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Interaction Between Multiculturalism and Framing on Creative Task Performance

Lily Yang
Scripps College

INTERACTION BETWEEN MULTICULTURALISM AND FRAMING ON CREATIVE TASK PERFORMANCE

by

LILY YANG

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PROFESSOR MA

PROFESSOR GOTO

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Abstract

Research has consistently demonstrated the benefits of multicultural experiences for individual creativity (e.g. Çelik, Forthmann, & Storme, 2016; Saad, Damian, Martinez, Moons, & Robins, 2012). The present study will explore the interaction between framing and multiculturalism on creativity. Seven hundred and eighty eight participants who identify as multicultural will be randomly assigned to one of four experimental groups looking at framing (success/failure) and culture priming (present/not present). After being primed with an oral prompt, participants will complete the Alternative Uses Test to measure two aspects of creativity: originality and idea generation. Success framing is expected to be associated with higher creativity scores compared to failure framing. Presence of culture priming will be associated with higher creativity scores compared to no presence of culture. And success framing paired with presence of culture will have the highest creativity scores compared to other groups. Implications for creativity, identity and multicultural experiences are discussed.

Keyworkds: multiculturalism, creativity, success failure framing, cultural identity

Interaction Between Multiculturalism and Framing on Creative Task Performance

In 2007, a team of students in the Design for Extreme Afordability class at the Standford University d.school were tasked with the challenge of understanding and designing a solution for premature babies in developing countries. They were told that the reason for high mortality rates in these countries is partly due to the lack of incubators that can nurse the premature babies until they are more stable. The students traveled to Kathmandu to talk to mothers who had lost their children as well as doctors in the hospital. They realized that the problem was not the lack of incubators at the hospital, but that these mothers were not able to get their premature babies to the hospital in time to be put in an incubator before the baby dies. From that realization, they started brainstorming many different solutions to ameliorate this problem. They tested out a few different products and eventually developed the *embrace infant warmer,* which keeps the infant temporarily incubated long enough to get from the rural areas of the country to the hospital. Since then, the product has helped over 200,000 babies across 20 countries (Design for extreme affordability, 2007; Products, 2008).

This example demonstrates the potential outcomes of the creative process. Creativity is a growing area of interest because it leads to the development for useful products, practices, services, or procedures that can solve worldly problems and societal issues (Tadmor, Satterstrom, Jang, & Polzer, 2012). Creative problem solving can exist in many industries, such as sustainability, equality, medicine, and education. Thus, understanding the underlying factors that can affect creativity can allow us to develop

individuals who are more creative and environments that are more suitable to foster creative thinking.

Creativity

It is difficult to define the term creativity for many reasons. One reason is because it happens in multiple disciplines such as science, art, and buisiness (Lau, 2016). Each of these disciplines emphasizes a certain element of the overall definition of creativity. For example, in art where there are less constraints, creativity is defined as imaginative, unconventional, and risk-taking (Glück, Ernst, & Unger, 2002). In contrast, when there are business constraints, creativity is focused more on function and problem solving (Glück et. al., 2002). Psychologists who study creativity have also defined the construct in different ways depending on their research topic. For example, some research has defined creativity as the ability to connect seemingly unrelated and incompatible concepts (Çelik, Forthmann, & Storme, 2016), while others have defined creativity as work that is novel and appropriate (Sternberg & Lubart, 1999). Despite variability, a component of creativity that is consistent across many studies is the ability to produce ideas that are original, unique, or novel (Kirkendall & Krishen, 2015; Klausen, 2010; Piffer, 2012; Simonton, 2013; Sternberg & Lubart, 1999; Wang & Wang, 2016). For example, in Kirkendall and Krishen's (2015) study on creativity in the classroom, they used the term creativity to refer to new modalities of teaching students to help them understand the material better. In this case, creativity is not simply the ability to connect concepts, but rather the ability to connect different ideas to create a new approach. Thus, for the current

research study, one component of the definition of creativity used will be the ability to produce ideas that are unique.

To further understand creativity as a cognitive process, past research has suggested theories to explain how creativity works. One theory, divergent thinking, proposes that the larger the number of total ideas produced will lead to a larger number of good ideas within the total (Guilford, 1950). In this context, individuals who can create more ideas are defined as more creative. This cognitive model of defining creativity does not perfectly encompass all aspects of the construct but it is generally accepted as a good estimate of potential for creative achievement (Kim, 2008; Runco, 1991). For the purpose of the current study, the definition of creativity will combine the commonly used definition with the theory of divergent thinking: ceativity defined as the potential for the mind to generate a high quantity of ideas as well as ideas that are unique.

In addition to divergent thinking, other theorists have sought to understand creativity from a cognitive perspective. According to the Creative Cognition Approach (Simonton, 2000; Smith, Ward, & Finke, 1995), "creativity is a mental phenomenon that results from the application of ordinary cognitive processes." This finding suggests that there is nothing magical about creativity; instead, it is similar to other cognitive processes that are accessible to almost anyone. Despite this finding, researchers have also found that there are a variety of factors, both personal and environmental, that can affect ones creativity development (Megalakaki, Craft, & Cremin, 2012). Although some researchers believe that creativity is an inherent ability that is a part of one's personality

and cultural perspective (Lau, 2016; Rogers, 1954), others have argued that creativity development is significantly related to environmental factors (Simonton, 2000).

Some inherent factors that have shown to affect creativity are personality, age, gender, and mental disorders (Abraham, 2015; Amabile, 1997; Jawecki, Füller, & Gebauer, 2011; Massimiliano, Dina, & Domenico, 2014; Ruth & Birren, 1985; Thys, Sabbe, & De Hurt, 2014). For example, patients with schizophrenic and hypomanic symptoms show higher measures of creativity (Barrantes-Vidal, 2004). Stoltzfus, Nibbelink, Vredenburg, & Thyrum (2011) also found that male participants did better on creativity measures than female participants.

In addition to potential personal factors, researchers believe that creativity evelops over the course of one's lifespan, thus can be greatly influenced by envriontal factors (Simonton, 2000). One major environmental factor is cultural background and identity (Hargadon & Sutton, 1997; Ward, Smith, & Finke, 1999). The connection to different cultures can greatly affect one's cognitive processes based on the exposure to different ways of behaving or thinking (Hargadon & Sutton, 1997). According to Simonton (1994), "creative potential requires both exposure to diversifying experiences that help weaken the constraints imposed by conventional socialization and challenging experiences that help strengthen a person's capacity to persevere in the face of obstacles (Simonton, 2000)." With this framework, individuals who have multiple cultural identities may have increased crative potential as they are exposed to diverse cultural experiences as well as challenged to think about norms and behaviors that govern a group of people.

Culture, Multiculturalism and Priming

Culture is commonly defined as a set of shared attitudes, values, goals, and practices that characterize and influence the behavior of a group of people (Kroeber & Kluckhohn, 1952; Triandis, 2000). Thus, multiculturalism is when there is more than one culture influencing the behavior and thoughts of the individual or group. Multiculturalism can happen in many ways. When individuals encounter new cultures, they often experience and integrate new practices, artifacts, and concepts into their life (Leung & Chiu, 2010). This acceptance and combination of different cultural values and practices contribute to one's multicultural identity. For example, children who have parents of different cultures, are able to experience a unique combination of their parents' cultures from parenting strategies, behaviors, and beliefs (Chang, Hsu, Shih, & Chen, 2014). In addition, individuals who grew up in a different culture than that of their parents also experience multiculturalism as they personally blend cultural associations taught by their parents with their own cultural experiences (Saad, Damian, Martinez, Moons, & Robins, 2012). Multiculturalism is not only for individuals from multicultural families. Research has also explored the development of multiculturalism in those who have traveled abroad and adopted new cultural beliefs and practices into their existing ones (Tadmor, Maddux, & Galinsky, 2012). As suggested, there are ways in which some individuals don't get to choose their multicultural identity, but there are also individuals who intentionally immerse themselves in different societies and therefore have integrate different cultures into their identity.

Cultural identity or the beliefs, values, and behaviros that one identifies with, is a type of social identity. Social identities are aspects of the self that are based on memberships in different social groups (Cheng et. al., 2018). Individuals can have many social identities and depending on which identity is being activated by priming, different knowledge systems will be used to understand the situation (Fiske, 1998). For example, in a study done by Hong, Chiu, & Kung (1997), researchers were interested in the affect of priming different cutural identities within Asian Americans. Results showed that participants who were primed to think more about their Asian identity attributed explanations for an image of a single fish swiming outside a school of fish to an external cause (fish is being chased by other fish). However, when the Asian American participants were primed to think about their American identity with images of famous American monuments, they attribute an internal cause (one fish is leading the other fish) to the same image. These are prototypical inferential behaviors of Asian and American thought differences (Cheng et., al., 2008; Hong, Morris, Chiu, & Benet-Martínez, 2000). This effect is also present when two factors are involved. In Shih, Pittinsky, & Ambady (1999) study, researchers found that when Asian American women are primed to think about their Asian identity, they perform better on the math test verses the verbal test. However, when primed to think about their identity as an woman, they do better on the verbal test than on the math test. Research in this field suggest that being primed to think about certain parts of one one's identity can greatly affect performance outcomes. An area lacking research is the affect on performance of pompting one's cultural identity as a

whole verses not prompting it at all. Thus, the current study aims to understand how culture priming influences creativity performance.

Multiculturalism and Creativity

In relation to creativity, there is strong literature in the field of cultural psychology that supports the a positive connection between multiculturalism and creativity (Çelik et. al., 2016; Leung & Chiu, 2010; Saad et. al, 2012; Tadmor, Satterstrom, Jang, & Polzer, 2012). Individuals who identify as multicultural perform better on creativity tasks than individuals who identify as monocultural. In a study by Leung & Chiu (2010), Researchers found that individuals who are exposed to more cultures are more likely to generate unique gift ideas because they are culturally unconventional.

One explanation for this relationship between multiculturalism and creativity is that the exposure to more types of information and different perspectives of viewing the same concept or object could contribute to the production of more ideas simply because they have been exposed to more information (Chang et. al., 2014; Tadmor et. al., 2012). The theory of motivated cultural cognition (Chiu, Morris, Hong, & Menon, 2000) notes that "individuals do not passively receive cultural influences. Instead, they view ideas from different cultural traditions as intellectual resources and selectively recruit ideas from local and foreign cultures to address their current motivational concerns (Leung & Chiu, 2010). The more cultural influences, the more information and ideas that multicultural individuals are able to receive and collect. Furthermore, multicultural

individuals can draw these existing ideas from different parts of their knowledge and combine or reframe them to fit the new context (Hargadon & Sutton, 1997; Ward, Smith, & Finke, 1999). Similarly, Chiu & Hong (2005) note that having multicultural experiences may allow one to be more receptive to combining intellectual resources from various cultures to meet the demands of the current task.

Another perspective to explain the positive relationship between multiculturalism and creativity is that cognitive processes are affected by the integration of multiple cultures. Specifically, negotiation between cultural differences that happens internally, sets the mind up for increased creativity performance because individuals who have more integrative complexity are constantly challenged to work on building bridges between ideas, practices, or behaviors (Çelik et. al., 2016). In a study by Çelik et. al., researchers examined the idea of value conflict as a way of understanding the relationship between multiculturalism and creativity. Value conflict is the amount of cultural conflict that an individual experiences either in their families or with others around them (e.g. when traditions in one's family clashes with the values of their peers). Research findings from the study conclude that indivudals who reported fewer experiences of value conflict did not benefit as much from their multicultural background (in relation to creativity). In contrast, individuals who found themselves in situations where they were challened to negotiate their values and lifestyle to others, valued more from their multicultural background (in relation to creativity). Because these individuals have to constantly mediate differences in beliefs and values, they are more flexible in thinking about ideas that are not neccesarily conventional. In addition , they may need to think of creative

ways to explain and bridge the gap between very different perspectives. This significant finding highlights the underlying factor of how different internal mechanisms of multicultural individuals can explain their increased ability to perform creativity tasks (Çelik et. al., 2016). Similarly, in a study done by Sadd et., al., researchers noted that the experience of internalizing different pieces of knowledge such as values, and behaviors allows multicultural individuals to have practice encoding information in different ways. This would in tern give them an advantage in understanding and creating unconventional ideas as they have practice with undersatnding different ways of thinking. This framework called cognitive adaptation is the ability to generate original ideas based on recruiting information from diverse perspectives (Saad et. al., 2012).

Further research in the field note that not only does integration of culture affect creativity, the level of integration can also enhance creative performance (Chang, Su, & Chen, 2017; Cheng, Sanchez-Burks, & Lee, 2008). In Cheng et. al., (2008), researchers found that individuals with high identity integration, who believe that their cultures are compatible and actively try to identitfy both cultural groups simultaneously performed better on the creativity task compared to individuals who identify with low identity integration, who are not comfortable with the combining of their cultural identities and prefer to keep them separate. Furthermore, individuals who identify more with a hybrid culture (mixing of atwo or more cultures), compared to individual cultures, do better on creativity tasks (Cheng et. al., 2008; Saad et. al., 2013; Tadmor et. al., 2012). Even though there is literature on varying aspects of multiculturalism and creativity, there is

still a lack of research on the impact of thinking about multiculturalism versus not thinking about it at all and its impact on creative task performance.

Framing

Another potential factor that could affect creativity performance is framing. The framing effect is a phenomenon that is studied in decision-making research (Cooper, Blanco, & Maddox, 2017). Changes in the way a prompt or question is presented can cause different responses and choices. For example, in a study by Tversky & Kahneman (1981), participants were asked to choose between two programs designed to treat a specific disease. These programs were framed in terms of gains and losses. For one of the programs, the gain framing was that the participant could save 200 out of 600 people. The loss framing was that 400 of the 600 people would die. In the other program, the gain framing was that there is a 1/3 possibility that all 600 people will live. The loss framing was that there is a 2/3 possibility that all 600 people will die. Because the framing of the solutions were different, the decisions made by the participants were different. Thus, framing can impact the choices that people make. There are many other types of framing such as positive/negative, moral/immoral, and good/bad (Demaree-Cotton, 2016; Trawalter, Driskell, & Davidson, 2016). The framing that will be used in the current study is considered positive/negative framing. Specifically, prompts will be framed to have participants think about their own personal successes and failures and the positive or negative outcomes from those experiences. Past research has shown that there are effects in positive/negative framing on task performance (To, Fisher, & Ashkanasy 2015; To,

Fisher, Ashkanasy, & Rowe, 2012). Specifically, results indicated that positivity predicted creativity (Rego, Sousa, Marques, & Cunha, 2012). However, it is a curvilinear relationship such that too much positivity was detrimental to creativity. In addition, promoting and preserving the positivity of the self, also known as self-enhancement, has a positive effect on task performance (O'Mara, 2017). In other words, there is a relationship between viewing the self through different frameworks and the outcomes of task performance. Isen, Johnson, Mertz, and Robinson (1985) explained, "positive materials are more extensive and diverse than other materials in memory." Furthermore, To et. al., (2012) notes that "it is reasonable to expect that positive moods will prime people to access these extensive and complex materials and thus promote cognitive flexibility for creativity." This idea that priming for the positive, such as mood, can trigger cognitive flexibility for creativity. If multicultural individuals have more cognitive flexibility due to their negotiation between cultures, then it is reasonable to suggest that being positively primed for culture will have greater affects on creativity.

While these explanations may sound plausible, there is a lack in the literature on the effects of framing and creativity. Furthermore, there is little to no research on the effects of framing with participant's own experiences. Framing is an important factor to study because it is present in everyday situations, assignments, visuals, and environments. Most facts and concepts can be framed differently depending on what one wants to convey. For example, marketing material is specifically made to persuade buyers to buy the product or experience that is being advertised. Thus researchers of the current study

ask the question of whether or not success/failure framing of multicultural experiences can affect creative task performance.

Thus far, this introduction has pointed out a few gaps in the literature surrounding topics of creativity, culture, and positive/negative framing. Currently, there is research on the strong connection between creativity and multicultural experiences as well as research on the benefits of positive framing on task performance. But, there are gaps in the literature in whether or not the prompting of multicultural identity has an effect on creative performance and whether or not there are effects of positive/negative framing of culture on task performance. These gaps will be addressed in the current study.

Study Overview

This study will test the questions of whether or not the prompting of multicultural identity and success/failure framing wil have an effect on creative performance. To test this idea, a 2x2 between groups experimental design will be used. There will be two factors with two levels each: culture (present vs. not present) and framing (success vs. failure). Because research supports positivity and creativity (Rego et. al., 2012), it is hypothesized that there will be more idea generation after success framing compared to after negative framing. Because research also suggests that culture has an important role in creativity (Hargadon & Sutton, 1997; Ward, Smith, & Finke, 1999), it is hypothesized that if culture is thought of at all, idea generation will be greater compared to when not thinking of culture. There is a lack of literature in the interaction between culture and framing on creativity. However, because of the combination of positive framing on

creativity and multiculturalsim on creativity, it is predicted that the difference in creativity between success and failure framing will be greater when culture is present.

Proposed Method

Participants

Given there is a small effect size in the literature for the effect of multiculturalism on creativity (Saad et. al., 2012), researchers assume that there will be a small effect in the current study as well. According to Cohen (1992), to achieve a sufficient power with alpha = 0.05 and with a 2 x 2 design, researchers will need 197 participants per cell and a total of 788 participants. The breakdown of the participants will be 50% male and 50% female to match the United States gender breakdown (The World Factbook, 2016). All participants must self identify as having a multicultural background and will be recruited from 20 different companies in California through flyers and snowball sampling. Having a multicultural background will be broadly defined as anyone who has had the presence of two or more different cultures in their life. Examples of this experience could include living in more than place with very contrasting cultures for long periods of time, having parents of two or more different cultural backgrounds, growing up in a different culture than that of one's parents, and/or having to constantly move to places with very different cultures.

Participants are anticipated to primarily be people of color because in the United States, people of color tend to have a mix of different cultures due to immigration and family background. In addition, people who have the resources to travel a lot or

immigrate to other countries may be of a higher socioeconomic background, thus also potentially affecting the participant population such that there may be more individuals with higher socioeconomic statuses compared to the general ratio of United States population. In exchange for participating, individuals will receive a $10 gift card.

Materials

Creativity. Participants will complete the Alternative Uses Test (AUT, Guilford, 1967) to asess creativity. This measure tests quantity (fluency) and originality of ideas. The tasks of the AUT include naming nine ordinary objects followed by listing six other uses for each object in a limited time frame. The nine objects are split into three groups of three items each. Four minutes are given for each group of three items totalling in 12 minutes for the entire task. Sample items on the test include ‘newspaper’, ‘brick’, and ‘paperclip’.

The scoring of the task comprises of two components: originality and fluency. For *fluency*, each alternative use that the participant writes will be assigned 1 point and the points will then be added up. For example, if participants provided six alternative uses for each of the nine items, they will be given six points for each item, totalling 54 points on fluency. If they provided four alternative uses for the first three items, three for next three items, and five for the last three items, they would receive one point for each alternative use they provide, totalling to 36 points for fluency. The higher the number, the better creative fluency the participant demonstrates. For *originality*, each response will be compared to all of the responses provided by other participants in the current study

(Guilford, 1967). Responses given by 5% of the group are unusual and assigned 1 point, responses that are given by 1% are unique and assigned 2 points, and all other responses are normal and assigned 0 points. Scores are then totalled for this measure (Guilford, 1967).

The reliability of this test is marginal as the AUT manual (Sheridan, 1978) showed that internal reliability ranged from 0.62 to 0.85. Studies that have used this task note that internal consistency for fluency was satisfactory (Cronbach's $\alpha = 0.78$), and for originality as well (Cronbach's $\alpha = 0.78$, Çelik et al. 2016). Despite marginal reliability, the test is used in this particular study becaue it is a very widely used and accepted test in the field of creativity research (Saad et. al., 2013; Çelik et. al., 2016; Tadmor et. al., 2012).

Multicultural experience. A combination of two questionnaires will be used to measure the multicultural experience of the participants, The Multicultural Experience Questionnaire (MEQ, Nazarez & Hill, 2010) and the Multicultural Experience Survey (MES, Leung & Chiu, 2010). Both surveys measure the breadth and depth of one's multicultural experience. The MES focuses more on multicultural background and the MEQ focuses on openness to multicultural experiences. The combination of the two scales will provide a well rounded understanding of multiculturalism in each individual's life.

The Multicultural Experience Questionnaire (MEQ) developed by Nazarez and Hill (2010) is comprised of 15 items. According to the Guide for using the Multicultural Experiences Questionnaire (MEQ, Notre Dame, 2009), this test has adequate reliability

(Cronbach's $\alpha = 0.80$). Items are scored on a 5 point scale ranging from items such as "Not true at all" to "very true", "never" to "always", and "strongly disagree" to "strongly agree". A sample item of the questionnaire is: "I want to travel outside of my country" (participants would rate how true the statement is). Another sample item on the questionnaire is: "I have lived in a contrasting community with a very different culture from my own" (0 months, 1 to 2 months, 3 to 6 months, 6 to 9 months, and over 9 months). To score this questionnaire, answers will be combined and averaged. Higher scores indicate a more indepth and engaged multicultural experience.

The Multicultural Experience Survey (MES) developed by Leung & Chiu (2010) comprises of five items: first, the percentage of their lifetime lived outside of their home state (0% - 100%). Second, whether they spoke a foreign language (yes or no). Third, Whether their father was born outside of the United States (yes or no). Fourth, whether their mother were born outside the United States (yes or no). And fifth, the extent of their exposure to a culture other than the dominant culture (0-10). In Leung and Chiu's mesurement, the responses were rescaled so that the items had equal weight and ranged from 0 to 1. For the first item, the percentage was recoded into a number between 0 and 1. For the second to fourth items, "no" was recoded as 0 and "yes" was recoded as 1. For the fifth item, the number will be divided by 10 so it will be between 0 and 1 values. The sum of the rescaled items is the measure of multicultural experiences. The higher the summed value, the more multicultural the participant is. The reliability of MES is acceptable (Cronbach's $\alpha = 0.71$, Leung & Chiu, 2010).

Curiosity and exploration. The Curiosity and Exploration Inventory (CEI-II, Kashdan, Gallagher, Silvia, Winterstein, Breen, Terhar, & Steger, 2009) measures the extent of one's exploration, stretching, and embracing uncertainty. Because these factors are closely related to creativity (Ivcevic & Brackett, 2015), this measure will be used for secondary analysis in the current study. Researchers in this study ask whether or not curiosity and creativity are correlated and whether curiosity and multiculturalism are correlated. Since individuals with multicultural backgrounds are used to unconventioal ideas, they may be more open to exploration. In addition, individuals who are more curious could have more information to draw from when performing tasks that require creativity. Implications of results could suggest a mediating factor between creativity and multiculturalism. The CEI-II is comprised of 10 items that are rated on a 5 point scale (1 - not at all, 5 - extremely). Sample items include: "Everywhere I go, I am out looking for new things and experiences", "I am the kind of person who embraces unfamiliar people, events, and places", and "I am at my best when I am doing something complex or challenging". The Curiosity and Exploration Inventory - II: Development, factor, structure, and psychometrics by Kashdan et al., (2009) shows acceptable reliability (Cronbach's α=.86, Kashdan et. al., 2009).

Manipulations. For the manipulations of this 2 x 2 experimental design, there will be two factors with two levels each, totalling four group conditions. The two factors and their levels are culture (present vs. not present) and framing (success vs. failure). Participants in each group will be asked to complete a written prompt about their personal experiences. Specifically, the four manipulation prompts are:

"Write about a time when you…

… succeeded because of something you did

… failed because of something you did

… succeeded because of your multicultural background

… failed because of your multicultural background."

Procedure

Participants will complete the experiment in a lab where they will first be asked to give consent before participating. They will be randomly assigned to one of the four conditions and be given the manipulated prompt. Then they will complete the creativity measure followed by the Multicultural Questionnaires and finally the Curiosity and Exploration measure. Participants will then complete a demographic profile, which includes age, gender, race, and socioeconomic status. Finally, they will be debriefed and thanked.

Ethics

Given the important role that creativity plays in the workplace today, understanding the influence of multiculturalism can be beneficial knowledge to inspire change in organizational settings. The benefits of this study include both personal benefits to the participant as well as benefits for society at large. The benefit to the participant is that they can have the opportunity to self reflect while potentially contributing knowledge to society about multiculturalism and creativity. For society at

large, understanding the underpinnings of creativity could lead to the development of creative solutions to a variety of problems that the world faces today.

In addition to having multiple benifits, participation in this study is below minimal risk because participants are not engaging in harmful or stressful tasks. These tasks such as identifying objects, and writing about cultural experiences are similar to tasks that participants would do or think about on a normal occasion. However, the topic of failure and multicultural identity might be uncomfortable for some, especially for those who have had traumatic experiences with immigration or interactions with others based on their identity. To account for this, participants will be allowed to stop the study at any moment and request that their data not be used. They will also be debriefed about the nature of the study at the end. In addition, the information that each participant voluntarily chooses to share can potentially be sensitive and personal. Thus, data will be kept confidential by not collecting or using any identifiable information of the participants.

Despite very minimal but possible risks, the study does not involve protected populations nor does it involve deception. Participants will be recruited and those who voluntarily choose to participate will be included in the study. $10 gift cards serve as monetary incentive, but participation is completely voluntary. Because the risks of this study are minimal and there are multiple benefits, it can be concluded that the benefits of the study outweigh the potential risks to the participants and extra measures will be taken to address these potential risks.

Predicted Results

To test the relationships between presence of culture, framing, and creativity, a 2x2 Analysis of Variance (ANOVA) will be used to examine effects of and interactions between these variables and conditions. Data will be checked for outliers and normality and if there are problems, appropriate measures will be taken.

It is predicted that there will be a main effect such that scores of idea generation and originality will be higher for positive framing (succeed) than for negative framing (failure). This was hypothesized because research (Rego et. al., 2012) has shown a relationship between positivity and creativity. In a study by Rego et. al, (2012), participants were asked to rate their own positivity on a scale. Supervisors then rated the participants' creativity. These measures were correlated and results showed a very significant relationship between positivity and creativity. This led researchers to predict that success framing, which elicits more positive emotions, will have higher creativity scores compared to failure fraing, which elicits more negative emotions. Figure 1 shows the main effect of framing. The success bars (blue) are higher than the failure bars (red) in both culture conditions.

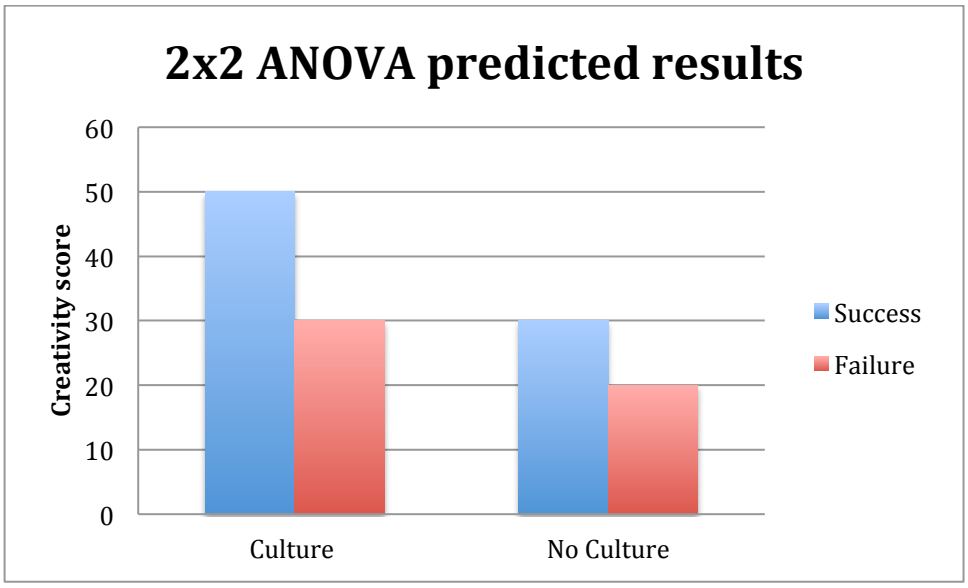

Figure 1. Predicted main effects and interactions of culture and framing

Next, it is predicted that there will be a main effect for culture such that if culture is thought of at all, scores in idea generation and originality will be higher than when there is no presence of culture. This was hypothesized because research (Çelik et al., 2016; Saad et. al, 2012; Tadmor et al., 2012) has suggested that culture has an important role in the development and practice of creativity, specifically idea generation. Because multicultural individuals experience a constant shifting and navigating between identities, they are more able to combine ideas from different areas of their life (Chang et. al., 2014). Figure 1 shows the main effect of culture. The presence of culture bars (left) are higher than the no presence of culture bars (right) in both success and failure framing conditions.

Finally, it is predicted that there will be an interaction such that the difference between success and failure framing is different depending on the presence of culture.

When culture is present, the difference between suceess and failure framing scores on creativity is larger. Thus, success due to culture will have particularly high scores in idea generation and originality compared to the scores of all the other groups. The literature on positive framing and culture individually led researchers to hypothesize that the presence of culture and positive framing will yield the best results on creativity scores (Chang et. al., 2014; Saad et. al, 2012; To et. al, 2012; To et. al, 2015). Furthermore, since positive moods may prime people to access complex materials that promote cognitive flexibilty used for creativity, it is reasonable to suggest that being positively primed for culture will have greater affects on creativity. Figure 1 shows the interaction between culture and framing. The difference between success and failure framing is bigger when culture is present verses not present. On the right side (culture), the difference between the red/blue bars is 20 and on the left side (no culture), the difference between the red/blue bars is 10. Thus, framing enhances the creativity experienced with culture. Because thinking about multiculturalism has a positive effect on creative performance (Chang et. al., 2014) and positivity has a positive effect on creative performance (Rego et. al., 2012), it is logical to predict that the combination of presence of culture and success framing will yield even higher scores on creativity.

For additional analysis, researchers will conduct a correlation between the total creativity score (combination of originality and idea generation) and the Curiosity and Exploration Inventory scores. It is predicted that there will be a positive correlation between these two variables as research has suggested that curiosity and willingness to explore are related to creativity (Maw & Maw, 1970; Tan, Kung, & Kailsan, 2016).

In another secondary analysis, researchers will conduct a correlation on curiosity and exploration with multicultural experience. Research suggests that multicultural individuals not only experience different cultures but take cultural behaviors and ideas as pieces of knowledge (Cheng et. al., 2008; Tadmor et. al., 2012). This could lead to the openness to learning more about other traditions and cultures, suggesting that there may be a strong positive correlation between multiculturalism and curiosity exploration.

Discussion

Participants were exposed to promps that included success/failure framing and presence of culture/no culture. If results are as predicted, multicultural individuals in the "success" framing condition will show greater creativity scores compared to those in the "failure" framing condition. In addition, those in the "culture" condition will show greater creativity scores compared to those in the "no culture" condition. Also, those in the "success" and "culture" conditions will show greater creativity scores overall. While other researchers (To et. al., 2012; To et. al., 2015) have demonstrated that positive/negative framing affected task performance and that positivity even predicted creativity (Rego et. al., 2012), the results of the current study demonstrate the effects of a specific positive/negative frame that is the success and failure idea of self. The results build on existing research and goes further to explore this new version of positive and negative framing relating to the self.

Multicultural individuals who were exposed to the presence of culture, in either success or failure conditions, will perform better in originality and idea generation on the

creativity task. While much research (Çelik et. al., 2016; Leung & Chiu, 2010; Saad et. al, 2012; Tadmor et. al., 2012) has supported the positive relationship between multicultural experiences and creativity, the expected results of the current study indicate that despite different types of framing, the relationship between multicultural identity and creativity remains positive.

The difference in participant creativity scores between success and failure will be greater when culture is present verses not present. Furthermore, multicultural individuals who were exposed to presence of culture in the success framing condition will have higher scores on originality and idea generation on the creativity task compared to the scores of individuals who were in the other condition groups. Because past research has shown support for the individual factors of multiculturalism and framing on creativity separately, the results of this study add to the existing literature on the interaction between the three variables. The implication for this prdicted result is that if mulitcultural reminders are present, the addition of success framing will significantly increase the creativity perfromance. Furthermore, priming one to be in the mindset of remember how they have integrated cultures into one may allow them to think more creatively when it came to the task.

The results of this research support the positive relationship between multiculturalism and creativity while expanding the field to suggest that there are interactions between factors that can affect this relationship as well. These factors could influence the creativity of individuals in positive or negative ways. By testing various factors, researchers can begin to understand the ideal environment for multicultural

individuals to thrive creativity. In answering original research question, how do we make multiculturalism an asset?, researchers strive to understand the mediators between the sound relationship of creativity and multiculturalism. From there, we can nurture these characteristics to better support multicultural individuals in the workplace.

Moreover, this study was the first to examine the interaction between presence of culture and success/failure framing on creativity. Using a 2x2 between groups design, we extended previous multiculturalism and creativity research by including success/failure as a variable to better understand the role of context in this multiculturalism-creativity relationship. Past research has a strong bias for a positive relationship between multiculturalism and creativity, thus supporting a movement to increase diversity in organizational settings (Çelik et. al., 2016; Saad et. al, 2012; Tadmor et. al., 2012). Our results suggests that there are many other contexts that can influence the relationship between multiculturalism and creativity. Success and failure framing is one of many potential conditions. Thus, implications for further research is centered on studying other potential conditions such as work environment setup, positive/negative colleague interactions, or collaborative/individual projects.

One limitation of the study is the unnatural setting of the experiment. In order to maximize internal validity by keeping as many external factors constant, participants came to the lab to complete the different tests and surveys. However, this decreases the external validity and direct application to the real world becuase creativity does not usually happen as a specific task, but rather, it is more integrated into the work

environment. Thus, future research could explore observing creativity in a natural setting such as different companies.

Furthermore, the alternative uses task itself has been critiqued for not being a natural test that would occur in organizations. Creativity in organizational settings may appear differently than having to come up with alternative uses for everday items. Future studies could explore the use of more relevant tests despite not having as much support or research. For example, creative problem solving for case studies directly related to the type of work that the organizations perform better tests what already naturally occurs in the setting. Another limitation that could not be controlled for is the wide variety of multiculturalism that was included in the study. The experiences of each type of multicultural individual may have different relationships with creativity. For future directions, specific types of multicultural individuals can be studied. For example, narrowing down the participants to individuals who have lived abroad in countries with different cultures or individuals who were raised in a different culture than their parents. This will achieve more pointed and stronger results rather than generalizing all multicultural experiences.

Future directions also include researching other factors that may interact with multiculturalism to affect creativity. For example, researching mood, workplace diversity, or work environment. Another future direction is to examine how the affect measured in the current study is changed when multiple individuals who have multicultural backgrounds work together.

This is an important topic to research because society is becoming more diverse each day. With ease of travel, living abroad, and connecting with other cultures, more and more individuals are transitioning from monocultural to multicultural. With the expansion of people in this identity group, more research surrounding their experiences and assets is needed to further support cross cultural communication and understanding. Furthermore, creativity is a key characteristic in thriving organizations today. It is the tool for solving many of the world's biggest problems. By researching the different levels that multiculturalism and framing interacts with creativity, we can better provide space for multicultural individuals to thrive.

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