CHAPTER EIGHT

HOW DIVERSE CULTURAL EXPERIENCES INFLUENCE THE CREATIVITY OF INDIVIDUALS: DRAWING CONCLUSIONS FROM EMPIRICAL WORKS IN THE FIELD OF PSYCHOLOGY

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Abstract

This chapter examines empirical research contributed from the perspective of psychology on the nature of the relationship between cross-cultural experience– the result of which is a developed sense of intrapersonal multiculturalism– and individual creativity. The implications of this area of research– globally, occupationally, interpersonally, and individually– will be briefly discussed. Thereafter, this chapter will provide an understanding of the psychological perspective of creativity, cross-cultural experience, and the intersection of these two phenomena. The subjects of interest to this chapter include creativity assessment and performance, cultural experiences and cultural identity, and factors of influence to multiculturalism and creativity. Additionally, this section will give theoretical and empirical support for the ssociation between cross-cultural experience associates with creativity.

Chapter Key Questions

- How do individuals, companies, and broader societies benefit from fostering intrapersonal cross-cultural experience and creativity?
- How do psychologists understand creativity?
- How do psychologists understand cross-cultural experience?
- How does cross-cultural experience connect to creativity?
- What is cultural identity and how does cultural identity influence creativity?
- Which cognitive processes associate with cultural experience and creativity?
- What role does adaptability to culture play in influencing creativity?
- What are other influences on multiculturalism and creativity?

Introduction

Many years ago, for a college anthropology course, I attended a Grecian museum exhibit for a class project. I became fascinated by the art etched into practical implements that Greeks used in everyday life. Black paintings seared riveting stories onto hundreds of pieces of pottery and other household items. They seemed to make the practice of portraying stories through art integral to daily life. I appreciated their aesthetic, simple as it was. It seemed to allow them to be prolific in their artistry. For those moments, I found myself absorbed in the unique experiences of people who lived in vastly different ways than I did. I later visited ruins that were once inhabited by ancient Greek societies and drew upon this memory to find new appreciations of the culture.

Think of a time when you came face to face with another culture that was very different from your own culture? Did you find yourself faced with cultural concepts or practices that were wholly different from your *predominant culture*, or that which you draw from most frequently in day-to-day life? Did you feel anything different? Have you ever gained any new ideas or learned new behaviors from a different culture?

Encountering that which makes a culture stand out could give us mental pause. It could even inspire changes to how we think, feel, and behave. Encountering new cultures and interacting with peers from different cultures could even open our imaginations and enhance our creative potential. That leads to the question that I hope to answer for any inquisitive reader encountering this text: Is it possible that developing personal experience with diverse cultures can boost our creativity and innovation? It seems so. Otherwise, this would be a very brief chapter.

How Do Individuals, Companies, and Broader Societies Benefit from Fostering Intrapersonal Cross-cultural Experience and Creativity?

There is good reason to support and value this kind of research, as it has practical relevance to an increasingly globalized and technologically innovative world. Cross-cultural influences are, to some degree, embedded within each nation on the earth- making societies all over the world inextricably interwoven. This is a trend of *globalization,* which describes the dilution of cross-national boundaries and the bolstering of cross-national interdependence (Prilleltensky, 2012). The modern, cross-culturally synthesized world will only continue to enhance its globalized form.

For example, cross-cultural migration is a trend that has steadily risen in the preceding five decades (McAuliffe & Triandafyllidou, 2022). In 2020, an estimated excess of 281 million people left their resident country to find placement in a host country. This figure, while large, represented a slight dip from the preceding year that a concurrent global pandemic likely explained. In the coming years, this figure is likely to rise, particularly so, given the refugee crisis that developed in Ukraine in 2022. As such, it is becoming more necessary to determine ways to incentivize people to have affiliative cross-

cultural relationships and to use influences of other cultures to benefit themselves and others.

In a globalized world, implementing the values and goals of unique cultures aids the progress of each society. Studies which encourage cross-cultural collaboration efforts, such as those which detail creativity enhancement incentives, could have a wide and powerful reach. This is because creative thinking is intertwined with thinking about diverse cultural schemas (Vora et al., 2019). Furthermore, developing a better understanding of the processes associated with diverse cultural experiences and creativity will serve communities that increasingly identify as multicultural by giving them new opportunities to evolve, advance, and innovate together. For example, cross-cultural research can facilitate cross-national superordinate goal development, such as developing pacts to curb climate change and prevent nuclear crises, and improve cross-national relations (Der-Karabetian et al., 2018).

Research on the intersection of cross-cultural experience and creativity has many additional positive implications. Greater intrapersonal multiculturalism is associated with reduced harmful social biases, such as symbolic racism and stereotype endorsement, and reduced harmful social practices, such as discriminatory hiring decisions (Tadmor et al., 2012a). Enhancing one's creativity likely contributes to enhancing one's physical, mental, and emotional well-being, life satisfaction, and their sense of overall personal fulfillment (Kaufman, 2018). Developing one's intrapersonal creativity could also boost their reasoning and problem-solving capabilities. Creativity can also be catalyst in aiding societal harmony, human sustainability, and revolutions in science and technology (Shao et al., 2019).

Individuals who develop greater creative abilities can also benefit the companies they work for. Many modern organizations require that professionals working within them deliver novel ideas and products. This emphasis allows businesses to remain competitive, enhance their services or goods, and advance and evolve the industry guiding them. Novel and imaginative ideas and strategies contribute to several organizational domains, including marketing, advertising, growth, product development, and sales. Research suggests that businesses will benefit from hiring culturally diverse employees. For example, Greater cross-cultural experience predicts greater professional success and enhances how one performs occupationally (Tadmor et al., 2012b). Individuals with greater cross-cultural experience tend to also have better innovative ability, entrepreneurship, and productivity (Karlsson et al., 2021) than their less culturally experienced peers. Additionally, cross-cultural intelligence and cross-cultural adaptability are related to one's social and emotional intelligence (Jyoti & Kour, 2017). Individuals with greater cross-culturalism in their backgrounds might be better able to learn from and engage with diverse others, such as diverse colleagues, supervisors, and friends.

How Do Psychologists Understand Creativity?

Creativity and being human go hand in hand. Creativity is the reason not only for art, but for science and technology. Creativity brought humans to agriculture, so we may feed ourselves, complex mathematical systems, so we may grasp the world around us, language so we may understand each other, and

science, so we may discover the purpose of everything, perhaps even ourselves.

Creativity is a contemporary term, the invention of which seems to have coincided with positive societal shifts in views of individuality and innovation. Prior to the twentieth century, descriptions of modern creativity often discussed it as an exhibition, such as of ambition, talent, genius, or divine inspiration (Kaufman & Glăveanu, 2019). Art was meant to follow the rules of God and society. The term "creation" was reserved to mean something "from nothing". *Creativity* was only used to describe human craft and ingenuity since around the enlightenment period (17th-18th century). 17th-century Polish poet Maciej Kazimierz Sarbiewski is believed to be the first to apply the term creativity to describe human-attributed art in the form of poetry (Citko, 2019).

More recently, particularly in the mid-20th century, psychologists began to take notice and study the human ability to use the mind to create. In the mid-twentieth century, Guilford provided a call to the APA to support the development of creativity research by psychologists and also gave a basic definition of the construct. To be creative, essentially, is to provide ideas that are useful and new (Guilford, 1950). Currently, creativity psychologists understand and study creativity in a myriad of ways. There are over 100 definitions of the creativity floating around in the relevant creativity literature (Said-Melwaly et al., 2017). A modern and widely adopted definition used in Psychology describes creativity as the expression of ideas that are original (unique) and appropriate (adaptive) to the task at hand (Kaufman, 2021). As such, researchers often assess creative ideas for features of originality and usefulness. However, other oft-measured features of creativity include idea abundancy (ideational fluency), concreteness (abstractness), detail (i.e., elaboration), evidence of expertise (skill), and categorical offerings (creative flexibility; Cropley, 2000).

Creativity has an environmental component as well. Creative ideas are often compelled by a need to resolve pressing or unanticipated problems. Creative experience is based on how one acts and interacts with the environment around them. To have creative experience marks how willing one is to engage with the uncommon and to explore the common in unconventional ways. Additionally, having creative experience marks how capable one is of using their interactions with the world around them to think of multiple perspectives and to conceptualize in open, broad, and progressive ways (Glăveanu & Beghetto, 2020).

Creativity Stages

A well-developed creative imagination can give individuals continuous opportunities to better understand and contribute to society and to evolve in intrapersonal and interpersonal ways.

As far as humanistic elements are concerned, creative expression can support intrapersonal well-being by providing ever-increasing, self-guided enrichment opportunities (Kaufman, 2018). Additionally, human beings are often interpersonally motivated to be creative, as creativity assists people in

developing relationships, gaining affection, and contributing to the wellbeing and advancement of others (Benedek et al., 2020).

Mechanistically speaking, creativity can be discussed as a series of cognitive stages. Initially, a preparation stage occurs. This stage involves using preexisting knowledge and skills along with sought-after knowledge of experts in the domain of a new creative problem. If I want to find a way to build a better mousetrap, I should consult my current understanding of what a mouse trap is. The preparation stage often relies on neural connectivity in the brain, well developed cortical association areas and stored and cycled memories and terminology linked with processing in the left temporal region of the brain (Heilman, 2016). Previous expertise and stored cognitive information help prepare us to develop new ideas for tricky problems.

Second, a creative incubation stage takes place. This stage involves mind wandering and subconscious processing, both of which can facilitate forming new and previously obscure connections and ideas regarding creative problems. The incubation stage could allow is to dissolve rigid thinking patterns and develop an expansive mindset and synthesize mental material. If I want to build a better mousetrap, and I become stuck and unable to find a solution, proper rest and redirecting my attention to another problem could help my brain to cycle through scenarios and creative ideas in the "background" which could later synthesize in the "foreground" of the mind. The brain area known as the angular gyrus, which helps people to combine ideas and form disparate connections, tends to increase in activity during incubation periods prior to solving some creative problems (Li et al., 2019). Incubating on a creative problem appears to compel new perceptions and creative imagining to foster ideas in the final creative cognitive stage: Illumination.

In the illumination stage, a person determines the best possible idea to solve a creative problem. During this stage, an optimal solution is decided upon and evaluated for appropriateness. In wanting to build a better mousetrap, I might ultimately produce an idea for a new, non-lethal contraption made of inexpensive and biodegradable materials that allows me to free the mouse at my discretion. Thus, an optimal solution is illuminated. The prefrontal cortex appears, which allows for use of inhibitory control, focus, problem-solving, and working memory capabilities to be employed, is highly active during this final stage (Rominger et al., 2018).

Creativity: Convergent and Divergent Thinking Forms

Researchers typically distinguish creativity into convergent and divergent forms. These two forms of creativity are distinctive in some respects and similar in others (Cortes et al., 2019). Exhibitions of convergent creativity involve convening on a single, creative solution to a problem. Convergent creativity can result from scrutinizing multiple creative potentialities and selecting an ideal solution (Cortes et al., 2019). The associative, as in recombinative, nature of convergent creativity is a distinguishing feature of the construct (Heilman, 2016). In comparison, exhibitions of divergent creativity include the development of numerous, unique creative solutions. Divergent creativity describes as an expanded form of convergent creativity (Cortes et

al., 2019). This form of creativity typically evidences in the generation of fluent, original, innovative, elaborative, flexible, and useful ideas.

It warrants mentioning that Eastern and Western cultures tend to conceptualize creativity distinctively. Western societies, such as North America and Northern Europe, tend to value novelty and exceptionalism, while Eastern societies, such as China and Taiwan, tend to value the social and moral contribution a creative solution brings (Kharkhurin, 2014). As such, researchers located in different cultures often assess and describe the construct of creativity in distinct and culture-specific ways (Shao et al., 2019). Unique cultural backgrounds could partially explain why culture-specific creativity differences are often present in those participating in research studies on cultural diversity and individual creativity (e.g., Lau et al., 2013; Xinfa et al., 2013).

How Do Psychologists Understand Cross-Cultural Experience?

Cross-cultural experience results from of engaging with elements of a non-native society, either by observing them, interacting with them, or both (Maddux et al., 2021). Experiences with different cultures give us perceptions we might not otherwise have of different behaviors and perspectives. Cross-cultural experience brings with it new awareness of elements of life outside of the culture we typically draw from. These elements include the media, people, art, values, customs, history and norms derived from a region(s) and its citizens. These encounters are thought to stimulate an individual to take cross-cultural perspectives, freshly consider elements of other cultures, suppress stereotypes, and realign one's views to approximate the new culture more closely (Hodson, et al., 2018). Experiencing a unique culture also functions to provide meaning to our lives and connect us with societal advancement and social coordination (Chao & Kesibir, 2013).

Cross-cultural experience can be shallow or quite rich. Cross-cultural experience is commonly indirect or observational, such as with the viewing of a foreign film. While less common, experiencing another culture directly and interactively, such as by having a conversation about the unique cultural upbringing of a friend or traveling abroad, is likely more influential to mental change (Aytug et al., 2018). Still, various types and degrees of cross-cultural experience can induce psychological adjustments, changes one's sense of intrapersonal multiculturalism and cultivate new understandings of cultural identification. Culture of origin, personality, cultural intelligence, duration of time with different cultures, frequency of contact with diverse cultural peers, and depth of immersion within different cultures all play a role in how we adjust to other cultures (Maddux et al., 2021).

Cross-cultural experience fosters *multiculturalism* in individuals, and these terms can be considered interchangeable. That said, cross-cultural experience typically describes a broader phenomenon. Multiculturalism describes the presence of cultural diversity within a person (Leung & Wang, 2015). Multiculturalism is an intrapersonal sense of developed cross-cultural experience. A person alters their multiculturalism while engaging with cultural contexts, developing an intercultural identity, fostering cross-cultural skills, and considering and thinking in cross-culturally influenced ways (Vora et al.,

2019). Vora et al. (2019) describes three spectrums of multiculturalism: knowledge, identification, and internalization. Cultural knowledge involves understandings about culture, cultural meanings and implications, and linguistic influences. Cultural identification involves constructing representations of the self-based on cultural membership, specificity, strength, number, and distinctiveness experiences. Internalized aspects of multiculturalism include all thoughts, feelings, and behaviors one cognitively associates with culture in developing a cultural self-schema. These multicultural dimensions are suggested to be continuously adapted, strengthened, and weakened over time, both within and outside of one's native culture environment.

As several elements influence and characterize a cross-cultural experience, including depth and breadth of experience, customs, norms, values, interpersonal interactions, culture-specificity, language, predominant religion, history, and art, most instruments currently used to evaluate intrapersonal cross-cultural experience assess a number of these elements at once. These instruments include the Multicultural Experience Questionnaire (MEQ; Narvaez & Hill, 2010), the Multicultural Experience Survey (MES; Leung & Chiu, 2010), and the Multicultural Experience Assessment scale (MExA; Aytug et al., 2018b).

The MEQ (Narvaez & Hill, 2010) has two main subscales. A Multicultural Experience subscale represents the quantity and nature of actual multicultural experiences. A Multicultural Desire subscale represents the qualities of motivation to engage with foreign cultures. The MES (Leung & Chiu, 2010) contains eight items about the following: bilingualism, percentage of one's lifetime spent living out of state, immigration of parents, the extent of multicultural exposure, and cross-cultural preferences consistent with one's five favorite restaurants, musicians, and friends. The MExA (Aytug et al., 2018b) taps the duration, location(s), exposure level, and interaction level of cross-cultural experience in a test taker. A subscale of six items measures the degree of test-taker cross-cultural exposures (i.e., instances of observing other cultures). A subscale of four items measures the degree of test-taker cross-cultural interactions (i.e., reciprocal communication and behaviors with foreign cultures and citizens). The MExA further assesses the number of years (i.e., duration) and specificity (i.e., breadth) of foreign cultural experience.

How Does Creativity Relate to Culture?

Cultural experiences are thought to associate with our making mental adjustments to suit our understanding of the benefits and drawbacks to adopting other cultural viewpoints and behaviors (Berry, 1997). The adaptive cognitive and behavioral modifications also appear to coincide with creative mental processes (Maddux et al., 2021). When we encounter new cultures, or new concepts related to culture, and we see potential advantages to adjusting to these discoveries, our thinking, can change to become more flexible, open, and adaptive (Goclowska et al., 2018). What is unique before us elicits something unique from within us.

Cross-cultural experiences provide us with opportunities to think about new and unfamiliar concepts we otherwise would not think about. When experiencing new and different cultures, we can find ourselves comparing elements of our own native culture with elements of the new culture. This could lead to new synthesized cultural ideas or a kind of mental recombinative effect. This forming of new combinations of concepts that we relate to culture could extend other mental synthesizing. We could be prepared by new cultural experiences to think of new and interesting combinations of ideas.

Cross-cultural experiences also give us new creative problems to solve, which boosts our creative abilities. The rationale for this phenomenon is that personal encounters with distinctive cultures, modify how we think in such a way that prepares us to adapt our knowledge and behaviors. This kind of mental preparation could drive out unhelpful and rigid attitudes and stereotypes and compel more open, unique, and integrative thought patterns. Those with long-term experiences abroad are said to become familiar with this mental process. It allows them to surrender elements of a familiar culture and to update their mental framework. In so doing, one experiences a related phenomenon of enhanced creative idea generation abilities (Goclowska et al., 2018)

Experiencing new cultures provides new information. We may use information garnered from our own culture with that of the different culture to help us adapt when in an unfamiliar cultural setting. Multiple studies associate multiculturalism with creative cognitive processes, including ideational density (Benet-Martinez, 2006), integrative complexity (Tadmor et al., 2012a), cognitive flexibility (Aytug et al 2018), attributional complexity (Laksham, 2013), cross-cultural adaptability (Maddux and Galinsky, 2009), cognitive frame shifting (Hong et al., 2000), and acculturation strategy (Mok & Morris, 2010).

Cultural Identity and Creativity: Acculturation Strategies

The *acculturation*, or cultural identification, strategy model proposed by Berry (1997) describes how we alter thoughts of our own cultural identity to adapt during, and after, cross-cultural experiences. In this model, when a person is faced with a new culture and feels pressure to align with it in some way, they psychologically change. Their perceptions of the value of adopting other cultures influences how readily they adjust their cultural identity. If there is less value in maintaining identification with relevant influences of one's predominant culture and more value in adopting the influences of a different culture, a person will likely strive to *assimilate*– or maximize their identification with the new culture. They could also choose a strategy to *separate* from the new culture and emphasize their predominant culture, to *integrate* by giving emphasis to both cultures, or to *marginalize* by minimizing the influence of both cultures. Berry (1997) also suggests that acculturation involves shedding of familiar cultural ideas to make way for learning of new cultural concepts. This culture shedding is coind *deculturation*. According to Berry (1997), deculturation immediately precipitates cultural learning and facilitates the cross-cultural adjustment process.

The Stress-Adaptation-Growth Model (Kim, 2008 & 2017) propose that a cross-cultural encounter causes anxiety, motivation to adjust, restructuring of our mental framework, and self-renewal and this leads to a newly recombined cultural identity. According to Kim (2017), culture shedding allows for a mental separation from the culture that primarily influences a person. By diminishing the importance of one culture, a person can more easily and successfully adapt to new cultural influences. Culture shedding does not work alone to influence adaptation to new cultures, though. Deculturation, or cultural unlearning, functions along with acculturation, or cultural comparing and combining, to influence our emergent cultural identities during a cross-cultural experience (Kim, 2017).

Cultural Identity and Creativity: Empirical Support

There is empirical research which supports that cultural identity relates to creative performance. Mok and Morris (2010, study 1 and 2) determined that cueing participants with either their native culture or a non-native culture influenced the degree of novelty, or newness, of their ideas. However, the novelty of their ideas depended on which acculturation strategy these individuals adopted. High integration of two cultures only predicted enhanced novelty of ideas for those primed with a *host* culture. Low integration of two cultures only predicted enhanced novelty in those primed with their *native* culture. This suggests that integration and marginalization cultural identity strategies can exhibit unique effects on creativity depending upon the *cultural context*.

Falavarjani and Yeh (2018) determined that acculturation strategy type relates to convergent creative thinking task performance for Iranian immigrants living in Malaysia. The acculturation strategy of marginalization related to the highest proportion of correct solutions to a convergent creativity task (51.7%), followed by integration (49.3%), assimilation (34.3%), and separation (13.3%) strategies.

Cognitive Processes Associated with Culture and Creativity: Cultural Harmony

Cultural harmony indicates perceived agreement and unity between the cultures one has experienced. It is theorized that cross-cultural experiences can coincide with a perceived lack of cultural harmony and that this recognition of conflict boosts creativity (Kim, 2017). The belief in a lack of harmony, or agreement, between one's predominant culture and a new and culture could initiate creative problem-solving processes. Furthermore, this conflict awareness, couple with an understanding of the benefits of adjusting to a new culture, could destabilize a person's cognitive framework. This cognitive destabilization could precede mental formation of new learning and adaptation strategies. A lack of agreement between cultures can be resolved by a cognitive shift which results in reappraising and reconstructing our cultural under-

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standings (Fee and Gray, 2012). This cognitive destabilization could also precipitate enhanced creative idea generation.

There is empirical support for theories suggesting that low cultural harmony perceptions coincide with enhanced creativity. A lack of perceived cultural blending and cultural harmony appears to aid people in developing more rich and numerous creative ideas curing a culture-specific writing task, for example. Individuals who scored lowly for a measure of cultural integration, which suggests they perceive distance and discord between cultures, performed significantly better in how their essays were rated by judges for certain creative qualities, like cognitive density (Benet-Martínez et al., 2006). *Cognitive density* is an indicator of fluent, flexible, complex and dynamic ideas. This suggests the possibility perceptions of cross-cultural conflict, which could be inherent to some encounters with different cultures, elicits cognitive processes associated with creativity.

Cognitive Processes Associated with Culture and Creativity: Integrative Complexity

Integrative complexity describes the ability to use perceive similarities and distinctions between disparate ideas and concepts and to newly configure them to solve problems optimally (Tadmor et al., 2009). In a cross-cultural context, integrative complexity involves comparing, contrasting, and merging cross-cultural perspectives in preparation for the development of unified culture-specific schemas (Tadmor & Tetlock, 2006). Integrative complexity is often assessed by measuring the integration and differentiation of ideas (i.e., comparing, contrasting, and considering numerous concepts), such as by using the Lumpers and Splitters Questionnaire (Oleynick, 2015).

Individuals with high levels of integrative complexity likely share in a better ability to select from competing perspectives and to determine the advantages and disadvantages of unifying elements of disparate cultures into their cultural identity. Integrative complexity has been found to be a key driver of the relationship between levels of merging multiple cultural identities (i.e., acculturation) and creative fluency, flexibility, and originality (Tadmor et al., 2012a). The relationship between integrative complexity and acculturation can possibly be explained by the association these variables have with processes of deculturation (i.e., the disconfirmation of existing knowledge). It is possible that deculturation precipitates integrative complexity and that activation of integrative complexity processes results in decision making related to acculturation and enhanced creative thinking. Blending two or more cultural identities, which describes integrating the cultures you have experienced, could assist you in creative problem-solving.

Cognitive Processes Associated with Culture and Creativity: Frameshifting

The situated cognition (Hong et al., 2000) view proposes that deeper information processing capabilities result from developing and representing multiple cultural concepts simultaneously. This relates to a phenomenon described as cultural frameshifting. Cultural frameshifting could help a person to under-

stand the implications of their own behaviors in different cultural contexts. Some behaviors work well in one culture (e.g., handshaking in America) but not another (e.g., handshaking in Vietnam). Those with greater CCE likely share an enhanced ability to simultaneously grasp multiple and divergent cultural concepts.

Even brief and relatively shallow experiences of cross-cultural frameshifting, by exposing participants to diverse cultural images, altered their self-perceived cultural identification (Cheng et al., 2006). According to the situated cognition model, multiculturally aligned individuals are more capable of altering their own cognitive processes so they can control how they understand and resolve problems related to differences between the cultures they develop familiarity with (Hong et al., 2000).

Cognitive Processes Associated with Culture and Creativity: Cognitive Flexibility

Cognitive flexibility describes one's proficiency in adjusting their conceptual framework. One can evidence cognitive flexibility when they attend to several tasks at once, hold competing ideas, alter their behaviors quickly to correspond to new circumstance, form new concepts, and rapidly shift their attention. In terms of its relationship to cross-cultural experience, cognitive flexibility could play a critical role in reorganizing our culture-specific thoughts and behaviors and allows us to generate new conceptual understandings relevant to new cultural learning.

Enhanced cognitive flexibility can also boost creativity by facilitating our ability to produce entirely new ideas and idea categories (Aytug et al., 2018). Enhanced cognitive flexibility help us readily generate "cognitive space" to develop in place of one or more displaced mental categories. This, theoretically, could allow new creative processing, such as the generation of new mental categories and new ideas, to be housed within this available cognitive space.

Cognitive flexibility has been found to associate with elements of cross-cultural experience and creativity. Aytug et al. (2018, study 2) found support for cognitive flexibility as a mediator of the relationship of interest. High scores for cognitive flexibility explained levels of fluency and flexibility associated with high scores for multicultural experience. Together, multicultural experience and cognitive flexibility scores explained 13% and 10% of the variance in fluency and flexibility scores, respectively. Kim (2016) concluded similarly to Aytug (2018, study 2), determining that cognitive flexibility explained the relationship between the presence of multicultural experience and superior flexibility and fluency performance. Additionally, Kim (2016) found that cognitive flexibility levels explained the relationship between the presence of bilingualism and superior performance in flexibility, fluency, and originality. These findings support a possible mediating role of cognitive flexibility in the cross-cultural experience and creativity relationship.

Cultural Adaptability and Creativity

Cross-cultural adaptability relates to one's expertise and understanding of cultural elements as well as one's motivation and ability to adopt different cultural ideas and practices. Those with higher levels of cross-cultural adaptability are likely more adept at vetting the appropriate cultural details to emphasize and deemphasize by being better able to appraise cultural information for potential advantages and threats and choice superiority. Cross-cultural adaptability levels likely explain how well an individual assesses cross-cultural behaviors and ideas for merit and suitability and how rapidly and continuously one can generate and implement suitable choices.

Maddux and Galinsky (2009, study 4) determined that individuals' extent of self-reported adaptation while living abroad explained the relationship between living abroad experience and convergent creativity performance enhancement. When adaptation was factored out of the model, the relationship between time spent living abroad, and creative performance disappeared. Additionally, Maddux and Galinsky (2009, study 5) determined that those primed to imagine and write about adapting themselves to a foreign culture received higher independent creativity ratings of drawings than three comparison conditions. These were conditions of being primed to imagine and write about merely observing another culture, being primed to imagine learning a new sport, and a control condition.

This could suggest that the element of adaptation is essential in generating the creative response difference undergone after having a cross-cultural experience, as priming of mere observation of another culture resulted in no significant difference to creativity scores in comparison to the other participant conditions in Maddux and Galinsky (2009, study 5). Continuous adaptation in a foreign environment could be a consequence of extended or repeated cross-cultural exposures. This could coincide with enhanced general adaptability, a feature proposed by Hennessey & Amabile (2010) to partially compose everyday creative problem-solving. Adaptation use may also explain why duration abroad (e.g., Maddux and Galinsky, 2009, study 4) seems to be an important factor in determining creativity enhancement levels.

Other Variables Associated with Cross-cultural Experience and Creativity

Benet-Martínez (2006, study 1) suggests a moderating role of bilingualism in the association between cross-cultural experience and culture-specific creativity task performance. Additionally, Maddux and Galinsky (2009, study 3) determined that the duration of time spent living abroad moderates the relationship between living abroad experience and convergent creativity test performance. Cheng and Leung (2010) results suggest that high distinctiveness-mindset orientation (i.e., heightened consideration of large differences) moderates the relationship between cross-cultural experience and convergent creative performance. Additionally, physiological arousal (Tan et al., 2018), number of languages spoken (Kharkhurin, 2007; Falavarjani & Yeh, 2018), age (Falavarjani & Yeh, 2018), bicultural identity integration (Benet-Martínez, 2006, study 2; Mok & Morris, 2010), and acculturation (Tadmor et al., 2012b) are likely moderators of the relationship between cross-cultural expe-

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rience and enhanced creativity. Gender and socioeconomic status (Lee et al., 2012) also likely influence creativity in those exposed to multiple cultures, though gender tends to moderate the relationship differently, or not at all, between studies (e.g., Yi et al., 2013). Other positive moderators of the relationship include personality characteristics, such as openness to experience (Leung & Chiu, 2008) and extraversion (Leung & Chiu, 2010).

Lastly, conscientiousness (Chang et al., 2014), need for cognitive closure, time pressure, and mortality salience have been found to negatively moderate the relationship between cross-cultural experience and creativity (Leung & Chiu, 2010). It is also theorized that neuroplasticity acts on the neural networks associated with creativity and cross-cultural experience. Neuroplasticity describes the biopsychosocial process of neuroadaptive changes in the brain that result in continuous enhancement to mental processes that receive continuous usage (Garland & Howard, 2009). There is research to support that neuroplasticity strengthens neural networks associated with enhanced creativity. For example, participants administered a form of mindfulness training exhibited increases to gray matter in several brain areas, including the cerebellum, and this was associated with improved cognitive flexibility scores derived from the AUT (Ben-Soussan et al., 2015, study 2). The cerebellum is theorized to have a predominant role in learning about culture and synchronizing with members of other cultures (Vandervert, 2016).

There is also indication that creative cognitive training results in neuroplastic increases to activity levels and physical gray matter in the dorsal prefrontal cortex and other brain regions and this correlates with improved fluency and originality (Sun et al., 2016). There is additional support that physical changes to the dorsal prefrontal cortex result in long-term enhancement to a sum of creative fluency and flexibility scores (Chen et al., 2018). Other research supports that Western cultural identification is associated with enhanced gray matter volume in the prefrontal cortex (Huang et al., 2019). Additionally, there is support that culture-specificity is associated with some neural networks responsible for mediating creative processes, namely that Eastern culture identification is associated with creative inhibition processes (Ivancovsky et al., 2018). Together, this research provides a link between cross-cultural experience and enduring adaptive enhancement to creativity.

Current Psychological Theories: Cross-cultural Experience and Associated Creativity

It is possible that when a person experiences another culture, they have a new opportunity to cast stereotypes aside and this makes way for unique and practical creative ideas about culture to emerge. In successfully suppressing preexisting stereotype beliefs, one can more successfully adjust to new cultures (Crisp & Turner, 2011). It is possible, then, that stereotype suppression can become automated in those who have multiple cross-cultural encounters. This process can lead to enduring, enhanced generative thinking. Generative thinking, in this context, describes generating multiple forms of thought which lead to multiple problem solutions after supplanting outdated mental

categories. Stereotype disconfirmation could effectively destabilize formerly rigid cognitive structures, which could then spur creative thought processes, such as shifting and reforming of cognitive categories and adapting to cross-cultural influences (Crisp & Turner, 2011).

Maddux et al. (2021) posit that cross-cultural experiences lead to the formation of entirely new and adaptive ideas that are derived from previously foreign sources. It is suggested that expansive and complex forms of thinking are adopted because they allow a person to form new mental categories (i.e., flexibility) that are related to the cross-cultural experience. Leung and Chiu (2010) suggest that repeated encounters with diverse cultures facilitate continuous adaptive responses in the brain that are related to creativity because these experiences lower a person's resistance to adopting customs and norms that are continuously encountered. Aytug et al. (2018) suggest that experiences and interactions with diverse cultures can elicit an interruption to rigid thinking which can prepare the experiencer to accept and adopt new schemas.

Additionally, a person is can modify their existing cultural theoretical framework after interacting with individuals from disparate other cultures (Crisp & Meleady, 2012). The multicultural hypothesis of Crisp and Meleady (2012) suggests that a modification of existing schemas, or conceptual mental networks, occurs when one carefully considers cross-cultural perspectives and practices. This schema reorganization can compel dynamic changes to preexisting and fixed manners of thinking that assist an individual in adapting to an unfamiliar environment. Crisp and Meleady (2012) offer that this could also lead to collective gains. Societal level gains, such as a more rapid cultural evolution, could result from many individuals adapting their cultural knowledge and practices at once. Furthermore, a person could be more inclined to creatively incorporate the thoughts and behaviors of cross-cultural individuals (Hodson et al., 2018).

Conclusion

A culturally inspired creative frame of mind seems to elicit new creative ideas and opens the door to allow us to make great contributions to our own lives and the world around us (Sharif, 2019). Research projects on the relationship between individual creative performance and cross-cultural experience gives evidence of a connection between these two phenomena. Creativity enhancement is a reliable result of exposure to multiple cultural settings, people, influences, and knowledge (Maddux et al., 2021). It is likely that a number of factors interact and influence how one responds to cross-cultural experiences and how one portrays creative problem solving. Psychological theories and empirical works support that there are several connections between cross-cultural experience and enhanced creativity. The mental processes associated with adapting to cross-cultural experience likely relate to enhancing a person's creative abilities to (a) gain insight into solutions for convergent problems that require divergent thinking, (b) engage associative and adaptive learning, and (c) exhibit cognitive complexity and highly iterative conceptualizing.

The current theoretical and empirical understanding of this relationship seems to support that creative thinking is enhanced in those who develop

experience with different cultures because these individuals have more expe-
rience with mental processes associated with cultural adaptation and cultural
identity development. One's ability to create more freely and effectively
could be associated with their drive to resolve outdated understandings about
culture, their thinking newly about disparate cultural concepts and behaviors,
their development of strategies to identify themselves with cultures, and their
ability to create new manners of thinking, feeling, and behaving that will suit
themselves to one or more new and different cultures.

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