what others would do before making a big decision.

• I always speak my mind even if it goes against the other people's opinions.*

• I enjoy being unique and different from others.*

• When shopping for music and clothes I always choose items that are “all the rage”.

Numerical Results
See Appendix Figure 1 and Figure 2 for a chart of the results
For a chart of the Pearson correlation test results see figure 6.

The average score was 2.39. This indicates that a majority of the respondents did not have a strong collectivist identity with 5 being the strongest and 1 being the weakest. Standard deviation of .676 means that there was only a slight polarization of individual answers within the group.

**Qualitative Results**

**Question**

“Do you think of yourself as a group oriented person? Why or why not”.

**Results**

70% Negative Association
30% Positive Association

An overwhelming 70% of the respondents said no when asked if they thought of themselves as being group oriented. The results from the quantitative analysis corroborate these findings.

Some of the reasons sighted by the participants for not being collectivist were the inability to find ways to fit in, feelings of resistance towards the group, and preference for freedom. What is interesting to note is that negative feelings often emerged when the participants wrote about being separate from the group.

“If you mean being in a group just to be in a group, that is not who I am. I change jobs many times, I change schools many times, I enjoy being by myself but it doesn't mean I hate people.” (-CSI, +CSol, -CrSI1, -CrSI2 +CrSE)

This respondent defended the position of not being in a group as if that decision was considered by others to be antisocial. This suggests that, for this respondent, there are social pressures for belonging in a group. By directly stating that being in a group
just to be in a group is “not who I am”, the respondent seems to reject social pressure by choosing to remain an outsider.

In other responses where people identified with not being group-oriented words like resistance, loss of self, and rejection were used. One respondent wrote,

“I am weak, being alone is easier.” (-CSI, -CSoI, +CrSI₁, -CrSI₂, -CrSE)

Again this response indicates a negative association with separation from the group. In this case the respondent seems to surrender to his or her individuality only because he or she believes he or she is not strong enough to do otherwise. Another interpretation of this answer could be that being a group oriented person requires lots of work and strength, which is why the respondent believes it is better to be alone.

Of the respondents who identified themselves as not being group oriented, only 60% gave a reason. In almost all cases there was some sort of negative attachment to their position. This includes a fear of loosing self, experience with being ostracized, and the group being bothersome.

I should note here that there were a few respondents who mentioned that they were “not especially” group oriented. Use of the phrase “not especially” connotes the idea that the respondents do not think that they are any more group oriented than most people. I interpreted these answers to mean that the respondents did not have a strong collectivist self-identity since they did not see themselves as being especially collectivist.

Now, let us take a look at the opposite side of the collectivist identity spectrum. Although we had a negative association attached to not being group oriented by the participants who did not have a strong collectivist identity the reverse was true of those who strongly identified with being collectivist. Their reasons were security, support, acceptance, pride, human nature, and having more fun in a group. For example, one respondent wrote:
“When I am in the group I feel extremely safe. If I imagine myself without a group I begin to feel uncertainty.” (+CSI, +CSoI, -CrSI1, +CrSI2, -CrSE)

This answer was striking not only because it highlights the overall attitudes of the participants who identified as being strongly collectivistic but it also echoes the negative images seen in the group who did not identify with being collectivistic. Just like them, this respondent described separation from the group in negative aspects. Belonging to the group means acceptance while not belonging to a group equals uncertainty.

**Group 2 - Collectivist Social-Identity**

**Quantitative Results**

**Questions**

- I think people in Japan expect everyone to follow social expectation.
- Everyone I know thinks it’s ok to go against the norm sometimes.
- I think people in Japan are good at saying no.
- I think Japan is a group society.

**Numerical Results**

See Appendix Figure 1 and Figure 3 for a chart of the results.

For a chart of the Pearson correlation test results see figure 6.

The average score was 3.56. This indicates that the group showed only a slightly strong positive identification with collectivist social-identity with a score of 3 being neutral.

Standard deviation of .515 indicates there was not such a large deviation in answers among the participants.
Qualitative Results

Question
Do you think it is difficult to be different from everyone else in Japan? Why or why not?

Results
55% Positive Association
43% Negative Association.
2% answered that it depends

In order to discover the connection between collectivist self-identity and collectivist social-identity I asked the participants whether or not they thought it was difficult to be different in Japan. Overall, 55% of all the people answered yes to the question. The quantitative data showed similar findings. This was in spite of the fact that 70% of the respondents replied that they were not group oriented. Of those, only 43% said it was not difficult to be different in Japan. We can also see a split right down the middle of the non-collectivist identifiers with 50% stating that it was difficult being different in Japan. When looking at the results from those who showed a strong collectivist identity we see that only 64% believed that it was difficult being different in Japan.

Some of the responses given for believing in the difficulty of being different were: the need for social balance, social preference for modesty, desire to avoid conflict, the desire to be mainstream, being looked at strangely by others, education programming and social rejection. The respondents who did not think it was difficult being different in Japan gave the following reasons: self-confidence, self-reliance, and depends on the person. What is interesting to note is that while the first group gave a large variety of reasons for it being difficult to be different, the second group’s responses could be categorized into only a few.

Some of the answers given by the respondents who found it difficult to be different in Japan were as follows.
“I think so. In order to show one’s individuality it is important to think about the balance between self and one’s surroundings. We have to make adjustments.” (-CSI, +CSol, +CrSI₁, +CrSI₂, +CrSE)

“It’s difficult I think. I am concerned about what other’s think. As much as possible I want to avoid conflict. Because of that aspect of my personality it’s difficult.” (+CSI, +CSol, - CrSI₁, +CrSI₂, -CrSE)

“I think so. I don’t have the courage to say with pride that I am different from everyone else.” (+CSI, +CSol, - CrSI₁, +CrSI₂, -CrSE)

“If I am not the same as others I feel isolated. If I don’t bend my thoughts or change them or if I insist on my opinion then I could be seen as having a strong ego and I wouldn’t get along well with others. There are not so many people in Japan who want to be isolated I think. So in Japan it is difficult I think.” (+CSI, +CSol, - CrSI₁, +CrSI₂, -CrSE)

“I think it is difficult. There is a saying that the nail that sticks up gets hammered down and if everyone crosses together then it’s not scary. We are a people who strongly believe in these ideas and that’s why it’s difficult.” (-CSI, +CSol, - CrSI₁, +CrSI₂, +CrSE)

“It's difficult. Gender age social status there are social models for each that determine who you should be. People hate to be outside of that model. Family friends acquaintances are always checking to see whether or not you are outside the model.” (-CSI, +CSol, +CrSI₁, -CrSI₂, -CrSE)

Again in many of the answers above we can see a negative connotation being associated with separation from the group. Those include self-sacrifice, conflict, extra effort, isolation, being looked down upon, and forced conformity. This is despite having a strong or weak collectivist self-identity. Of course, not all of the respondents found social pressure for collectivism within Japanese society. Some of the responses given by them were as follows:
“I don’t think so. It depends on how you feel.” (-CSI, -CSoI, +CrSI₁, +CrSI₂, -CrSE)

“I don’t really think so. I gauge my self by paying attention to others around me I think.” (-CSI, -CSoI, -CrSI₁, -CrSI₂, -CrSE)

“I don’t think so at all, not even a little bit. If you just live your life normally then it’s enough to make you different from everyone else. No matter how much you try it’s not possible to think exactly like everyone else.” (-CSI, -CSoI, +CrSI₁, +CrSI₂, +CrSE)

“No because it depends on the person.” (+CSI, -CSoI, +CrSI₁, +CrSI₂, +CrSE)

“No I am a person who explicitly says my own opinion” (-CSI, -CSoI, -CrSI₁, -CrSI₂, -CrSE)

Of the total number of people who stated a reason why they thought it was not difficult to be different in Japan only five gave reasons that were not indicative of social pressure. Those reasons included knowing musicians and artists who are happy, self-confidence, job, and Japan is just like any other country. What’s interesting to note is that of those five only one person identified as not being a collectivist person.

When we take a look at the quantitative data we can see similar findings to the qualitative analysis. With regard to collectivist social-identity, the vast majority of the respondents scored 3 or higher. This indicates that for the most part the group showed a strong belief in Japan as a collectivist society. A look at the scatter plot matrix (figure 7) shows a correspondence between each of the groups. Here we can see a straight line going through every figure that shows a correlation between group two, which is collectivist social-identity, and the other groups. This straight line indicates that having a collectivist identity does not influence how one sees the collectivist nature of the society in which they live.
Group 3 – Creative Self-Identity

Quantitative Results

Questions
• I think differently than everyone else.
• I trust my own creative ability.
• It is important for me to be a creative person.
• Creativity is important part of myself.

Numerical Results
See Appendix Figure 1 and Figure 4 for a chart of the results
For a chart of the Pearson correlation test results see figure 6.

The average score was 3.23. This indicates that, as a group, there was only a slight identification with creative self-identity.

Standard deviation of .916 indicates that there was strong polarization of the participants with some having a strong negative association and others having a very strong positive association.

Qualitative Results

Question 1
• I think I am a creative person. Why or why not?

Results
53% Negative Association
40% Positive Association
7% were not sure

Question 2
Do you wish you were more creative? Why or Why not?

**Results**

69% Positive Association

29% Negative Association

2% were not sure.

In order to better understand how the participants were defining creativity they were asked: “What does creativity mean to you?” The results can be seen in the chart below.

![Definition of Creativity](image)

**Figure 8. Definition of Creativity**

As the chart indicates, the four main definitions given for creativity were the ability to develop the unknown, the ability to imagine, freedom of expression, and natural ability or talent.

To measure creative self-identity the participants were asked to respond to the following question:
“I think I am a creative person. Why or why not.”

53% did not think they were creative, 40% did think of themselves as being creative, and 7% were not sure.

When I correlated the answers from the creativity definition chart (figure 8.) with the number of people who believed they were not creative I found that 56% of the respondents who said they were not creative were actually saying they didn’t possess the ability to develop new ideas while 14% of those respondents were referring to not possessing enough imagination.

On the opposite side of the spectrum, the responses given by people who did believe themselves to be creative were as follows:

“I think so. The things I think about usually surprises everyone around me.” (-CSI, +CSol, +CrSI1, +CrSI2, +CrSE)

“I think so because I am the person who always suggests something within my group of friends” (+CSI, +CSol, +CrSI1, -CrSI2, -CrSE)

“Yes, there are no other people who think like me. Everyone's different.” (+CSI, -CSol, +CrSI1, +CrSI2, +CrSE)

“Relatively speaking yes. Emotion comes before logic. Sometimes I have many ideas. I hate following existing patterns.” (-CSI, -CSol, +CrSI1, +CrSI2, +CrSE)

In all of the above cases the respondents equated creativity with uniqueness. What is also interesting is that the collectivist identity of the respondents did not matter.

As creative self-identity is measured by how much value one places on creativity as part of his or her personal identity (Tierney and Farmer 2002), a question that relates to creative self-identity, was included in the questionnaire. That question was:
Do you wish you were more creative?

The responses here were closer to the numbers shown in the collectivist self-identity findings. 69% said yes they would like to be more creative, 29% said no, and 2% responded that they were not sure. By taking the average of this percentage and the percentage of those who thought of themselves as creative the results show that 54% of the respondents identified as having a strong creative self-identity, 41% showing a weak creative self-identity and an average of 5% of the respondents being unsure. Although the correlation is slightly weaker in the qualitative findings, the data does support my hypothesis that a strong collectivist self-identity correlates to a weaker creative self-identity. This finding was also corroborated by a Pearson’s Correlation test of the quantitative results (see figure 6 and figure 7).

With regard to wanting more creativity, the data showed that many of the respondents equated creativity with having a better life. This can be seen in the following examples:

“Yes, if it is in relation to daily life and at work everything will be more efficient and my point of view will become wider.” (+CSI, +CSoI, -CrSI1, +CrSI2, -CrSE)

“I think so. If I had an abundance of ideas and more realistic ideas that could be useful in the real world it would be great.” (-CSI, +CSoI, +CrSI1, +CrSI2, +CrSE)

“I think so. I am so ordinary it’s boring. It would be nice to see things differently from everyone else.” (-CSI, +CSoI, -CrSI1, +CrSI2, -CrSE)

“If I could I want to be more creative I think. If I were, things would be a lot easier than they are now.” (+CSI, +CSoI, -CrSI1, +CrSI2, -CrSE)

“I want to be a little more creative. It's because I will be able to enjoy life better.” (+CSI, +CSoI, -CrSI1, +CrSI2, -CrSE)

“Yes. In order to better help people have fun I would like to be more creative.” (-CSI, -CSoI, +CrSI1, +CrSI2, +CrSE)
Creativity for these individuals is important because it is seen as a force for self-improvement either by allowing for more efficiency, usefulness in the real world, excitement, an easier life, or having more fun. All of the above respondents indicated that they value creativity and would like to have more of it. Of particular interest is that everyone that identified as having a strong collectivist self-identity, except three, stated that they wanted to be more creative. The three who did not wish to have more creativity stated the following:

“Right now, I don't think so.” (-CSI, -CSol, -CrSI₁, -CrSI₂, -CrSE)

“I don't need it. I don't want to stand out too much” (+CSI, +CrSI₁, +CrSI₂, +CrSI, +CrSE)

“I don't think so. Such a person doesn't exist” (-CSI, -CSol, -CrSI₁, -CrSI₂, -CrSE)

Of those who identified as not having a strong collectivist identity, 33% indicated that they did not wish they were more creative. Most of these respondents didn’t give a reason. Of the ones who did, the response was unanimous. They all felt their current level of creativity was enough.

**Group 4 – Creative Self-Efficacy**

**Quantitative Results**

**Questions**

- I’m sure I can deal with problems requiring creative thinking.
- Many times I proved I can find out solutions for any difficult situation.
- I’m good in proposing original solutions of the problems.
- I am very good at creating things.

**Numerical Results**
See Appendix Figure 1 and Figure 5 for a chart of the results.
For a chart of the Pearson correlation test results see figure 6.

The average score was 3.26. This indicates that as a group there was only a slight identification with creative self-efficacy.

Standard deviation of .937 indicates that there was strong polarization of the participants with some having a strong negative association and others having a very strong positive association.

**Qualitative Results**

**Question**

• I think I have a lot of creative ability. Why or why not.

**Results**

57% Negative Association

35% Positive Association

9% were not sure.

Creative self-efficacy refers to how much belief the individual has in his or her own ability to do something creative. On the survey the participants were asked to respond to the following statement:

“I think I have a lot of creative ability. Why or why not.”

57% said no, 35% said yes, 9% were not sure. The data is consistent with the results found for creative self-identity. This result isn’t surprising since many of the participants saw both questions as being similar in meaning. In fact some people wrote “same as above” or “what’s the difference between this question and the previous question” for their response. The question itself was designed to determine,
whether or not the respondents believed in their own ability to actually create something. Some of the answers given for why they could not were as follows:

“I want to have ability but it’s difficult. I lack the ability to make things real.” (-CSI, -CSoI, +CrSI₁, +CrSI₂, -CrSE)

“No I don't think so because I can never think of anything when I am suppose to draw or do some craft.” (+CSI, +CSoI, -CrSI₁, +CrSI₂, -CrSE)

“I don't think so. There are so many geniuses in the world, I am not that confident.” (-CSI, -CSoI, +CrSI₁, -CrSI₂, -CrSE)

For those who answered yes to this question some of the reasons given were

“I think so. I can easily call forth images of things.” (-CSI, -CSoI, +CrSI₁, +CrSI₂, +CrSE)

“I believe I have a decent imagination. I also think some part of me has the spirit of a shokunin but I don’t know if it’s anything special to brag about.” (-CSI, -CSoI, -CrSI₁, +CrSI₂, +CrSE)

“The difference between creativity and creative ability is do you take action or not. To think might be easy but to take action is different from just thinking therefore I think I do have creative ability.” (-CSI, -CSoI, +CrSI₁, -CrSI₂, +CrSE)

To explore more deeply how social-identity influenced creative self-efficacy the respondents were asked, “Do you think Japan is a creative country? Why or why not?” Although the question does not fit precisely into one of the four test groups, it was included in the questionnaire in order to gain more insight into the minds of the participants. 53% of the respondents believed that Japan was not a creative society and 45% believed it was. 2% were unsure.
Among those who thought Japan was not a creative country there were several respondents who felt that there was a fear of self-expression and trying new things that was stopping people from expressing themselves.

“There is some creativity but because there are lots of people who never express themselves. I would have to say I don’t think so.” (-CSI, -CSol, +CrSI₁, +CrSI₂, +CrSE)

“In actuality I think it is very creative but there is the element of not wanting to be different from everyone else in other words there fear of exposing oneself.” (-CSI, +CSol, -CrSI₁, +CrSI₂, +CrSE)

“No I don’t think so. I feel that in Japan if some behaves differently from everyone else they are looked down upon. This is rooted deep in our culture.” (-CSI, +CSol, -CrSI₁, +CrSI₂, -CrSE)

“Each individual has power to create however they lack the ability and methodology to express it. In other words there is a weakness of self-expression and opinion. I think the belief in self is weak.” (-CSI, -CSol, +CrSI₁, -CrSI₂, +CrSE)

**Discussion**

This study was conducted as a way of finding out just how deeply collectivism impacts upon creative self-identity and creative self-efficacy. In particular, I was less concerned with the term collectivism in the general sense and more concerned with the notion of the collectivist identity. I believe there is a difference. On the one hand collectivism, when applied generally, describes a certain aspect of social behavior and psychology. It can be used as a catchall descriptor of a group of people such as the idea that Japan is a collectivist society. On the other hand the collectivist self-identity can exists independent of what may or may not be characteristic of society at large. The individual is collectivist because he or she believes him or herself to be collectivist.
When we look at studies like the one done by Noguchi (2007) or Zha et al (2006) we see that research of this type tries to establish the collectivist nature of the whole group and then tries to determine how that collectivist nature impacts on creative ability. What these studies fail to do is look deeper at the role of identity on the outcome of creativity. I have to admit that on the outset of this project I was also of the mind that socially inherent collectivism was the dominant factor in how often and to what degree individuals within Japanese society identify with being cognitively creative and see themselves as having the ability to physically do something creative. It never occurred to me, until later in the research, to focus more on identity rather than purely on the notion of collectivism itself.

This conclusion was brought about by the fact that, despite expectation, 70% of the participants did not indicate a strong collectivist self-identity. This baffled me. Noguchi, Zha et al, Japanese people I had talked with, and various texts I had read over the 20 years I have been in Japan all indicated that Japan was a collectivist society. Yet, the results of my research were telling me that out of 50 participants a whopping majority did not think of themselves as collectivist. How could this be?

I believe this can be answered in two parts. The first part is that on the individual level self-identity plays the greater role in how that person responds to the outside world. With regards to the participants of this study evidence of this notion can be found in the participants statements. When asked whether or not they saw themselves as a group oriented person many who responded no cited their own independence and belief in individuality as a reason for not being a group oriented person. When asked whether or not it was difficult being different in Japan a large number of participants stated that it depended on the individual. One participant wrote, “If you believe it’s difficult then it’s difficult.”

The second part of the answer contradicts the first. With regard to how the participants of this study see their country it is widely believed that Japan is, by and large, a collectivist society. Although on an individual level there were participants who strongly identified with being non-collectivist some of them seemed to feel an underlying social imperative for conformity. This can be seen in the fact that the vast majority of non-collectivist identifiers associated negative attributes to their position.
These include not being understood, being unable to fit in, or having been ostracized from the group. In many of the answers there seemed to be a defensive position as if to say, “I am not group oriented but that doesn’t mean there is anything wrong with me.” This sort of statement automatically becomes evidence to the possibility that strong social pressure for conformity exists. The same thing can be said for collectivist identifiers. They associated similar negative attributes to being away from the group.

What is interesting is statistically speaking, whether or not the participant identified with being collectivist had no bearing on the likely hood that they would also view the society in which they live as collectivist. When asked about the social pressure to conform the strongest idea that emerged from the group was the notion that if the person believed in it then they would be compelled by it. For a majority of the group, everything depended on the individual.

So, is Japan a collectivist society? Perhaps. The bigger question is how does the individual’s belief in that affect their creative outcome? If you believe that creativity is the ability to think divergently then it would seem that a collectivist identity would cancel out divergent thinking. A majority of the participants themselves defined creativity as the development of the unknown, freedom of expression, and the ability to imagine. All three of these would seem to be hampered by a collectivist self-identity.

If we look at the data we can see that there is indeed a negative correlation between collectivist self-identity and the two categories of creative self-identity and creative self-efficacy. This means a stronger collectivist identity tended to also show a weaker creative aspect. However, when we take a deeper look at the reasons people gave for not being creative there was never any mention of collectivism or social pressure. Instead, it seemed on the surface to be purely a matter of self-confidence. Those who did not identify with being creative did so because they did not feel they had enough ability or talent to be creative. There were a few who did cite not wanting to stand out as a reason for their perceived lack of creativity. So, collectivism is not totally irrelevant to the group.
When asked if whether or not they wished to be more creative a large majority of the participants said yes. 100% of them associated positive aspects with being creative including improvement of their lives and the lives of others. Of those who did not identify as actually being creative we can see here that it was not because of a lack of desire as it was more a lack of confidence. No one cited social pressure directly. Here are two examples.

“In Japanese the word for creation and imagination had the same pronunciation. In the old days of Japan both words had the same meaning I think. I think I am always full of imagination. For example when I feel calm I wonder what color that feeling would be. I wonder how people in other countries feel. If you made smell a shape what shape would it be? I think it would be interesting for example. I can endlessly think of many things especially emotions, atmospheres, and things that don’t have shape. I am always imagining these things. Making them a reality is also part of creation. Before that point I have lots of ability therefore I think I am a creative person. but I don’t think I am special” (-CSI, -CSoI, +CrSI1, +CrSI2, +CrSE)

I don’t have any confidence in my creative ability.” (-CSI, +CSoI, -CrSI1, +CrSI2, +CrSE)

Although the participants did not directly list social pressure as a reason for not believing in their own creativity, we can see elsewhere in the study that collectivism did color the perception of the participants. Particularly when asked if they thought of Japan as a creative society. Many of the participants believed that it was not creative because they saw a large portion of their society being compelled to conform. Of those who believed that Japan was a creative country, much of their reasoning was based on the uniqueness of the culture as a whole rather than individual achievement. Again this indicates a sort of psychological dichotomy. On one side you have the strength of individual identity and on the other you have the influence brought by the heightened perception of social conformity.

The notions of collectivism and creativity are constructed concepts. This could also have a large bearing on the outcome of the study because what I see as being
collectivist and what the participants see as being collectivist may not be the same thing. The same is true for creativity. If I take this one step further then I could also say that my Western upbringing may have a tremendous impact on how I perceive collectivism and creativity. The same can also be said about the participants, who were all born and raised in Japan. Still, while these constructs exist and color behavior, it is the individual identity that seems to have the greater power over outcome.

**What does it all mean for the Creativity Classroom?**

My experience tells me that the first priority of education should be to eliminate as many barriers to learning as possible so that the learner can come to the experience with readiness. In essence that is what this study has really been about. In a Japanese course that has been designed to teach creativity how does a strong collectivist identity affect the learning process? Does it hinder it or is it insignificant?

Based on the evidence presented in this study we cannot say that the collectivist self-identity is insignificant. In the qualitative analysis 30% of the participants identified strongly with being collectivist. This figure was corroborated by the quantitative data, which showed that a majority of the participants did see themselves as being collectivist. If the notion exists, then it must have some bearing on the behavior of the individual. Also, of those who did identify with being non-collectivist there was still a strong negative association with this position. Again, this would logically influence behavior. The degree of this influence all boils down to identity.

If we look deeper at the phenomena of collectivistic or non-collectivistic identity we can deduce from the answers given by the participants that perhaps, at least for this group of respondents, self-identity may have been shaped by perceived social expectation. The negative overtones of not being in a group versus the positive associations with a group may stem from how the individual respondents rejected or embraced those expectations. Although some may associate negative attributes with going against the group, doing so can also be a point of pride as this action contributes to that individuals ability to establish his or her own unique identity.
What this points to is the notion that it is not the idea of collectivism as social phenomena alone that curriculum designers and educators should be concerned with. Instead, focus should also be placed on individual identity within the given society because understanding the dynamics of identity within the context of the group will allow for deeper insight on how to eliminate barriers to learning. Furthermore, I hold that even if Noguchi’s (2007) research or any other research, no matter how comprehensive or scientifically compelling, suggests that Japan is a collectivist society, in the learning environment, the identity of the individual should take precedent over any generalized notion as the greater force on the behavior of the learning. I do not mean that we should dismiss collectivism all together. What I am saying is that we consider it as one of the influential factors of identity rather than as the influential factor of creative outcome. Identity is the key focal point.

The learner may alter his or her behavior according to how he or she perceives pressures from society. If the person finds it too difficult to fit in he or she may move away from the group. At the same time, in order to be accepted other learners may suppress their own expression in order to avoid being outcast. Learners who share the same sentiment with the responded who wrote, “I don’t have the courage to say with pride that I am different from everyone else”, may limit their own potential for self-expression. As a result they could fall victim to what I think is another great obstacle to learning, fear of ridicule. At the same time, some may say to themselves, “To blazes with it all. I am going to do what I want to do!” Each response depends on the identity of the individual.

As with this group of participants, real life learning environments are made up of a variety of personalities. In order to overcome the potential negative effects of collectivism on creativity learning it is important to find the common denominator within the group that allows everyone to openly approach creativity learning. From this study we can see that one common element is a perceived negative association with divergence from the group. One way to address this is to create a learning environment in which each individual feels certain that a certain amount of divergence is expected from every member of the group. Those who have a strong collectivist identity will find comfort in knowing everyone in the group will be “different” so in a sense everyone is the same. On the other hand those with a strong
non-collectivist identity will be able to detach any negative feeling in order to progress unhindered. In this way a common denominator can be used as a means of helping everyone feel that they are included in the learning process.

In this study an overwhelming majority of the participants had a strong desire to be more creative, however many of them did not believe that creativity could be taught. This implies that they may have given up on the notion of every becoming creative themselves. The belief in the ability to teach creativity and, by association the learnability of creativity, was completely independent of the collectivist or creative identity indicated by the individual. This is important because it shows that while it is incredibly important to consider collectivism when thinking of creativity learning in Japan it is also important to consider other factors which impact upon the shaping of the individual identity of the group members. It is that whole identity which ultimately determines how successful the student can be at creativity learning.

When asked what they thought was important for being more creative the number one answer given by the participants was the environment we grow up in. The second most prevalent answer was freedom. Of course freedom and collectivism are two concepts that are almost always discussed in pairs. So this answer again shows us that collectivistic ideas are relevant in the Japanese classroom. However what is more important is that we listen to the needs of the students. In the case of this group, there is a need for an environment that is free from pressures to conform and that nurtures creative expression. If both are present then the majority of the participants feel that creativity learning can take place.

**Limitations**
This study had several limitations. The first and largest was the language. The survey was translated from English into Japanese. Although every effort was made to avoid the group effect, whereby the participants might answer out of defensiveness or in response to what they perceived as expectation, I failed to take into account the subtlety of the Japanese language and the culture behind it. Because of this it is possible that the participants were aware of the fact that the survey was done by a foreign person and answered accordingly.
Another linguistic limitation was in the word creativity itself. There are two ways to write the Chinese characters for creativity. One indicates use of imagination and the other indicates the actual creation of things. Although both characters are often used interchangeably the translator selected the character that indicates the creation of things. This, of course, may have biased the answers that were given.

Finally, Greater understanding of the correlation between collectivist identity and creativity could have been gained with the use of in depth interviews and deeper narrative analysis. A questionnaire can only provide a small glimpse into the minds of the participants. Given the lack of time and resources a questionnaire was the only option available for this study.

With the limitations listed above the findings of the study are, by themselves, inconclusive since it is unclear how far bias has contaminated the data. Still the data does have some value because it allows for a deeper understanding of how Japanese people view themselves in the context of collectivism and creativity. This is the seed necessary for the development of more hypotheses and further research on the topic.

**Conclusion**

All of this research was done in order to ponder obstacles and solutions for the Japanese creativity classroom. Since the descriptor “collectivist” appears again and again in discussions I have had about Japanese society and in research like the one conducted by Noguchi and Zha et al., it is absolutely crucial that these issues be considered when thinking of the best way forward in creativity education. As stated in the discussion, focus on collectivism alone is not enough. Individual identity also plays a key role as well. Based on the findings of this research I can now proceed to hypothesize that it is more important for curriculum designers to focus on building programs that look to address the various identities within the class as a whole if that curriculum hopes to achieve creative learning for the entire group.

From this study we can see that the quantitative data and the qualitative data both show the same findings. Within the group the majority did not identify as having a collectivist self-identity, the results on collectivist social-identity were split down the middle, and a majority of the participants did identify with having a creative self-identity. It is also clear from both
the qualitative and quantitative data that creative self-identity and creative self-efficacy are linked. It appears that if the person does not believe that he or she is a creative person then that same individual is very likely to believe they do not have the capacity to do creative things.

With regard to collectivism, I would like to conclude by emphasizing again that by understanding the role that collectivism plays on the identity and behavior of the Japanese learner we can better understand how to build curriculum that addresses this and even utilizes it for the betterment of the classroom. What is certain is that based on the qualitative, quantitative, and deduced findings of this study the matter warrants further investigation.
Bibliography


Appendix

Questionnaire
Questions separated into their relevant groupings.

Open-ended questions

CSI - Collectivist Self-Identity
1. Do you think of yourself as a group oriented person? Why or why not.

CSoI - Collectivist Social-identity
2. Do you think it is difficult to be different from everyone else in Japan? Why or why not.

CrSI - Creative Self-identity
3. I think I am a creative person. Why or why not.

CrSE - Creative Self-efficacy
4. I think I have a lot of creative ability. Why or why not.

CrSI - Creative Self-identity
5. Do you wish you were more creative? Why or why not.

Questions for deep analysis
6. What does creativity mean to you?
7. Do you think Japan is a creative country? Why or why not?
8. What has the biggest impact on developing creativity?
9. Do you think creativity can be taught? Why or why not.

Likert scale questions

CSI
10. I think about what others would do before making a big decision.
11. I always speak my mind even if goes against the other people's opinions.
12. I enjoy being unique and different from others.
13. When shopping for music and clothes I always choose items that are “all the rage”.

CSoI
14. I think people in Japan expect everyone to follow social expectation.
15. Everyone I know thinks it’s ok to go against the norm sometimes.
16. I think people in Japan are good at saying no.
17. I think Japan is a group society.

CrSI
18. I think differently than everyone else.
19. I trust my own creative ability.
20. It is important for me to be creative person.
21. Creativity is important part of myself.

**CrSE**
22. I’m sure I can deal with problems requiring creative thinking.
23. Many times I proved I could find out solution for any difficult situation.
24. I’m good in proposing original solutions of the problems.
25. I am very good at creating things.

**Personal data**
26. What is your gender?
27. What is the highest level of education you have completed?
28. In which country have you lived for the longest amount of time?
29. What is your age?
1. Do you think of yourself as a group oriented person? Why or why not.

2. Do you think it is difficult to be different from everyone else in Japan? Why or why not.

3. I think I am a creative person. Why or why not.

4. I think I have a lot of creative ability. Why or why not.

5. Do you wish you were more creative? Why or Why not.

6. What does creativity mean to you?

7. Do you think Japan is a creative country? Why or why not?

8. What has the biggest impact on developing creativity?

9. Do you think creativity can be taught? Why or why not.

10. I think about what others would do before making a big decision.

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Please fill in the appropriate responses based on your personal experience and beliefs.
11. I always speak my mind even if goes against the other people's opinions.

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12. I enjoy being unique and different from others.

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13. When shopping for music and clothes I always choose items that are “all the rage”.

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14. I think people in Japan expect everyone to follow social expectation.

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15. Everyone I know thinks it's OK to go against the norm sometimes.

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16. I think people in Japan are good at saying no.

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17. I think Japan is a group society.

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18. I think differently than everyone else.

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19. I trust my own creative ability.

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20. It is important for me to be creative person.

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21. Creativity is important part of myself.

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22. I'm sure I can deal with problems requiring creative thinking.

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23. Many times I proved I can find out solution for any difficult situation.

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24. I'm good in proposing original solutions of the problems.

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25. I am very good at creating things.

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26. What is your gender?

- Female
- Male

27. What is the highest level of education you have completed?

- Did not attend school
- High school
- College Student
- Graduated from college
- Gone graduate school
- Completed graduate school

28. In which country have you lived for the longest amount of time?

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29. What is your age?

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10. 大きな決断をする前に、他の人だったらどうするかを考える。

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11. たとえ他の人の意見に反する事であっても、私は常に自分の意見を述べる。

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12. 他の人と違う事や独創的である事を楽しむ。

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13. 飲み物を買う時、いつも流行の物を選ぶ。

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<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

14. 日本人はすべての人が社会常識や期待に沿う事を期待していると思う。

<table>
<thead>
<tr>
<th>いつも</th>
<th>もう少し</th>
<th>それくらい</th>
<th>もしも</th>
<th>まったく</th>
</tr>
</thead>
<tbody>
<tr>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

15. 私の知り合いは皆、時々社会常識から外れる事を良しと思う。

<table>
<thead>
<tr>
<th>いつも</th>
<th>もう少し</th>
<th>それくらい</th>
<th>もしも</th>
<th>まったく</th>
</tr>
</thead>
<tbody>
<tr>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

16. 日本人は断る事が上手であると思う。

<table>
<thead>
<tr>
<th>いつも</th>
<th>もう少し</th>
<th>それくらい</th>
<th>もしも</th>
<th>まったく</th>
</tr>
</thead>
<tbody>
<tr>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

17. 日本は集団社会であると思う。

<table>
<thead>
<tr>
<th>いつも</th>
<th>もう少し</th>
<th>それくらい</th>
<th>もしも</th>
<th>まったく</th>
</tr>
</thead>
<tbody>
<tr>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

18. 私の意見は他の誰とも異なっていると思う。

<table>
<thead>
<tr>
<th>いつも</th>
<th>もう少し</th>
<th>それくらい</th>
<th>もしも</th>
<th>まったく</th>
</tr>
</thead>
<tbody>
<tr>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

19. 自分の創造力に自信がある。

<table>
<thead>
<tr>
<th>いつも</th>
<th>もう少し</th>
<th>それくらい</th>
<th>もしも</th>
<th>まったく</th>
</tr>
</thead>
<tbody>
<tr>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

20. 私にとって自分が創造性豊かな人間である事は重要である。

<table>
<thead>
<tr>
<th>いつも</th>
<th>もう少し</th>
<th>それくらい</th>
<th>もしも</th>
<th>まったく</th>
</tr>
</thead>
<tbody>
<tr>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

21. 創造性は私の重要な部分である。

<table>
<thead>
<tr>
<th>いつも</th>
<th>もう少し</th>
<th>それくらい</th>
<th>もしも</th>
<th>まったく</th>
</tr>
</thead>
<tbody>
<tr>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>
22. 創造力を必要とする事柄に対応できる自信がある。
| いつも | ○ | ○ | ○ | ○ | ○ | まったくない |
| 一つお選びください |

23. どんな難題も解決する力がある事を何度も実証してきた。
| いつも | ○ | ○ | ○ | ○ | ○ | まったくない |
| 一つお選びください |

24. 問題の解決方法に対して新しい方法を提案するのに長けている。
| いつも | ○ | ○ | ○ | ○ | ○ | まったくない |
| 一つお選びください |

25. 物事を創造する事がとても得意である。
| いつも | ○ | ○ | ○ | ○ | ○ | まったくない |
| 一つお選びください |

26. あなたの性別を教えてください。
| ○ 女性 |
| ○ 男性 |

27. 最終学歴を教えてください。
| ○ 学校に通っていない |
| ○ 高校卒業 |
| ○ 大学在学中 |
| ○ 大学卒業 |
| ○ 大学院相当に在学中 |
| ○ 大学院卒業 |

28. 最も長く住んだことのある国はどこですか？
国：
期間：（～歳）

29. 年齢はおいくつですか？
Quantitative data Charts

Descriptive analysis

Figure 1.

<table>
<thead>
<tr>
<th>Group</th>
<th>Freq</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>Sd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td>50</td>
<td>1.00</td>
<td>3.75</td>
<td>2.3850</td>
<td>.67614</td>
</tr>
<tr>
<td>Group 2</td>
<td>50</td>
<td>2.75</td>
<td>4.75</td>
<td>3.5617</td>
<td>.51530</td>
</tr>
<tr>
<td>Group 3</td>
<td>50</td>
<td>1.25</td>
<td>5.00</td>
<td>3.2283</td>
<td>.91641</td>
</tr>
<tr>
<td>Group 4</td>
<td>50</td>
<td>1.25</td>
<td>5.00</td>
<td>3.2650</td>
<td>.93734</td>
</tr>
<tr>
<td>Total no. of cases</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sd= standard deviation

Descriptive analysis bar charts

Figure 2.
Figure 3.

[Bar chart: Survey Questions: Group 2 (CSoI)]

Average Score = 3.56
Standard Deviation = 0.515
No. Of Responses = 50

Figure 4.

[Bar chart: Survey Questions: Group 3 (CrSI)]

Average Score = 3.23
Standard Deviation = 0.916
No. Of Responses = 50
Pearson’s correlation chart

**Figure 5.**

![Survey Questions: Group 4(CrSE)](image)

Average Score = 3.26  
Standard Deviation = 0.937  
No. Of Responses = 50

**Figure 6.**

<table>
<thead>
<tr>
<th></th>
<th>Group 1</th>
<th>Group 2</th>
<th>Group 3</th>
<th>Group 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pearson's correlation coefficient</td>
<td>1</td>
<td>-.002</td>
<td>-.469*</td>
<td>-.452**</td>
</tr>
<tr>
<td>P value</td>
<td>.987</td>
<td>.001</td>
<td>.001</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
</tbody>
</table>

|                  | Group 2   | Group 3   | Group 4   |
| Pearson's correlation coefficient | -.002     | 1         | -.052     |
| P value          | .987      | .721      | .980      |
| N                | 50        | 50        | 50        |

|                  | Group 3   | Group 4   |
| Pearson's correlation coefficient | -.469*    | .649**    |
| P value          | .001      | .000      |
| N                | 50        | 50        |

|                  | Group 4   |
| Pearson's correlation coefficient | -.452**   |
| P value          | .001      |
| N                | 50        |
Figure 7.

Pearson’s correlation scatter plotter chart

Creativity Meaning Chart

Figure 8.