



# Fear-Free Cross-Cultural Communication: Toward a More Balanced Approach With Insight From Neuroscience

*Mai Nguyen-Phuong-Mai\**

*Amsterdam School of International Business, Amsterdam University of Applied Sciences, Amsterdam, Netherlands*

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### **\*Correspondence:**

Mai Nguyen-Phuong-Mai  
dr.nguyenphuongmai@gmail.com

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In cross-cultural communication and adjunct disciplines such as cross-cultural management and international business, there is a negativity bias of seeing cultural differences as a source of potential issues. The emergence of Positive Organizational Scholarship (POS) questions this problem-focused approach. This paper contributes to the ongoing discussion from neuroscience's perspectives in several ways. Firstly, it provides a neurological look at this bias. Secondly, it proposes that the problem-focused approach may (1) give us a biased outlook of cross-cultural encounters rather than a reality, (2) hinder creativity, (3) lead to the rebound effect, and (4) turn belief into reality. Finally, based on insight from neuroscience and adopting the POS lens with the connection between POS and creativity, it's recommended that future research takes three directions: (1) Using similarity as the starting point; (2) strategize body language, context and theories; and (3) develop a multicultural mind. In essence, the paper contributes to existing knowledge of the field by employing an interdisciplinary approach, aiming to gain a more holistic view, provoke thoughts, and trigger future empirical studies.

**Keywords:** culture, cross-cultural communication, negativity bias, neuroscience, fear, positive organizational scholarship, creativity

## INTRODUCTION

Positive Organizational Scholarship (POS) is a paradigm of research defined as “the study of conditions and processes that contribute to the flourishing of optimal functioning of people, groups, and institution” (Gable and Haidt, 2005). At both individual and organizational level, flourishing is indicated by creativity, innovation, and synergy (Amabile et al., 2005; Fredrickson and Losada, 2005). In essence, POS is the response to the strong bias toward negative phenomena, dysfunction and illness that are so prevalent in psychology (Roberts, 2006). It has triggered a paradigm shift across many disciplines, including various fields of cross-cultural communication. An increasing number of studies have begun to point out that while positive aspects of cultural differences have been studied for decades, there seems to be a preponderance of the negative aspects in cross-cultural literature and this may exert impact in theories building, hypotheses formulation, empirical testing and practice development (e.g., Shenkar, 2001; Caza and Caza, 2008; Shenkar et al., 2008; Stahl and Tung, 2015; Stahl et al., 2016; Cameron, 2017; Nguyen-Phuong-Mai, 2017a,b, 2019a).

In essence, it is a “problem-focused view” of cultural diversity (Stevens et al., 2008) that sees cultural differences as “a source of conflict than of synergy,” “a nuisance at best and often a disaster” (Hofstede, 2001). The point of contact is regarded as where cultures “collide” (Lewis R. D., 2000) with “consequences” (Hofstede, 2001). Fundamental constructs such as “cultural distance” (Kogut and Singh, 1988) and “liability of foreigners” (Zaheer, 1995) treat culture as an information cost (Caves, 1996) and cultural differences as potential conflicts (Lyles and Salk, 1996), impeding knowledge exchange (Van Wijk et al., 2008), decreasing alliance longevity (Barkema and Vermeulen, 1997), acquisition cultural risk (David and Singh, 1994), disruptive cultural clashes (Marks and Mirvis, 2010), and merger disaster (Black and Mendenhall, 1991). There is a 17:1 imbalance of negative over positive theoretical research assumptions on the role of culture in international business contexts (Stahl and Tung, 2015). All but one dominant theoretical perspectives on cultural diversity are consistent with the problem-focused view (Stahl et al., 2010). Negative phenomena dominate in business press and organizational studies literature by a factor of four (Margolis and Walsh, 2003). Out of 500 published articles on organizational change between 1990 and 2007, 40% addressed negative change whereas only 4% addressed positive change (Cameron, 2008). Five out of six most cited article in two prominent business journals focused on problems in organization (Caza and Caza, 2008), and the presence of negatively biased words increased 4-fold in the business press (Walsh, 1999). In sum, it is largely the fear of failure and the need to deal with challenges that underline incentives of researching and learning about cultural differences. Commenting on this, Cameron (2017) wrote that “a fear of uncertainty and the unknown dominates cross-cultural communication strategies.”

Several authors have tried to hypothesize the reasons for this preponderance of the negative over the positive in theories and research on cross-cultural literature. For example, Fang (2005-2006) suggested that the discipline was born in the context of the Cold War, and thus, influenced by the defensive state of mind and the assumption that cultural differences could contribute to the failure of the American diplomats’ missions and made them lag behind the Russian (Leeds-Hurwitz, 1990). However, beyond the impact of the Cold War, there are fundamental reasons why such a problem-focused approach has become so mainstream. Stahl and Tung (2015) proposed these explanations: (1) For survival reasons, negative events are more visible and influential than positive events; (2) Media may influence researchers in the selection of their topics; (3) Western leading theorists are influenced by the Greek Aristotelian linear logic that avoids contradiction, and thus, tend to regard differences as either positive or negative; (4) The pervasive use of “cultural distance” construct, that by its definition, associates cultural differences with negative consequences; (5) Publication biases may cause the over-emphasis on negativity as scholars unwittingly ignore seemingly counterintuitive findings.

In short, due to a variety of reasons, there seems to be a prevailing literature in cross-cultural communication that tends to place an emphasis on the “dark side” of cultural differences. This hinders us from unlocking our creativity and understanding

the benefits that cultural diversity can deliver. In this context, POS seeks to unravel processes through which individuals and organizations can achieve positive outcomes. This paper contributes to that call by incorporating insight from the field of neuroscience. First, it uses evolutionary and brain science’s perspectives to explain the reason why negativity bias tends to prevail in theories and practices. Second, taking into account the evolutionary root, neuronal processes and consequences of the negativity bias and related phenomena, the paper proposes four hypotheses that the problem-focused approach may influence theories and practices in cross-cultural communication. Finally, based on advances in neuroscience, the paper discusses how a more balanced approach could be achieved and provides a road map to go forward.

## THE NEUROSCIENCE OF NEGATIVITY BIAS

From evolutionary point of view, it is adaptive for bad to be stronger than good. In nine universal emotion taxonomies summarized by Rozin and Royzman (2001), seven of them are negative emotions. This disproportion also exists in the six-emotion framework by Ekman et al. (1969). Evolution seems to be biased in using negative emotions as survival strategies (although see An et al., 2017 for an argument on two sides of a negative or positive emotion). Escape and avoidance are essential to humans’ survival, much more than joy and happiness. One single positive thing or person cannot make the whole system thrive, but a single negative thing or person can cause a system to fail. This negativity bias explains why “bad” trumps “good”, or better put, a bad event has a stronger impact than a comparable good event (for thorough reviews, see Baumeister et al., 2001; Rozin and Royzman, 2001 but also consider Corns, 2018 for a counterargument).

The neurological process of this bias has been discussed in a number of studies (Ito and Cacioppo, 2000; Schupp et al., 2004; Carver and Vaccaro, 2007; although see Hilgard et al., 2014 for refined paradigms). In their electroencephalogram (EEG) study, Huang and Luo (2006) used positive, negative and neutral conditions with pictures as emotional stimuli. Brain signals indicated that the attentional negativity bias occurred in three temporal stages: emotion perception, emotion processing, and reaction readiness. Firstly, in the P2 time window, which is 200 milliseconds after stimulus onset and often the boundary between unconsciousness and consciousness, the amplitude of the negative block was larger than that of the positive block. This indicates that during emotion perception, negative pictures captured more attention and that attention bias occurred automatically. Secondly, during emotion processing, stimuli are analyzed by matching with previous experience. In the study of Huang and Luo (2006), negative pictures evoked a larger late positive component (LPC) than positive pictures, indicating that negative stimuli demand more resources, arguably due to their vital role for survival. Thirdly, lateralized readiness potential (LRP) represents the time required for the brain to have a conclusion and response for a stimulus, i.e., reaction

readiness. Participants in Huanga and Luoa (2006) had shorter LRP latencies for negative pictures, indicating that these events should be dealt with as quickly as possible—a response bias that arguably allows humans to deal effectively with dangerous situation. Interestingly, this negativity bias is higher in children and adolescents, which means a neutral event is not perceived as emotionally neutral but leaning toward negative (Marusak et al., 2017).

With functional magnetic resonance imaging (fMRI), some candidate brain regions that may be involved in the negativity bias have been identified, including the right inferior frontal/insular cortex (Cunningham et al., 2004), the bilateral pregenual anterior cingulate cortex (Ito et al., 2017) and the prefrontal-amygdala circuitry (Carlisi and Robinson, 2018). Among these candidates, the amygdala has attracted much attention with its role as an integrative detective center for emotion (Ohman, 2005). To be more specific, it is involved in processing the emotional intensity than valance, which means while the amygdala is sensitive to both positive and negative stimuli, the negative stimuli lead to greater relative modulation (Winston et al., 2005; Lewis et al., 2006). We can connect this to the preparedness theory (LeDoux, 1996) which proposes that *before* the cortex has managed to figure out what the object actually is (consciousness), the amygdala already decided whether the object is good or bad. By showing images of faces for only 33 milliseconds, participants could not process the untrustworthy faces, but their amygdala did (Freeman et al., 2014). An experiment with cortically blind people (those with brain damage in the visual cortex despite functional eyes) showed that even when they couldn't consciously see fearful faces, the brain still picked up the visual signal of fear (Morris et al., 2001), and thus, the amygdala's response to eye contact does not require an intact primary visual cortex (Burra et al., 2013). Subconscious fear remains robust when people consciously perceive joyful facial expression or emotional voice (de Gelder et al., 2005), i.e., subconscious fear is registered *despite* conscious happiness.

Taken together, we can conclude that the brain prioritizes fear and negative events above all other emotions and registers fear before consciousness. This quick, binary and subconscious assessment is essential for survival, but it also has two consequences: (1) humans have the tendency to disregard complexity by categorizing them into a simple “either-or” system (Wood and Petriglieri, 2005), and (2) a bias toward negative events. In comparison with positive events, we pay more attention to them, spend more brain resource to process them, and react quicker to them (Huanga and Luoa, 2006).

With insight from the neuroscience of negativity bias, it is critical for us to link this understanding with the bias toward differences and problems in cross-cultural communication. It may explain the reasons why negative factors have won the focus and captured more attention in scholarly analysis (Czapinski, 1985; Seligman, 1999). Individuals and organizations may tend to see cross-cultural encounters as either good or bad, and emphasize negative phenomena because they imply threats to survival. Cultural theories and practices that revolve around the danger of differences may tap directly on this fear, activating the most natural and the quickest way for the brain to switch on its

alert mode, ready to fight with a potential enemy, or ready to run away from problems.

## POTENTIAL ISSUES OF THE NEGATIVITY BIAS IN CROSS-CULTURAL COMMUNICATION

While being an evolutionary advantage, the negativity bias also poses challenges. This section contributes to the discussion by using neuroscience as a framework to hypothesize the issues that the problem-focused approach may adversely exert an impact in communication across cultures. Given the evolutionary root, neuronal processes and consequences of the negativity bias and related phenomena, it is hypothesized that the problem-focused approach may (1) reflect a negativity bias and not the reality of cross-cultural contact, (2) hinder creative thinking and win-win problem solving, (3) trigger the rebound effect that would lead to the engagement of what should be avoided, and (4) prime people to look for fitting evidences and create a matching reality.

### Bias or Reality?

Firstly, it is important to address the mismatch between the present and the “era of evolutionary adaption” (Williams and Nesse, 1991). In essence, the social environment has changed so rapidly, yet humans are still equipped with the brain that is super sensitive to threats. It still employs the ancient fight-or-flight response for both “physical real dangers” (e.g., tiger) and “mental perceived dangers” (e.g., my business partner doesn't speak the language I can understand). Secondly, bad news in the ancient time was discussed, shared, and acted upon in order to ensure survival. In the modern era, bad news is often passively watched individually without many opportunities to be part of the solution (Price, 2003). Thirdly, bad news in small tribes of about 150 individuals was far less intensive than the current reports of problems coming from prevalent social media and cable networks covering an entire world of more than 7 billion people (Price, 2003). Such an intensity taps on the anxiety-generating effect of bad news, hyper-activating the fight-or-flight reaction, creating a continuous false alarm, afflicting us with persistent, outsized fear responses to seemingly ordinary stimuli (Hofer, 1995; Price, 2003). In a vicious circle, when the negativity is on focus, the brain may magnify its consequences. Studies in pain process suggested that people feel *more* pain if they pay attention to the pain instead of a distraction (Dowman, 2004; Sprenger et al., 2012; Blom, 2017).

Linking this insight with the disproportionate ratio of negativity over positivity (17:1) in cross-cultural management research (Stahl and Tung, 2015), and the remark that “a fear of uncertainty and the unknown dominates cross-cultural communication strategies” (Cameron, 2017), there seems to be a need to investigate the degree to which this is a justified or an illusive anxiety. In other words, are cultural differences *that* aversive or this is a false alarm? Is focusing on the negativity of cross-cultural exchange akin to putting a magnifying glass on the downturns? By regarding culture as “a source of conflict than of synergy” and “cultural differences [...] often [as] a disaster”

(Hofstede, 2001), do we risk distorting the reality, i.e., seeing cultural diversity largely as a source of communication failure instead of some *complex* issues that can be both advantageous and disadvantageous? In short, is this a bias or a reality?

Stahl and Tung (2015) attempted to answer this question within the realm of international business research. They concluded that theoretical studies are predominantly negative while empirical studies that actually examined the impact of cultural differences revealed a more neutral picture with almost half of the results (47%) reported the impact of cultural differences to be either positive or inconclusive. Other meta-analyses also suggested that effect sizes for relationship between cultural differences and outcomes are small, inconclusive, mixed, or context-dependent (e.g., Tihanyi et al., 2005; Stahl and Voigt, 2008; Stahl et al., 2010). Returning to the question of whether there is a negativity bias in cross-cultural studies or do they simply reflect the reality of cross-cultural encounters, the answer should wait for further research. However, indication from studies in adjacent fields suggested that there is little evidence that in reality, cultural differences systematically give rise to failures in cross-cultural communication.

## Barrier to Creativity

In everyday lives, humans encounter the need to estimate the occurrence of an event, especially when such event is negative. When the occurrence of a negative event is uncertain, they predict higher frequency of threat (i.e., negativity bias) even when the amounts of neutral and negative stimuli are equal (Grupe and Nitschke, 2011; Qiao et al., 2018; although see Hochman and Yechiam, 2011 to understand the mixed results and complexity of decision making under uncertainty). Using EEG to capture the brain's signal, research suggested that following the uncertain cue, people overestimated the effective frequency of aversive pictures and showed a tendency for more negative valence ratings (Dieterich et al., 2016). In short, uncertainty not only elicits the likelihood to perceive neutral cues with aversive consequences but also leads to state anxiety as a defensive motivation (Wiemer et al., 2014).

Next to negativity bias, uncertainty also results in a resistance to creativity. As the engine of discovery and development (George, 2007), people may strongly endorse creativity, but at the same time, subconsciously have a bias against it (Dawson et al., 1999; Ford and Gioia, 2000; West, 2002). This is because uncertainty pulls them back from seeing innovative ideas even when they are present (Mueller et al., 2012). Creativity needs a tolerance of ambiguity (Stoycheva, 2003; Zenasni et al., 2008) because ambiguity is linked with stress (De Berker et al., 2016). For example, those who knew their positive medical test's result for Huntington's disease suffered less from depression than those who lived with the uncertainty (Wiggins et al., 1992). At the collective level, research also suggests a negative relationship between uncertainty avoidance and endeavors that need a tolerance for ambiguity such as organizational innovation and entrepreneurship (Waarts and Van Everdingen, 2005; Wennekers et al., 2007; Valdez et al., 2011; Strychalska-Rudzewicz, 2016; but see Sully de Luque and Javidan, 2004 for a mixed result).

Thus, both behavioral and neuroscience studies tend to suggest that uncertainty leads to negativity bias and a resistance to creativity. The hypothesis here is, if uncertainty reduces creativity, then negativity bias, as a direct product of uncertainty, may also hamper creativity. Note that in an organization, cultural differences can hinder exploitation but enable exploration (Stahl and Tung, 2015), bringing benefits when teams are given tasks that demand creativity (Sivakumar and Nakata, 2003) but not when team face uncertainties and risks (Barkema and Droegendijk, 2007). If cultural differences support innovation and discovery, then seeing cultural differences as problems may increase uncertainty, create a negativity bias toward diversity, hinder this fundamental learning process, one that would lead to creativity through experimentation, leading to the organization' "long jumps" (Gavetti and Levinthal, 2000) and breakthrough innovations.

Further, by equating cultural differences to a source of conflict (Hofstede, 2001) and using the equation of "cultural distance" (Kogut and Singh, 1988) to measure the level of incompatibility along a linear dimension, this approach has a potential to frame things as win-lose/either-or. A cultural difference either brings benefits or disadvantages, not both. This binary in theoretical construct may discourage people to think creatively, embrace paradoxes, see differences as *both* problems *and* opportunities, reach synergy and win-win solutions.

Taken together, there is evidence that allows us to hypothesize a link between negativity bias and creativity. Such a preposition allows us to question the impact of the problem-focused approach in cross-cultural communication and investigate the extent to which this outlook may hinder creative problem solving. As Taylor (1991) argued, in the long-term, focusing on negative events is maladaptive, as it prevents us from engaging in productive and innovative work.

## Rebound Effect

In the "ironic process theory," Wegner (2009) proposed that there are two processes in cognition control, an operating process (search for information consistent with goals) and a monitoring process (search for information inconsistent with goals, i.e., goal implementation has failed). Since the operating process is more resource demanding, under situation of stress, it can be compromised, thus, allowing goal-inconsistent information to take over. The result can be undesirable as people may show a negativity bias (Mather and Knight, 2005) or do exactly what they want to avoid (e.g., Wason, 1961; Hasson and Glucksberg, 2006). For example, if we are told "not" to imagine a disaster, thought suppression can lead to an ironic rebound of unwanted thought and/or create an insidious cognitive load, and we *will* imagine a disaster (however, for a more nuanced picture, see Najmi and Wegner, 2009). Such ironic process is partly due to the fact that reaction to fear and negativity (i.e., what we want to avoid) is faster than conscious action, which again, serves as a survival skill.

This insight from neuroscience suggests that when cognitive resource is limited and in stressful situations, rebound effect may occur with a bias toward negative information and events. In a feedback loop, negativity bias and stress can reinforce

each other through the brain-body arousal correlates of fear circuitry (Williams et al., 2009). We can hypothesize that when cross-cultural exchanges encounter stressful periods, rebound effect can potentially happen in a way that makes individuals unwittingly think about negative outcomes, and/or act the way that may lead to the very negative outcomes they want to avoid. Further, since stress has a complex connection with creativity (Byron et al., 2010), this hypothesis may also include the extent to which stressful cross-cultural encounters can hamper our ability to see the mutual benefit of cultural differences and search for a creative win-win approach.

While further research is needed to investigate such a hypothesis, some initial indication may come from cross-cultural training programs that act as preemptive strategies. Far from reaping reward, trainings that emphasize the threat of failures due to cultural differences, or stem from the purpose of avoiding lawsuits actually have a negative effect because they create stress and fear (Dobbin et al., 2007). To reassert their autonomy, unwilling and stressful training participants may psychologically challenge the whole system by doing exactly the opposite, hence perpetuating the cultural biases, prejudices and stereotypes rather than confronting them. The demands to change can be quite challenging if people perceive them as a threat to their status, certainty, autonomy, relatedness, and fairness—some of the most primary concerns that tap into the brain's emotional system (Rock, 2008). In fact, a great number of corporate training fail because they are based on a stressful, reactionary and fear-embedded mentality, one that actually elicits rebellion, secret sabotage, and (sub)conscious punishment for revenge (Dobbin and Kalev, 2016). Pressure may not spur people onto great leaps of insight, and fear as a management technique can be counterproductive. Amabile et al. (2002) argued that pressure may make people *feel* more creative, while they can actually cause them to *think* less creatively. Certain kinds of stressors kill creativity and create the appearance that people are working harder, longer, faster on the solution, but only at the surface while in fact, many are just trying to protect themselves and avoid failures. Using negativity as a stress motivation is effective in the short term, but can be counterproductive, as shown in the experiment of Putwain and Remedios (2014) which reported lower exam performance when teachers highlighted the consequence of bad grades.

## From Belief to Reality

Another hypothesis for the impact of the problem-focused approach in cross-cultural communication comes from two relating phenomena: “confirmation bias” and “self-fulfilling prophecy.” Confirmation bias is the tendency to search for what confirms one's view. In small bands of hunter-gatherers, winning arguments was more beneficial than analyzing right from wrong since it helped to bolster one's social status. Hence, humans have evolved a tendency to accept facts and opinions which reaffirm our view, and reject those which challenge it, especially when we do not have the resources to counter such information (Sherman et al., 2004). For example, the information processing parts of the brain were more active with positive messages from ingroup leaders, and negative messages from

outgroup leaders (Molenberghs et al., 2015). When leaders give contradictory statements, followers would subconsciously pick messages that reflect their own standpoints (Westen et al., 2006). The brain even *distorts* facts to fit the belief. For example, because women are expected to smile and black men are associated with aggression, female faces are perceived as “happy” and black male faces as “angry,” even when the opposite is the case (Stolier and Freeman, 2016).

It is important to link confirmation bias with the fact that most fear for negativity is culturally conditioned. There is a complex dialogue between the amygdala (emotional memory) and the hippocampus (factual memory) in the formation of fear (Isaacs, 2015; Desmedt, 2017). Together, they provide a context for the receiving data, putting problems into perspective (Izquierdo et al., 2016). Thus, memories make data meaningful, especially in conditioning fear where stimuli match signals that are previously associated with threat responses. To a certain extent, we are what we remember. Hence, confirmation bias enables humans to refer back to what is stored in the memory and focus on what fits the belief instead of thinking out of the box. It is with this insight that we should question the impact of the negativity bias in cross-cultural communication's theories and practices. In essence, we may want to know the extent to which this hinders us from creatively seeing cultural differences as opportunities, paying attention to evidence that suggests mutual benefits of diversity, and striving for solutions that go beyond the win-lose paradigm.

The mindset of seeing cultural differences as a problem is both built and built-in. The more negative reinforcement people have with regard to cultural differences, the more likely they are to come back to them and regard them as solid facts. Thus, confirmation bias is strongly associated with self-fulfilling prophecy (Stukas and Snyder, 2016)—defined as “you see what you seek, you get what you expect” (Sternberg, 2011). A classic study (Jahoda, 1954) illustrates this well. The Ashanti people in Africa included the day of the week in their children's name and believed that its traits would determine the child's character. Monday is mild mannered but Wednesday is aggressive. Records of the local juvenile court showed that the number of violent acts committed by boys born on Wednesdays was significantly higher than other days. In short, people do live up (or down) to social expectation, or in this case, to their names. In fact, people can internalize and may even look like their names (Zwebner et al., 2017).

Other evidence can be found in the rich line of research on stereotype threats (e.g., Spencer et al., 1999; Stone et al., 1999; Gonzales et al., 2002; Moè and Pazzaglia, 2006). In essence, performance in terms of creativity, flexibility, speed and openness is significantly influenced by the belief people have about themselves (Seibt and Förster, 2004). For example, white men perform more poorly on math tests when they are told their result will be compared with that of Asian men who are often stereotyped as excelling in math (Aronson et al., 1999). In neuroscience, this issue has been debated with the case of neurological emergencies and intensive care (Hemphill and White, 2009; Wilkinson, 2009). For instance, once patients are given this label of “developmental vegetative state,” doctors and care givers may treat them as such, i.e., as “vegetables,” and they

would probably turn out exactly as predicted (Shewmon et al., 2007). This is comparable to the tragedies of many individuals with Down syndrome who became victims of self-fulfilling prognoses (Canning, 1978; Zausmer, 1978). Further support for this hypothesis has been provided with recent studies in pain. Researchers reported that the expectation of pain, even when the stimulus isn't painful, can lead us to believe that we are actually hurt (Jepma et al., 2018). The more pain one expects, the stronger one's brain responds to the pain, resulting in a vicious circle of feeling more painful, which is basically how thought becomes reality.

The notion that a belief can change our perception of/ and reaction with reality is supported by another line of research in embodied cognition. For example, holding *warm* cups of coffee increased trust one has for others (Williams and Bargh, 2008) and recalling a negative memory made people feel the room to be 5 degrees colder (Zhong and Leonardelli, 2008). The impact shapes behaviors as well. In the experiment of Thibodeau and Boroditsky (2013), when being presented with two metaphors "Crime is a Virus" and "Crime is a Beast," participants proposed very different solutions. They wanted education and eradication of poverty when "crime" was framed as "virus," but proposed to jail the criminals and enact harsher enforcement laws when "beast" was the source. These experiments show us that thoughts are represented physically in the brain and can affect behaviors. Because people subconsciously want coherent experience, the employment of thoughts in form of metaphors results in behaviors that correspond with the thinking (Tsoukas, 1993; Ford and Ford, 1995; Burr, 2003). Neural circuits asymmetrically link two brain regions of source and target, triggering consequential actions (Lakoff, 2014).

Taken together, the evidence from studies in confirmation bias, self-fulfilling prophecy, stereotype threats and embodied cognition suggests that, as Bennett (2013) argued, the way cultural differences are described as problems may lead to the way people subconsciously create exactly the kind of culture that sees "others" as potentially problematic. Where attention flows, energy and action go. Wrapped up in solving problem and deficiencies (Cameron, 2017), innovation suffers and we may risk generating a self-fulfilling prophecy and create organizations that reflect this very dismal state of mind (Ghoshal, 2005). Besides, if we acknowledged that self-fulfilling prophecies have perpetuated inequities (Weinstein et al., 2004), then moving one step further, we may want to explore the hypothesis that the negativity bias in cross-cultural communication may even perpetuate current cultural conflicts among various communities. Facing a cultural clash, confirmation bias means we may pick up selective evidence or even distort reality to give ourselves the comfort of easy explanation. This comfort may rule out innovative solutions that stem from open-mindedness, guiding our behaviors in ways that perpetuate the ongoing conflict. And finally, not only that people move in the direction of the dominant thought, the brain can also rewire accordingly. This may sound too far-fetched, but we are reminded here that repeated behaviors can change the brain's function and structure. Liberal thinkers (flexible, analytic reasoning, open-minded) tend to have bigger anterior cingulate cortex, while conservative thinkers (emotion and stability driven)

tend to have bigger amygdala (Amodio et al., 2007; Kanai et al., 2011), although we aren't sure to what extent they were born that way and/or have become that way. In short, by conditioning the brain to an expected situation of cultural clash and letting confirmation bias selectively collect fitting evidence, there can be a hypothesis that people may behave accordingly and navigate their actions toward creating a matching reality and/or perpetuating the status quo, both externally (in the social context) and internally (in the brain's neural pathway).

## RECOMMENDATIONS AND A ROAD MAP FOR FUTURE RESEARCH

The preceding sections have pointed to the problem-focused approach in cross-cultural communication and used neuroscience as a framework to explore the potential issues caused by the negativity bias inherent in such approach. This section discusses how a more balanced approach could be achieved and provides a road map to go forward. Based on the insight from neuroscience and adopting the POS lens, it's recommended that future research takes three directions: (1) Using similarity as the starting point, (2) strategize body language, context and theories, and (3) develop a multicultural mind.

### Similarity as Starting Point

Humans' ancestors lived in close-knit communities, where the ingroup was the source of survival and the outgroup could mean "threat." Until today, the amygdala is more active and fear is (sub)consciously formed when people see faces of different racial characteristics (for a review, see Eberhardt, 2005). This tendency happens so early that 2-day-old infants prefer their mother's face to that of a female stranger (Walton et al., 1992). In fact, evolutionary biologists have argued that cultural and linguistic diversity evolved as a crucial mechanism for humans to recognize who to trust (Pagel, 2012). This insight from the evolution of human species explains why seeking similarities is natural in interpersonal communication because they form a basis for trust. Individuals have evolved to love their own culture (Masuda and Fu, 2015), those who look (Laeng et al., 2013) and think (Bahns et al., 2017) in a similar way, or have similar personalities (Klohn and Luo, 2003), and other backgrounds (Rivera, 2012; Youyou et al., 2017)—a phenomenon called *implicit egotism* (Pelham et al., 2005). They even perform better if the evaluation system has a similar element with their name (Nelson and Simmons, 2007). Empathy for the social suffering of the ingroup and strangers recruits distinct patterns of brain activation (Meyer et al., 2012) and people even want to share that suffering at the expense of their own safety (Hein et al., 2010). Analyzing fMRI scanning of the brain while people viewed contestants playing in a gameshow, researchers suggested that people feel rewarded when they see those with similar values and attitudes winning (Mobbs et al., 2009).

Based on this insight from both behavioral and neuroscience studies, we should critically look at the problem-focused approach that tends to start with alarming differences. On the

contrary, the evidence tends to suggest that communication with outgroup members should begin with similarity as a starting point in order to establish trust, thus paving ways for open-mindedness and shaping conditions for creativity to rise (Nguyen-Phuong-Mai, 2019a, p. 107–110). As similarities lead to trust and trust leads to a psychological safety (Willis, 2007), the brain can process finer, richer and deeper information (Wood and Petriglieri, 2005), receptiveness to new information is activated (Cozolino, 2013), and individuals are less likely to be embarrassed, rejected or punished for speaking up with ideas, questions or mistakes. It is important to note that the amygdala does not see race, gender, or religion. It only sees ingroup and outgroup. Who belongs to ingroup or outgroup is a socially constructed process. In a computer-stimulated study, Efferson et al. (2008) reported that cultural groups automatically emerged even as a result of matching trivial symbols (triangle vs. circles) and simple behaviors (A vs. B). The implication of such a study is powerful, because it means people can form an ingroup with any individuals as long as there are some common ground and shared interests that they can work on.

Consequently, identifying mutual concerns, objectives, backgrounds, values, practices and interests should be the first and foremost essential skill when communicating across cultural borders. It is a springboard from which people can approach differences more effectively and creatively, with the fundamental understanding that we are not different in kind, only in level. If we acknowledge this psychological foundation, then it is critical to point out a serious lack of theories, models and strategies that would help people form, identify and cultivate a foundation of fellowship and connection. From the cross-cultural point of view, such frameworks would be critical for those who embrace individualistic values, i.e., the tendency to make one's self unique, which can initially act as a barrier to connect. A few number of theories that capitalize on sameness such as "color blindness" should also be critically reviewed in the light of this insight. For example, new models should embrace color blindness's positive aspects of seeing people as individuals who share a common humanity, but steer away from its shortcoming, i.e., the lack of acknowledgment that race does matter and cultural backgrounds do exert significant impact (Apfelbaum et al., 2012).

Globalization is an environment where cultural borders are not only disappearing, but also merging and intensifying. More than any time in the past, diversity and differences have become accentuated, but at the same time, similarities and sameness are more likely to be found. The power of comparison allows us to see both. Evolutionary aside, it is our choice to turn head toward what divides us or what unites us (Nguyen-Phuong-Mai, 2019a, p. 106).

## Strategize Body Language, Context, and Theories

As noted previously, people can internalize the view of cultural differences as pejoratives and move toward what they keep telling themselves. However, humans are not just "cultural dope" (Crane, 1994) but can directly or indirectly exercise an authorship

to achieve desirable cultural outcomes (Swidler, 1986; Nguyen-Phuong-Mai, 2019a). Using indication from various priming and neuroscience studies, this section proposes three ways future research can explore the potential of human agency in the quest to reach a more balanced cross-cultural communication approach: (1) strategize the body language, (2) strategize the context of cross-cultural encounters, and (3) strategize cross-cultural theories.

### Strategize Body Language

Due to its evolutionary root, body language has a critical impact in communication because it is perceived to be more powerful than verbal messages (Mehrabian, 1971; Burgoon et al., 1989; Ambady and Rosenthal, 1993). A minimal exposure of as little as 100 milliseconds is sufficient to draw a judgment about a stranger's face (Willis and Todorov, 2006). Because it is implicit and subconscious, cross-cultural communication literature often tries to describe how people from different cultures employ their body language and how this can be a source of misunderstanding (e.g., Shigemitsu, 2005; Park et al., 2013; Samovar et al., 2016). While this problem-focused approach is certainly useful, a more balanced approach would also include pro-active and positive strategies such as how people can (1) *tune in* with others, thus become the product of a desired culture to gain trust, and (2) *actively reshape* their own perception, values, and cultures by purposefully changing the body language of themselves and others (Nguyen-Phuong-Mai, 2019a, p. 250–251).

An increasing number of studies on mirror neurons support this direction. Defined as cells in the brain that enable people to mimic others' actions and feelings (Pineda, 2007; Keysers and Gazzola, 2010), mirror neurons back up studies suggesting that imitating others' positive body language would boost trust and create bond (Iacoboni, 2008). Thus, next to learning about other cultures' body languages to avoid pitfalls, it could be equally effective to learn about other cultures' positive body language to imitate when the circumstance is right. Even more promising, future studies could focus on developing change strategies that take advantage of the way mirror neurons work. For example, Won et al. (2014) suggested that the best predictor of creativity is linked to body synchronization, that is, the more a person and her/his colleagues mirror each other, the more ideas they collectively create. Mirror neurons are also useful to explain culture in workgroup and help researchers to develop effective change interventions (Becker et al., 2011).

Researchers can learn a great deal from practice on how collective body language may influence a collective culture. For instance, a council in Australia has considered banning negative gestures at work such as eye rolls, deep sighs, and shoulder shrugs (Buckley, 2014). From the United Kingdom, employees of an engineering company start their day by hugging their colleagues—part of a caring atmosphere that led to 200% increase of profit in 3 years (Britten, 2002). Going one step further, another British company organized Naked Friday to boost their team spirit, displaying the ultimate expression of trust: Having no clothes while working together in the office (Leach, 2009). The mentality is: I can trust you this much, there is nothing that we can't conquer together.

In short, if the body leads, the mind will follow. And if so, it's probably wise that the body would lead toward a goal that is creative, positive, and effective. Future research shares a great responsibility in making this attainable.

### Strategize Context

A strong line of research supports the Sapir-Whorf hypothesis, that is, words shape people's mindset. The reason why gratitude journal can increase degrees of overall well-being (Nezlek et al., 2017) is because words have the power to influence the expression of genes that regulate humans' physical and emotional stress (Newberg and Waldman, 2013). Cross-cultural studies have consistently pointed out the way language can shape how people of different cultures perceive reality (Boroditsky and Gaby, 2010; Bylund and Athanasopoulos, 2017). Neuroscience builds on this insight (Thierry, 2016), providing evidence suggesting that simple uses of collectivistic cues vs. individualistic cues (e.g., reading a text with plural pronouns such as "we" and "us" vs. "I" and "myself"; or reading a story with an emphasis on merit vs. ingroup preferences) can affect the neurobiological mechanisms underlying the self (Chiao et al., 2010; Ng et al., 2010; Wang et al., 2013) or change their preferences for transactional or transformation leadership (MacDonald et al., 2008).

This priming effect occurs beyond the realm of language, extending to the impact of cultural icons (Hong et al., 2000), pictures (Morris, 2005), social and physical environment (Berger et al., 2008; Williams and Bargh, 2008) in changing people's behaviors. Several studies (Tjosvold et al., 2004; Chen et al., 2011; Bhatnagar and Tjosvold, 2012; Nguyen-Phuong-Mai, 2019b) suggested that collectivistic Asian collectivists could engage in face confrontation and exploration of diverse viewpoints as long as the context is set up as built-in conflict or constructive controversy. Lending support to these studies, Wang et al. (2013) provided neuroimaging evidence confirming the hypothesis that cognitive processes are situationally malleable to the extent that cultural cues can activate collectivistic or individualistic mindsets, depending on the meaningful features of the immediate context. In other words, not "culture" as Hofstede (2001) claimed, but "context" is the software of the mind. The role of context is so crucial in cross-cultural communication that Osland and Bird (2000) suggested "indexing" context instead of indexing countries, while Oyserman et al. (2014) put forward the concept of "culture-as-situated cognition" because everything people do is context-dependent. Adopting a holistic and multi-level approach, Nguyen-Phuong-Mai (2019a, p. 30–31) proposed a dynamic framework in which context is the total interaction of five driving forces behind diversity: Gene, culture, environment, brain, and behavior. These studies shifted away from seeing cultural differences as static values with indexes and statistical calculation, steered clear of the negativity bias toward diversity, and suggested that diversity can be intrapersonal and contextual.

However, research on context is rare. Based on the aforementioned studies, future research can contribute to a more balanced approach by developing new theories, practices, and framework of context to achieve desirable thoughts and behaviors. For example, Rego et al. (2012) proposed that optimism predicts creativity, but an "excessive" positivity ratio is detrimental to creativity—a finding that calls for further

attention on situational and non-binary perspective on viewing the impact of negativity bias. Future research should also test different strategic linguistic/social/physical contexts that would effectively support the acculturation process for different cultural groups.

### Strategize Theories

Taking one step further, the power of priming context suggests that it could be critical to rethink a number of cross-cultural models, concepts and theories. A case in point is the use of cultural metaphors in the literature. Neuroimaging studies have demonstrated the sensory-motor activations during metaphor comprehension. For example, tactile metaphors (e.g., a rough day) and taste metaphors (e.g., a sweet girl) activate the respective brain's sensory regions responsive to touch and taste (Lacey et al., 2012; Citron and Goldberg, 2014). Because metaphors trigger the embodied experiences that activate the intuitive neural pathway associating with the "source" (Lakoff, 2014), it's critical to examine the predominant use of cultural metaphors that tend to view differences as pejoratives. Being a prominent metaphor in the field, the "culture is an iceberg" metaphor unconsciously connects culture with the "source" or "ice," which as the *Oxford English Dictionary* defines, means "frozen water," "frozen juice," "complete absence of friendliness and warmth in manner or expression," or simply "Titanic." For this reason, it has been argued that the metaphor may risk "prompting people to be defensive rather than cooperative, viewing cultural differences as problems rather than opportunities" (Nguyen-Phuong-Mai, 2017a), thus, guiding the collective experience with reification and self-fulfilling prophecy (Bennett, 2013). Similarly, a number of studies have strongly criticized the "cultural distance" equation of Kogut and Singh (1988), suggesting that this construct reinforces the bias toward negativity in cross-cultural management (Shenkar, 2001; Stahl et al., 2016) and provides a perfect proxy to cope with the firms' inability to specify transaction contingencies (Shenkar et al., 2008). Using similar argument, we can hypothesize that the comparison of culture to a "software" (Hofstede, 2001) may discourage the authorship of people by comparing them with a functional hardware that "runs" a specific cultural program.

Insight from neuroscience thus indicates a need to critically rethink these cultural concepts and theories of diversity as well as ways to measure it (Nguyen-Phuong-Mai, 2017a). By doing that, we may also want pay due attention to those concepts and metaphors that advocate a "fear-free" view of cultural diversity and open many possibilities for creative fusion such as the "dialogical self" (Hermans, 2001), "pattern" (Adam and Markus, 2001), "ocean" (Fang, 2005–2006), "yin-yang" (Fang, 2012), "card game" (Osland and Bird, 2000), "tool kit" (Swidler, 1986), "paradox" (Lewis M. W., 2000), "friction" (Shenkar et al., 2008), and "tree" (Nguyen-Phuong-Mai, 2017b). For example, it's argued that seeing culture as "tool kit" or "card game" "restore human agency" (Forte, 1999). These frameworks "embrace a strategy of action" (Swidler, 1986) with an emphasis on people as active and creative problem solvers rather than a passive product of culture (Crane, 1994). Similarly, accepting that culture is a "paradox," i.e., opposing values and behaviors co-exist, offers individuals and organizations a framework based on the premises



of creativity, innovation, sense making and transformation. It allows us to explore both the negative and positive impact of plurality, change, tension, and disruptive experience (Lewis M. W., 2000).

Next to a critical review of existing cultural theories, models and frameworks, equally important is to strategically develop new ones to examine and optimize the positive aspects of cross-cultural dynamics. Very few of such models exist. Among them, the “dilemma reconciliation process” developed by Hampden-Turner and Trompenaars (2000) proposes that benefit can come from combining, for example, collectivism and individualism. While plausible, this model still has a label that signals an inherent negativity by seeing cultural differences as problematic, hence, the need to mend and “reconcile” (Nguyen-Phuong-Mai, 2019a, p. 94). Going one step further, if culture is a resource, then the paradigm shifting that we are discussing should be seen as a form of “knowledge management” (Holden, 2002) in which similarities, differences and their dynamic hybridity can be strategically and creatively fashioned. Such a direction also suggests that future studies pay due attention to “polyculturalism”—an emerging ideological approach that prizes on *cultural exchange*. Endorsement of “polyculturalism” rather than “multiculturalism” has brought positive results in culturally diverse environment (e.g., Rosenthal and Levy, 2010; Bernardo et al., 2016). Hence, if we want to create a balance with the current problem-focused approach of seeing differences as pejoratives, this ideology can be considered as one guiding framework because it advocates a dynamic construct in which cultures are constantly and inherently interactive with fusion, transformation and changes.

## Develop a Multicultural Mind

Dominant theories in cross-cultural communication (e.g., Trompenaars and Hampden-Turner, 1997; Hofstede, 2001; House et al., 2004); generally assume that cultural values are stable, and thus, acting as independent variables to predict behaviors. However, from the perspectives of evolutionary biology and neurosciences, culture—as an evolving survival strategy—can’t be static (Nguyen-Phuong-Mai, 2019a, p. 62–80). Studies on neuroplasticity suggest that the brain physically rewires itself so humans can forge new values, develop new habits, adapt to different cultures (Maguire, 2000; Freeman et al., 2009; Gougoux et al., 2009). Contexts, repeated thought and behaviors can form strong neural pathways, and in turn, these neural pathways will guide behaviors and change even deep-rooted values. In other words, not only values guide behaviors, but repeated behaviors can change values as well, as behavioral studies have demonstrated at both individual and collective levels (Sudbeck, 2012; Power, 2014). Once given a role, people can soon act that role, gradually become that role (Peters, 1987), and even change their feelings to justify it (Brehm, 1956; Festinger and Carlsmith, 1959; Harmon-Jones et al., 1996). Further, as priming studies suggest in the preceding sections (e.g., MacDonald et al., 2008; Chiao et al., 2010; Ng et al., 2010; Wang et al., 2013), not only that people can change their values and attitudes, but also incorporate seemingly *opposing values* and switch frames depending on the context.

Thus, the brain is a non-linear framework, responding dynamically to changing demands (Globus, 1995). Some scholars go further by arguing that the “self” doesn’t exist (Puett and Gross-Loh, 2016), echoing the Buddhist notion of no-self (anatta). Neuroscience studies on meditation weigh in, showing that one can reduce neural processing of self-relatedness (Han et al., 2010), and in general, there’s nothing that corresponds to the sense that there’s an unchanging self (Dahl et al., 2015; Rosenberg et al., 2015). This insight is important, because it supports a dynamic framework of cross-cultural competence, opening up a promising direction, one that is built on the notion that a person’s cultural values are dynamic to the extent that (s)he can develop a *multicultural mind* (Hong et al., 2000). Rather than seeing humans as a product of culture, accepting that values are programed in a child’s mind at a young age and “each person carries a certain amount of mental programming which is stable over time” (Hofstede, 1980), future research can contribute to a more balanced approach that goes beyond this notion of “cultural determinism.” The bias toward cultural differences as pejoratives will become more nuanced by the prospect that humans can learn and unlearn different cultural values, acquire and operate even opposing value systems (Nguyen-Phuong-Mai, 2019a). Such a paradigm recognizes the biological and social potential of individuals and organizations as creative problem solvers who possess a multicultural mind with the ability to be dynamic, innovative, and contextual.

While the methods to achieve these goals must await future research, initial finding in brain training is promising. Just a single session of attention bias modification, for example, reduces negativity bias (Nelson et al., 2017) modulating a neural marker that reflects a person’s sensitivity to threat. This brain training aims to alter the intuitive tendency to look for negative events by a tendency to look for positive events (e.g., a smile among angry faces). Equally promising is the effect of neurofeedback. In an operant conditioning manner, a video protocol, for example, can give real-time feedback by rewarding targeted performance while penalizing undesired brain patterns. Such method is based on the principle of neuroplasticity and has been argued to support leadership training (Waldman et al., 2011; Juhro and Aulia, 2018) and harness the ability to self-control brain activities that would eventually enhance transformational leadership style (Edison et al., 2019). Future research could describe how exactly culture soft-wires the brain, affecting thoughts and behaviors such as creativity via different neural mechanisms and investigate how, with neurofeedback and other brain training techniques, these mechanisms can be changed or maintained. Since frequency of use would change a “temporary accessibility” of value construct to a “chronic accessibility” (for a review, see Higgins, 1996), to foster the multicultural mind, researchers could look at the kind of exposure that would lead to a lasting imprint on brain functioning.

## CONCLUSION

The problem-focused approach of seeing cultural differences as a source of cost, risks and potential failures has been a major characteristic of cross-cultural communication and other adjunct disciplines such as cross-cultural management

and international business. This negativity bias happens for a variety of evolutionary, historical and social reasons. This paper contributes to the discussion by providing a look at the bias from neuroscience's point of view. In essence, humans pay more attention to negative events than positive events, spend more brain resource to process them, and react quicker to them.

When applied to the context of cross-cultural communication, a number of studies suggested that this negativity bias may hinder our full understanding of cultural differences. Insight from neuroscience suggests a few more hypotheses. First of all, such bias may create an illusive picture and it is possible that cultural differences do not systematically give rise to failures in cross-cultural communication. Secondly, seeing cultural differences as problems may increase uncertainty, hinder the exploration learning process and create a resistance to creativity and synergy. Thirdly, using negativity and fear as motivation can backfire as the rebound effect may draw individuals and organizations toward negative outcomes and hamper creativity in situations of stress. Finally, there is a likelihood that by immersing in problem solving and deficiencies, people may risk confirmation bias and self-fulfilling prophecy by focusing on what confirms the belief rather than thinking out of the box, and eventually, creating a reality that matches this very dismal state of mind.

Taking into account the advances of neuroscience, especially in brain training techniques, the paper adopts the POS lens and proposes three directions for future research. First of all, it points to the evolutionary root of the implicit egotism and calls for the development of new theories and frameworks that capitalize on similarity. These guiding tools will help practitioners in identifying and establishing an effective foundation that synchronizes potential sameness, paving way and building trust so in the later stage, creativity can flourish through exploration of differences and synergy. Secondly, promising results of studies on mirror neurons and priming suggest that future research can focus on the potential of humans as authorship of their own

culture. Despite the intuitive power of the negativity bias, we can create positive theories, models and strategies that gear toward exploring the upside of differences, tuning to the "exploration" and creative aspects of individual and organizational learning. Finally, supportive evidence from neurofeedback and other brain training techniques can guide future research toward a promising agenda of developing the multicultural mind. This notion can be regarded as an evolutionary strategy that helps the modern workforce of this globalization era to become creative problem solvers in dealing with a fast changing world.

The paper will fulfill its purposes if this discussion can become part of a concerted effort to shed light on the pros and cons of the current cross-cultural approaches. Taking into account recent refinement in the field and the dynamics of the modern world, it is crucial that we re-evaluate existing theories, especially those that stem from historical context in the past that may hinder us from communicating effectively, optimizing our potential in striving for synergy and innovative problem solving. Cross-cultural communication is inherently complex and dynamic. Thus, theorists and practitioners are tasked with responsibilities to broaden the view, incorporate insights from different disciplines, and develop many more solutions for our "toolkit." In essence, POS and creativity as its indicator, for example, is not the ultimate solution but simply a different tool in our toolkit (Caza and Caza, 2008). The traditional difference and problem-focused approach is also a powerful tool. However, it shouldn't be the only tool we have. As Roberts (2006) eloquently quoted Maslow (1962), "if all we have is a hammer, everything looks like a nail."

## AUTHOR CONTRIBUTIONS

The author confirms being the sole contributor of this work and has approved it for publication.

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**Conflict of Interest:** The author declares that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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