Cultural Influences on Emotional Display Rules

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by

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Abstract

Emotional display rules are cultural norms about how to express emotions properly in various social contexts. Individualist cultures encourage independence and autonomy while collectivist cultures encourage interdependence and group harmony, the display rules can function to meet these cultural goals. Individuals in individualistic culture display more other-condemning emotions (defined in this thesis as anger, contempt and disgust) to claim their autonomy whereas individuals in collectivist culture display more self-conscious emotions (defined in this thesis as shame and guilt) to maintain harmonious relationships. The broad aims of this thesis were twofold: to draw a detailed picture of how emotional display rules differ according to the type of emotion expressed, the social context, and across cultures; and to explore values, self-construal, cultural intelligence, and acculturation as predictors of display rules. 387 participants from China, Japan and the United States completed Study 1; 423 participants from China, United Kingdom and United States took part in Study 2; and 161 Chinese international students studying in the UK participated in Study 3. All participants completed online surveys. The results of these studies demonstrated that East Asian (Chinese in Studies 1 and 2; Japanese in Study 1) endorsed displaying more self-conscious emotions (shame and guilt) than Westerners (Americans in Studies 1 and 2; British in Study 2). Moreover, structural equation modelling in Study 2 revealed that independent self-construal was positively linked with displaying other-condemning emotions (anger, contempt and disgust) and interdependent self-construal was positively linked with displaying self-conscious emotions. Additionally, serial mediation analyses in Study 3 illustrated that cultural intelligence was negatively indirectly linked to other-condemning emotions through low sociocultural adaptation and high acculturative stress; meanwhile, cultural intelligence was negatively indirectly linked to self-conscious emotions through stronger heritage cultural identification. Overall, this thesis provides empirical evidence to help us better understand how Schwartz's values, self-construal, cultural intelligence, heritage

cultural identification, sociocultural adaptation and acculturative stress are linked with displays of emotions. These results suggested that display rules are not only influenced by culture, social contexts and values; but are also influenced by one's acculturating experiences. This thesis extends our current knowledge about display rules which could improve interpersonal and multicultural communication.

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1. General Introduction

When interacting with others, to what extent do people express their emotions? Since emotional expression is a consequence of emotional experience, it affords an important communicative function during social interactions (Matsumoto et al., 2008). Emotional expression is managed by culture-specific rules according to the social situation (Koopmann–Holm & Matsumoto, 2011). People from different cultures tend to choose distinct emotional expression strategies depending on different interpersonal relations and the nature of various situations (Matsumoto, Weissman, Preston, Brown, Kupperbusch, 1997; Matsumoto et al., 2008; Triandis, 1989). These culture-specific norms for emotional expressions, known as emotional display rules (Matsumoto, 1990), guide individuals to satisfy social expectations in certain cultural contexts (De Leersnyder, Mesquita, Kim, Eom, & Choi, 2014). Given culture's multidimensional attributes (Schwartz et al., 2017), it is of theoretical and practical importance to investigate to what degree these attributes impact emotional expressions (Wong, Bond, & Mosquera, 2008). For instance, from a theoretical perspective, it is important to understand the mechanisms by which cultural factors are related to display rules across cultures and for bicultural individuals. From the practical side, further research on this topic could lead to enhanced interpersonal and multicultural communication. Therefore, the present thesis seeks to extend our current knowledge of emotional display rules across cultures.

This thesis is divided into two major parts to investigate emotional display rules. The first part of this thesis discusses how emotional display rules differ according to the type of

emotion expressed, focusing on the display of self-conscious emotions (defined in this thesis as shame and guilt) and other-condemning emotions (defined here as anger, contempt and disgust). The ways that these emotional display rules are influenced by culture, social contexts, gender, and the interactions between these variables will also be investigated. The second part of this thesis explores the influence of additional variables on emotional display rules. The relations between Schwartz's four higher order values (i.e., openness to change, conservation, self-transcendence, self-enhancement) and display rules were tested in Study 1. Notably, this thesis tested independent/interdependent self-construal as a predictor of emotional display rules in Study 2, which – surprisingly - has not been examined until now. It is argued that emotional display rules are not only learned from an early age but also influenced by acculturative experiences; however, previous studies have rarely been conducted from this perspective (Mesquita, Boiger, & De Leersnyder, 2016). Therefore, this thesis considers the impact of cultural intelligence and acculturative variables (i.e., heritage cultural identification, sociocultural adaptation and acculturative stress) on emotional display rules among bicultural individuals in Study 3.

The current chapter begins with an overview of theoretical perspectives and empirical findings on emotional display rules. Next, self-construal theory is drawn on to explain why emotional display rules vary across cultures. It is followed by an overview of the ways that emotional display rules vary across social contexts (e.g., with family members versus people online). It then introduces other overarching concepts, other-condemning emotions and self-conscious emotions (display rules vary across emotions). Schwartz's value (Schwartz et al.,

2012), acculturation, adaptation and cultural intelligence are then reviewed as predictors that

may help us to extend our understanding of emotional display rules. This chapter concludes

with an overview of the three studies.

1.1 Function of Emotion

Darwin (1872) was one of the first to opine that emotional expression was evolved

and universal, because it helps to solve adaptive problems and has an important

communicative function (Hess & Thibault, 2009). For example, a baby requires attention

from caregivers to survive, and therefore cries to signal distress (White, 2013); laughing

together as a group can facilitate social bonding. Later, Ekman and Friesen (1971)

demonstrated the universality of emotional expression (also see Ekman et al.,1987). In spite

of evidence that emotional experience is universal, there is cultural variation in how much

emotional expression is considered desirable (i.e., emotional display rules). Disguising

emotions can also be adaptive insofar as they facilitate cooperation between group members

(Schug, Matsumoto, Horita, Yamagishi, & Bonnet, 2010). For instance, shame and guilt can

facilitate cooperation (Wong & Cai, 2007); groups will disintegrate into infighting if

members are constantly expressing anger (Skitka, Bauman, & Aramovich, 2006).

To accomplish emotions' functions of regulating one's behaviour or communication,

it is important to make the expressions of emotions match cultural contexts. As argued by

Burkitt (1997), emotions are the communication methods with relationships and

interdependencies rather than internal course's delivery. Though in terms of inner actual

feelings, they might be relatively similar across cultures (Tsai, 2007; Tsai, Miao, Seppala,

Fung, & Yeung, 2007). It seems to show cultural diversity when the topic comes to ideal

emotions (Tsai, Knutson, & Fung, 2006), frequency and intensity of emotional experiences or

emotional display rules. For example, according to Tsai, Knutson, and Fung (2006) culture

shapes people's ideal affect, what people want to feel, such as, Americans value high arousal

positive affect (such as excitement) more than Chinese and Chinese value low arousal

positive affect (such as calm) more than Americans. Some research has shown that there are

cultural differences in the frequency and intensity of the emotional experiences. For example,

research about self-focused (interpersonally disengaged) versus other-focused

(interpersonally engaged) emotions from Kitayama, Markus and Kurokawa (2000) found that

Americans experience interpersonally disengaged emotions (e.g., pride) more frequently and

intensely, whereas Japanese experience interpersonally engaged emotions (e.g., friendly

feelings) more frequently and intensely. This thesis focused on emotional display rules rather

ideal emotions or inner emotional experiences per se.

1.2 Emotional Display Rules

The concept of display rules was first described by Ekman and Friesen (1969).

Friesen (1972) conducted an experiment that compared American and Japanese male

students. They watched stressful films while they were unknowingly videotaped in one of

two conditions: alone or with an older male observer. There were no differences in emotional

displays between the two groups when they were alone; they showed almost the same

negative emotional reactions. However, cultural differences emerged in the male observer

condition: Americans continued to show the same negative emotions, whereas many

Japanese masked their feelings by smiling. Friesen (1972) concluded that cultural display

rules constrained negative emotional displays in front of others in Japan, but not in America.

Display rules are cultural norms about the appropriateness of emotional expressions in

diverse social contexts (Matsumoto, 1993; Matsumoto et al., 2008). These rules are

internalised from an early age through emotion socialisation (Denham, Bassett, & Wyatt,

2007) as well as from acculturative course (Mesquita et al., 2016) and focus on how one

should operate and modify emotional displays in a culturally or socially acceptable or

unacceptable way (Fok, Hui, Bond, Matsumoto, & Yoo, 2008, Friedlmeier, Corapci, & Cole,

2011). For example, in many cultures it is socially acceptable to display sombre emotions at a

funeral, and unacceptable to display emotions such as joy or anger (Smith, Dorsey, &

Mosley, 2009).

Previous literature has suggested that there are cultural differences in emotional

display rules (Chung, 2012; Safdar et al., 2009). For instance, Safdar and colleagues (2009)

examined emotional display rules across Canada, Japan and the USA. They found that

Japanese participants reported significantly less endorsement of expressing anger, disgust and

contempt than Canadian and American participants. Such differences have been explained by

various factors. Cultural values influence display rules, regulating whether emotional

expressions are encouraged, what emotions people are expected to exhibit, and how intensely

these emotions may be exhibited (Matsumoto, Yoo, Hirayama, & Petrova, 2005; Mesquita el

al., 2016). One of the most widely discussed cultural dimensions, individualism and

collectivism (Hofstede, 2001), is related to emotional display rules (Matsumoto et al., 2008).

Matsumoto and colleagues (2008) found that individualism was positively related to a higher

degree of emotional displays. Moreover, Schwartz's value orientations are also related to

display rules (Koopmann-Holm & Matsumoto, 2011). The next section reviews evidence that

cultural values are associated with emotional display rules.

1.3 Independent and Interdependent Self-Construal and Emotional Display Rules

The cultural values of individualism and collectivism (Hofstede, 2001), and their

individual-level counterparts of independent and interdependent self-construal (Markus &

Kitayama, 1991), may explain cultural differences in emotional experiences and expressions.

Self-construal – the central perception of self – was initially proposed for describing and

defining cultural differences in the self (i.e., independent and interdependent self-construal)

(Cross, Hardin & Gercek-Swing, 2011). Some research has drawn on self-construal theory to

describe cultural differences in emotional experiences. For example, according Kitayama and

colleagues (2000), people with an independent self (e.g., Americans) are more likely to

experience interpersonally disengaged emotions to affirm their autonomy and distinctiveness,

whereas people with an interdependent self (e.g., Japanese) are more likely to experience

interpersonally engaged emotions to affirm important relationships. This thesis focused on

emotional expressions rather inner emotional experiences.

In general, there is a two-sided view about cultural differences of emotional

expressions (Markus & Kitayama, 2001). Individualistic cultures (such as American and

British cultures) encourage an independent self-construal, which emphasises the separateness,

self-sufficiency, autonomy, uniqueness, and independence of the individual (Markus &

Kitayama, 1991). For the independent self, the primary cultural task is to discover, express,

and advertise the inner attributes of the self (Kitayama et al., 2000). Emotions are considered

to be crucial personal experiences, and emotional expressions may directly show or express

inner feelings (Markus & Kitayama, 2001). Even exaggerated displays may be valued in

some individualistic cultures (Safdar et al., 2009).

On the other hand, collectivistic cultures (such as East Asian cultures) (Hofstede,

2001) tend to emphasise an interdependent self-construal, in which individuals are embedded

in relationships and there is an emphasis on group harmony and conformity (Markus &

Kitayama, 1991). Emotions are considered interactive experiences and reflect social

surroundings (Safdar et al., 2009). Therefore, emotional experiences and expressions may be

mostly determined and governed by others' reactions (Markus & Kitayama, 1991; Mesquita,

2000). Emotional expression may function as a public, instrumental action and may or may

not reflect real inner feelings (Markus & Kitayama, 2001). Applying self-construal theory to

culturally different display rules, the theoretical foundation of present research is that

emotional display rules differ across cultures because culturally specific self-construals aim

to meet different goals- independent self aims to achieve autonomy and assert one's needs

and experiences whereas interdependent self aims to keep group harmony and not hurt others.

Emotional expressions may vary in different social contexts (Oishi, Diener, Scollon, &

Biswas-Diener, 2004). The next section reviews emotional display rules in different social

contexts.

1.4 Emotional Display Rules in Different Social Contexts

As emotion plays an important communication role in social interactions, the expressions of emotions may also be influenced by social contexts that this refers to who they are interacting with. It is necessary to conduct detailed studies about the functional role of emotions in specific social contexts (Mesquita & Leu, 2007) to improve interpersonal and intergroup understanding and communication. Individualistic cultures emphasise independence, integrity, and internal consistency of the self, so that individuals value a high degree of consistency across social contexts (Tafarodi, Lo, Yamaguchi, Lee, & Katsura, 2004). In contrast, collectivist cultures emphasise the benefits to social worth of belonging to relationships rather than being constrained to the subjectivity of the self, so that individuals value adaptiveness in social situations and changeability for managing and coping with various contexts (Markus & Kitayama, 1991). In addition, from a culturally functional perspective, people in collectivistic cultures tend to use emotional expression as a public tool to achieve in-group harmony, yet to not show real inner feelings; this is so that they may express a greater extent of positive emotions than real feelings; or regulate negative emotions more across social contexts (Markus & Kitayama, 2001).

Cheng, Wang, and Golden (2011) designed an experiment with Chinese cultural primes, American cultural primes, and control primes with 120 Chinese participants, who when presented with Chinese cultural primes claimed more context-dependent thoughts than with American cultural primes. Participants also revealed greater various responses across interpersonal conditions with Chinese primes than with American ones. In this sense, such

distinguished situation specific responses may elicit a general significant cultural difference in emotional display rules. Also, Matsumoto, Yoo and Fontaine (2009) proposed the concept of "context differentiation" to explain preferences for inconsistency vs. consistency in expressing felt emotions at both the cultural and individual level. At the culture level, Matsumoto and colleagues (2009) claimed that collectivist cultures inspire their members to show a large differentiation in emotional expression across contexts, while individualist cultures influence their members to display less differentiation across contexts. At the individual level, they explained that people with high context differentiation would sense, consider and express themselves in different ways across contexts, while people with low context differentiation would be more consistent across contexts.

For example, Oishi, Diener, Scollon, and Biswas-Diener (2004) demonstrated that, consistent with the relational orientation prevalence in interdependent (collectivistic) cultures, emotional expression was more dependent on the type of social context in interdependent cultures than in independent (individualistic) cultures. In their study there were six different types of social contexts in which participants imagined they were alone, with a friend, with a classmate/co-worker, with a romantic partner, with a stranger, and with family. When people imagined they were alone, they were more likely to disclose their true emotions (both positive and negative emotions) to the greatest degree, consistent with the findings of others (e.g., Tafarodi, et al., 2004). Also, when people were with family members, they expressed the least positive emotions among the six social situations; they expressed the least negative emotions when they imagined they were with a romantic partner (Oishi et al.,

2004). Eid and Diener (2001) found that Americans controlled their negative emotional

displays in the presence of family more than East Asians, since traditional American families

value strong commitments to family harmony and respect. Furthermore, Moran, Diefendorff

and Greguras (2013) found that display rules at work allowed less emotional expressivity

than display rules outside work both in the United States and Singapore.

In recent years, online social networking has become increasingly prevalent, and how

people display emotions when they are interacting with people online should also be taken

into consideration. For instance, Americans who use social networking sites (SNSs) tend to

have a wider social network, greater self-disclosure and conduct more direct communication

than their Asian counterparts (Jackson & Wang, 2013; Qiu, Lin, & Leung, 2013). Therefore,

the current studies sought to extend knowledge about emotional display rules across various

social contexts. In particular, these studies are among the first to examine the cultural display

rules involved in expressing emotion with people online. In the next section, cultural

differences in displaying different types of emotions – other-condemning emotions vs. self-

conscious emotions – will be discussed.

1.5 Other-Condemning Emotions vs. Self-Conscious Emotions

This thesis examines cultural differences in the display rules of other-condemning

emotions (defined here as anger, contempt and disgust) and self-conscious emotions (defined

here as shame and guilt). Other-condemning emotions reflect criticism toward others,

especially others who fail to obey rules during social interactions (Haidt, 2003; Rozin,

Lowery, Imada, & Haidt, 1999). Because the expression of other-condemning emotions may

be viewed as reflections of autonomy that help individuals claim their rights, they may be viewed as more acceptable in cultures that value independence (Boiger, Mesquita, Uchida & Barrett, 2013; Markus & Kitayama, 2001). On the other hand, because expression of other-condemning emotions may cause conflict and undermine group harmony, they may be seen as less acceptable in cultures that value interdependence (Boiger et al., 2013; Eid & Diener, 2001; Markus & Kitayama, 2001; Safdar et al., 2009). Accordingly, Rozin and colleagues (1999) found that displays of other-condemning emotions were seen as more acceptable by Americans than by Japanese.

In contrast, according to Lewis (1992), shame and guilt are considered to be types of self-conscious emotions, along with embarrassment, jealousy, empathy, hubris and pride. We focused only on shame and guilt in the present research due to their prevalence in East Asian cultures (Kitayama, Mesquita, & Karasawa, 2006; Mesquita & Boiger, 2014). Shame and guilt reflect the interdependent self's motivation to fit into groups and to not hurt others (Rozin et al., 1999). Moreover, shame and guilt are seen as self-conscious emotions because they rely on understanding social and cultural rules, norms and goals (Lewis, 2000), that if one falls short, reveal negative information pertaining to self – that one's behaviour is incorrect or deficient (De Leersnyder, Boiger & Mesquita, 2013). In this sense, shame and guilt may be viewed as less desirable within individualistic cultures because these emotions might obstruct the cultural imperative to maintain a positive self-view (Heine, Lehman, Markus, & Kitayama, 1999). In collectivistic cultures, however, shame and guilt might be more important and valued because they are experienced when one breaks social rules and

fails to fulfil social obligations (Mesquita et al., 2016). Expression of shame and guilt might

be beneficial for maintaining harmonious relationships in collectivist cultures because these

feelings point out personal defects and faults and to some extent might contribute to adjusting

oneself to social norms (De Leersnyder et al., 2013). Considering these differential functions

of other-condemning and self-conscious emotions across cultures, this thesis sought further

empirical evidence that independent and interdependent self-construals are associated with

the endorsement of their displays. Not only did this thesis examine associations of self-

construal with cultural display rules, but it also went beyond the independence-

interdependence dimension by testing associations of Schwartz's values with these display

rules.

1.6 Schwartz's Values and Emotional Display Rules

Hofstede (2001)'s value dimensions, especially the dimension of individualism-

collectivism, provide one way of understanding cultural influences on emotional display

rules. Another highly influential value typology is Schwartz's value circumplex (Schwartz,

2012). According to Schwartz (1992, 2012), values are directive principles ranked in terms of

personal importance and reflect desirable goals and ideal preferences of life. Values allow us

to understand individual and cultural differences, to document transformations over time, and

to clarify the basic motivations of attitudes and behaviours (Schwartz, 2012). Schwartz's

theory of values (Schwartz, 1992; Schwartz et al., 2012) identifies wide-ranging values on

the basis of universal needs of human beings. Schwartz's original theory consisted of 10

individual values but was later expanded to include an additional 9 values (Schwartz et al.,

2012). The structure of these values is conceptualised as a circular continuum in accordance with the social and psychological contradictions or concordance among underlying motivations (Schwartz et al, 2017). Four higher order values (openness to change, conservation, self-transcendence, self-enhancement) have been identified in Schwartz's basic value theory. Openness to change values (including self-direction, stimulation and hedonism values) reflect readiness for exploring new experiences and ideas. They are opposite to conservation values (including security, tradition, conformity, humility and face values) that stress self-restraint, preservation, and preventing change. Self-enhancement values (including achievement and power values) stress the promotion of self-interest. They are contrary to self-transcendence values (including universalism and benevolence values) that stress connection with others and transcending one's own concerns (Schwartz et al., 2012). In terms of cultural differences, Ralston, Holt, Terpstra and Yu (1997) found that American and Russian managers endorsed more self-enhancement than Chinese and Japanese managers. American managers also endorsed more openness to change than other three groups.

In terms of relations between Schwartz's values and emotional display rules, Koopmann-Holm and Matsumoto (2011) suggested that the extent to which individuals endorse specific values in their cultural context links to the extent to which they are allowed to express emotions associated with supporting those values or control the expression of emotions associated with violation of those values. Also, according to Schwartz (2012), norms are rules or standards that inform people in a social group how they should behave. Emotional display rules reflect individuals' social norms of emotional expression

(Matsumoto, 2006). The values people endorse are influential if they follow or oppose the

prevalent social norms. Individuals' behaviours are stimulated by norms in order to receive

specific outcomes. Therefore, the consistency of those outcomes with individuals' valued

goals becomes a criterion about acceptance of norms (Schwartz, 1992, 2012). Therefore,

according to Schwartz (2012)'s view, emotional display rules are also influenced by the

values individuals endorsed. It is argued that emotional display rules are also influenced by

acculturative experiences (Mesquita et al., 2016). The next sections briefly review

acculturation variables (i.e., cultural identification and adaptation) and cultural intelligence,

then discusses links with emotional display rules; more detailed introduction will be reviewed

on Study 3.

1.6 Acculturation and Adaptation

At the individual level, acculturation refers to the process of individuals continually

interacting with other cultures that differ from their original culture (Berry, 2003). According

to Berry's (1997) bi-dimensional theory of acculturation, one's heritage cultural identification

and mainstream cultural identification are relatively independent from each other. Ryder,

Alden and Paulhus (2000) supported this theory with empirical evidence. Crossing the two

dimensions of heritage and mainstream cultural identifications result in four types of

acculturation strategies sought by members of non-dominant groups: integration (maintaining

the heritage culture and participating in the mainstream culture), assimilation (rejecting the

heritage culture and only exploring ways to adopt the mainstream culture), separation (only

maintaining the heritage culture and rejecting the mainstream culture) and marginalisation

(rejecting both the heritage culture and the mainstream culture) (Sam & Berry, 2010).

Empirical research has supported Berry's (1997) claim that the strategy of integration leads to

better psychological and sociocultural adaptation (Berry, Phinney, Sam, & Vedder, 2006;

Nguyen & Benet-Martínez, 2013).

A commonly-studied outcome of acculturation, adaptation (also known as cultural

adjustment) refers to the ways that individuals reorganise themselves to fit into new cultural

contexts in efficient and comfortable ways (Berry et al, 2002). Searle and Ward (1990) first

distinguished two distinct but interrelated components of cultural adaptation: psychological

adaptation, which refers to affective adjustment, and sociocultural adaptation, which refers to

the adoption of new behaviours. Later, Berry and colleagues (2006) found that these two

recognisable forms of adaptation emerged in their factor analysis of 5366 immigrant youth

(aged 13 to 18 years old) from 13 societies. As described in greater detail in the introduction

to Study 3, mainstream and heritage identification are expected to be positively associated

with adaptation, and in turn, better adaptation would be associated with less displays of

negative emotions.

1.7 Cultural Intelligence

Cultural Intelligence (CQ) refers to one's capability to adapt effectively in culturally

diverse contexts (Earley &Ang, 2003). CQ as a multidimensional construct comprises four

elements: metacognitive CQ (higher order cognitive skills, ability to learn understand,

develop and strategize within different cultural settings), cognitive CQ (knowledge of

different cultures), motivational CQ (straightforward intentions and interests about learning

in a functional way to deal with different cultures) and behavioural CQ (culturally proper actions) (Ang, et al., 2007; Ng & Earley, 2006). Theoretically, individuals with high CQ can understand, learn and adapt well in cross-cultural environments. Recent empirical studies indeed suggest that CQ is related to better psychological adaptation and sociocultural adaptation (Ang, et al., 2007; Lee & Sukoco, 2010; Presbitero, 2016; Wang, Heppner, Wang & Zhu, 2015; Ward, Wilson, & Fischer, 2011). It has been suggested that emotional display rules are not only built up during early age emotion socialisation but are also influenced by acculturative experience (Mesquita et al., 2016). Study 3 explored CQ's influence on display rules of emotions through cultural identification, sociocultural adaptation and psychological adaptation.

1.8 Overview of the Current Studies

The topic of emotional display rules has been well-examined in the literature, which has broadly documented the ways that emotional display rules vary across cultures, types of emotions, and social contexts. The culture-level and individual-level predictors of display rules (e.g., Schwartz's values and self-construal) are also well-documented. However, gaps in the literature remain. This thesis aims to fill some gaps and extend knowledge about cultural display rules in two broad ways. First, this thesis specifically considers display rules of self-conscious emotions (defined as shame and guilt in all three studies), which have been relatively less researched in the display rules literature. It is important to expand the current knowledge of the predictors of self-conscious emotional display rules because such displays may be related to social functioning and mental health outcomes.

Second, this thesis extends previous work on the social contexts of display rules by accounting for display rules when individuals interact with people online (a detailed explanation is provided in Study 1; it was also investigated in Studies 2 and 3). This is a novel addition that captures the prevalence of online social networking; however, few studies until now have examined how this social context influences emotional display rules.

Moreover, this thesis examined several predictors of emotional display rules, such as Schwartz's values (Study 1), independent and interdependent self-construal (Study 2), promotion and prevention regulatory focus (this will be explained in detail in Study 2), and acculturation related variables such as cultural intelligence, heritage cultural identification sociocultural adaptation, and psychological adaptation (Study 3). In particular, the association of acculturation with emotional display rules among bicultural individuals (Study 3: Chinese international students) has rarely been mentioned in the existing literature. In addition, a notable strength of Study 3 is that it consisted of a cultural priming experiment to examine the causal influence of culture on emotional display rules among bicultural individuals. This research may inform the development of clinical interventions that help acculturating individuals cope with new cultural expectations, such as the appropriateness of displaying particular emotions in particular social contexts.

Study 1 examined cross-national differences in emotional display rules in China, Japan and the United States. These particular cultures were sampled because they tend to differ both in cultural values (Hofstede, 2001; Oyserman, Coon, & Kemmelmeier, 2002) and in their cultural display rules (Safdar et al., 2009; Matsumoto et al., 2008). This study

examined the emotional display rules for nine emotions (anger, contempt, disgust, happy, surprise, fear, sadness, shame and guilt) across six social contexts (alone, with family, close friends, colleagues and acquaintances, strangers, and people online). Furthermore, Schwartz's values were tested as predictors of displays of each emotion and displays within each social context.

Building on the findings of Study 1, Study 2 focused on the display rules governing other-condemning emotions (i.e., anger, contempt and disgust) and self-conscious emotions (e.g., shame and guilt) in China, USA and the UK. Study 2 also tested a structural equation model to understand self-construal and regulatory focus as predictors of self-conscious and other-condemning emotional displays.

To further examine cultural influences on displays of emotion among bicultural individuals, Study 3 took an experimental approach – that is, the method of cultural priming (Hong, Morris, Chiu, & Benet-Martínez, 2000). Chinese international students studying in the UK participated in this study. Other factors that could influence bicultural individuals' endorsement of emotional display rules also were tested, namely cultural intelligence (CQ), heritage cultural identification, mainstream cultural identification, sociocultural adaptation and psychological adaptation. Overall, this thesis seeks to enhance our current understanding of the ways that emotional display rules are influenced by social contexts, cultural values, and acculturation.

2. Study 1: Emotional Display Rules and Schwartz's Values in China, Japan and USA

Emotional display rules are cultural rules regarding to how to properly deliver emotions across social contexts (Matsumoto et al., 2008). Study 1 aims to understand how emotional display rules vary in terms of the types of emotions, cultures, social contexts, gender and explores the interactions between those factors as well as Schwartz's values' influences on display rules.

2.1 Different Emotions

Study 1 examined display rules for other-condemning emotions (anger, contempt and disgust) and self-conscious emotions (shame and guilt). As described in previous chapter, there would be different cultural views of display other-condemning emotions and self-conscious emotions. The central standard of how to display a certain emotion is whether the way matches cultural contexts. In cultures encourage individualism, such as American culture, displays of other-condemning emotions may be more acceptable because they imply claims of one's rights and autonomy; however, displays of self-conscious emotions may be applied less because they reflect negative images of oneself (Boiger et al., 2013; Haidt, 2003). On the other hand, in cultures encourage collectivism, such as Chinese or Japanese cultures, displays of other-condemning emotions may be less acceptable since they may destroy concord within relationships; displays of self-conscious emotions may be applied more because they reflect one's motivation to fit into the group and not hurt others (Rozin et al., 1999; Mesquita & Boiger, 2014). Therefore, it was hypothesised that Chinese and Japanese participants will report the expression of other-condemning emotions (i.e., anger,

contempt and disgust) less than their American counterparts (Hypothesis 1a); while will

endorse greater expression of self-conscious emotions (e.g., guilt and shame) than American

participants (Hypothesis 1b).

Apart from other-condemning emotions (anger, contempt and disgust) and self-

conscious emotions (shame and guilt), Study 1 also examined display rules for happiness,

surprise, fear and sadness – emotions originally included in Matsumoto's Display Rule

Assessment Inventory (DRAI, 2005, 2008). Similarities have been found across cultures

concerning the evaluation of happiness, which was believed to be desirable in all cultures

(Sommers, 1984). Even though individuals tend to savour rather than suppress their positive

emotions, Miyamoto and Ma (2011) pointed out that Easterners were inclined to regulate

their positive emotions more than Westerners. For instance, in Eid and Diener (2001)'s study,

Chinese participants reported a lower frequency and intensity of positive emotions, including

happiness, compared to American and Australian participants. They argued that in Western

cultures, there is more pressure for individuals to experience and express happiness. At the

same time, Chinese dialectical thinking might explain this finding: Chinese prevent

themselves from showing too much happiness in case it portends a period of unhappiness (Ji,

Nisbett, & Su, 2001). Safdar and colleagues (2009) studied about display rules and found

Japanese participants also endorsed displaying less happiness than American and Canadian

participants. Another positive emotion, surprise, might be similarly displayed as happiness,

showing the same cultural differences as happiness. Therefore, following the past findings, it

was hypothesised that Americans will report more expression of happiness and surprise than

Chinese and Japanese (Hypothesis 1c).

Fear and sadness are thought to reflect relatively silent and powerless attributes (Timmers, Fischer, & Manstead, 1998). Such attributes may just result in generating some distance among one's interpersonal relationships rather than creating strong damages, so that in collectivistic cultures, fear and sadness are more acceptable than other-condemning emotions (anger, contempt and disgust). In contrast, in individualistic cultural contexts, because of the emphasis on independence and desire to avoid looking vulnerable, the expression of fear and sadness may be relatively controlled. Based on past findings from Safdar and colleagues (2009), it was hypothesised that there will be no differences in the expression of fear and sadness across the three cultures (Hypothesis 1d).

2.2 Emotional Display Rules and Social Contexts

As reviewed in the previous chapter, emotional display rules are cultural norms about how to express emotions properly in various social interactions (Matsumoto et al., 2008). Social contexts as important attributes of emotional display rules may influence the way to express emotions. Because emotions are the ways to communicate within relationships (Burkitt, 1997), people tend to adjust their emotional expressions depending on social contexts, though different cultures may suggest different ways of adjustment (Fok et al., 2008; Markus & Kitayama, 2001). Study 1 examined six different social contexts: alone, family, close friends, colleagues/acquaintances, strangers, and people online. For instance, as described in the general introduction, previous research has indicated that when people were alone, they tend to expose their actual inner emotions at the greatest extent (Oishi et al, 2004;

Tafarodi, et al., 2004). According to Eid and Diener (2001), Americans tend to control their

negative emotions with their family members more than East Asians, due to strong

commitments to family harmony and respect. It is important to verify and explore how people

from different cultures display their emotions in various social contexts. It was hypothesised

that there will be differences across social contexts for all nine emotions (Hypothesis 2).

2.3 Emotions and Gender

Gender is another important factor that may impact the display of emotions. Many

studies have found gender differences in emotional expressivity (e.g., Bagozzi, Wong, & Yi,

1999; Timmers et al., 1998; Safdar et al., 2009). For example, women tend to report more

negative emotions than men, especially sadness (Thomsen, Mehlsen, Viidik, Sommerlund, &

Zachariae, 2005). However, not all negative emotions seem to be governed by the same rules.

For instance, men more often expressed anger, contempt, and disgust, which are all other-

condemning and relationship-damaging emotions. Men tend to be concerned with

representing their dominant status and display other-condemning emotions as a

demonstration of this dominant status (Suh, Moskowitz, Fournier, & Zuroff, 2004), whereas

women are more considerate of relationships and regulate harmful emotions (Fischer, 1993).

Moreover, women tend to disclose positive emotions to a greater extent than men (Suh et al.,

2004). Therefore, it was hypothesised that women will endorse less expression of other-

condemning emotions (anger, contempt and disgust) than men (Hypothesis 3a) and endorse

more expression of positive emotions (happiness and surprise) than men (Hypothesis 3b). It

is worth noting that in these studies, gender differences were noted without consideration of

the social contexts. Within specific social contexts, gender differences may reveal different

expressivity norms according to traditional gender stereotypes (Suh et al., 2004). For

instance, in Moran, Diefendorff and Greguras (2013)'s study about display rules at work vs.

outside of work, Singaporean females reported significantly less expression of sadness than

Singaporean males outside of work, though there was no gender difference in terms of

disclosing sadness at work. It was proposed that women will express more fear and sadness

than men, but these expressions will depend on the social contexts (Hypothesis 3c).

2.4 Swartz's Values and Emotional Display Rules

As described in previous chapter, emotional display rules imply social norms of

emotional expression (Matsumoto, 2006), whether individuals apply those social norms links

with values they endorse (Schwartz, 2012). Therefore, emotional display rules may also be

influenced by individuals' values. Tamir, Bigman, Rhodes, Salerno and Schreier (2015) also

proposed that people desire emotions that are consistent with their values. One similarity of

emotions and values is that both reflect motivational concerns (Tamir et al., 2015). In this

sense, it is reasonable to propose that self-conscious emotions (guilt and shame) – as

emotions that are connected with unsuccessfully fulfilling one's social obligations or

breaking social rules (De Leersnyder et al., 2013) – would be predicted by self-transcendence

values, which stress connection with others and transcendence of one's own concerns

(Schwartz et al, 2012). Moreover, since openness to change values reflect motivations of

exploration and discovery (Schwartz et al, 2012), they would relate to less expression of fear.

In terms of conservation values, as they stress self-restriction and preservation of the status

quo (Schwartz et al, 2012), they would relate negatively to other-condemning emotions (anger, contempt, disgust). For instance, findings from Koopmann-Holm and Matsumoto (2011) showed that conservation values were negatively related to the expression of anger. In sum, it was hypothesised that in terms of cultural differences, American participants will endorse more self-enhancement (Hypothesis 4a) and openness to change (Hypothesis 4b) than Chinese and Japanese participants, whereas Chinese and Japanese participants will endorse more self-transcendence (Hypothesis 4c) and conservation (Hypothesis 4d) than American participants. Also, self-transcendence will positively predict the expression of guilt (Hypothesis 5a) and shame (Hypothesis 5b); openness to change will negatively predict the expression of fear (Hypothesis 5c) and sadness (Hypothesis 5d); and conservation will negatively predict the expression of other-condemning emotions (anger, contempt, disgust) (Hypothesis 5e). In the same sense, in what extent people would display emotions in a certain social context may match the values people endorse. Therefore, current study will explore values' influence on emotional display rules within different social contexts as well.

2.5 Method

2.5.1 Participants

The sample size of 387 included 137 Americans (70 females, 67 males), 130 Chinese (77 females, 53 males), and 120 Japanese (70 females, 50 males). Chi-square analyses indicated that there were no significant gender differences by group, $\chi^2 (2, N = 386) = 1.07$, $p = .34$. Moreover, to ascertain exposure to contrasting cultural environments, participants were asked "*Have you ever lived outside of your home country? (Yes/No)*": 85% of participants

claimed they have not lived outside of their home country and no group differences were found in overseas experience, χ^2 (2, N = 385) = 2.43, p = .297. There was a significant age difference by group, F (2, 368) = 91.59, p < .001: the American participants (M = 35.54, SD = 12.64) were older than both Chinese participants (M = 24.23, SD = 3.82) and Japanese participants (M = 21.53, SD = 6.58). Age was thus entered as a covariate in the subsequent analyses.

2.5.2 Procedure

Participants completed a survey, which assessed demographics, values, and emotional display rules. The original survey was in English and was then translated to Chinese (simplified) and Japanese following a back-translation method (Brislin, 1970). Two bilingual translators contributed to this process. Chinese participants were recruited online by posting a survey link on popular public social networking websites (such as weibo.com), whereas American participants were recruited through Amazon's MTurk and paid $1 (USD) for completing the survey. Japanese participants were recruited from Kobe University by emailing participants individually; respondents were then entered into a lottery to receive an Amazon gift voucher (i.e., every eight participants had the chance to receive an Amazon gift voucher worth 2000 Japanese yen).

2.5.3 Materials

Demographic questionnaire. Demographic questions acquired participants' background information, such as gender, age and overseas experiences.

Portrait Values Questionnaire (PVQ-RR; Schwartz et al., 2012). The PVQ-RR is a

57-item instrument for measuring 19 distinguishable human values. It includes three items to

measure each of 19 values. Each item states a person's value (e.g., "*It is important to her to*

make her own decisions about her life"), then asks participants to rate their agreement with

"*How much is this person like you"* by using a 6-point Likert-type scale, from 1 (*not like me*

at all) to 6 (*very much like me*). This instrument has a female version and a male version.

According to Schwartz et al. (2012), the self-transcendence score is calculated by combining

means for universalism-nature, universalism-concern, universalism-care, benevolence-care

and benevolence-dependability values. To create a score for self-enhancement, the means for

achievement, power dominance, power resources are combined. To create a score for

openness to change, means are combined for self-direction-thought, self-direction-action,

stimulation and hedonism values. To create a score for conservation, means are combined for

face, security-personal, security-societal, tradition, conformity-rules, conformity-

interpersonal and humility values.

To assess the goodness of fit of the measurement model for the four higher-order

values (self-transcendence, self-enhancement, openness to change and conservation) across

the three cultural groups, multi-group confirmatory factor analyses were conducted with

AMOS 20.0. Separate models for the first-order factors of each higher-order value were first

tested. Fit indices – chi-square (CMIN = minimum discrepancy), comparative fit index (CFI),

root mean square error of approximation (RMSEA) and standardised root mean square

residual (SRMR) – are reported for each higher-order value. CFI values that were larger

than .90, RMSEA values that were less than .08 (Hu & Bentler, 1999) and SRMR values that

were less than .10 (Kline, 2011) could be assumed to reflect an acceptable model fit and equality of factor loadings across three cultural groups.

According to the results of the multi-group CFA, items that were not equal across cultural groups or did not successfully load onto the factors (factor loadings of less than .30 (Tabachnick & Fidell, 2007) were dropped and are not shown in the final model. On this basis, I deleted one item measuring hedonism, one item measuring stimulation, two items measuring universalism-concern, and one item measuring universalism-tolerance. Additionally, because data was missing (accidentally omitted from the online survey) for an item measuring conformity-rules in the Japanese sample, this item was deleted from the other two groups as well. Multi-group CFA results for the final model for each of the higher-order values indicated that the factor loadings fit more or less equally across three cultural groups. The measurement model for openness to change revealed a good fit to the data [$\chi^2(87) = 163.27$, $p < .0001$, CFI = .94, RMSEA = .05 (CI = .04, .06), SRMR = .07]. The measurement model of conservation revealed an acceptable fit to the data [$\chi^2(447) = 790.73$, $p < .0001$, CFI = .87, RMSEA = .05 (CI = .04, .05), SRMR = .06]. The measurement model of self-transcendence revealed an acceptable fit to the data [$\chi^2(15) = 50.39$, $p < .0001$, CFI = .94, RMSEA = .08 (CI = .06, .10), SRMR = .09]. The measurement model of self-enhancement revealed a good fit to the data [$\chi^2(72) = 175.99$, $p < .0001$, CFI = .90, RMSEA = .06 (CI = .05, .07), SRMR = .08]. The observed variables loaded significantly onto their respective latent variables (all $p < .001$), indicating that all items sufficiently represented the latent variables. Finally, the four higher-order values showed adequate internal reliability: the

Cronbach' s alpha coefficients for self-transcendence, self-enhancement, openness to change,

conservation, respectively, were .75, .74, .72, .79 (for the American sample); .78, .69, .77, .79

(for the Chinese sample), and .77, .69, .76, .79 (for the Japanese sample).

Display Rule Assessment Inventory (DRAI). The DRAI, developed by Matsumoto

and colleagues (2005), has several versions. The instrument applied in this study was

adjusted to measure emotional display rules by asking participants what they should do if

they felt each of nine emotions in each of six social contexts. Seven of these emotions –

anger, contempt, disgust, fear, sadness, happiness, surprise – were from the original version

of the DRAI, and shame and guilt were added specifically for the current thesis. The six

contexts were as follows: alone, with family, close friends, colleagues/acquaintances, or

strangers (from the original DRAI), and people online was added specifically for this thesis.

For each emotion in each social context, seven possible behaviour options were provided for

participants to select: show more than you feel it (*amplify)*, express it as you feel it (*express*),

show less than you feel it (*de-amplify*), show it but with another expression (*masque*), hide

feelings by showing nothing (*neutralise*), or hide feelings by showing something else

(*qualify*). The option *other* was included to allow participants to state any other non-

mentioned response. Although these response options appear as categorical, Matsumoto and

colleagues (2008) converted them to continuous unidimensional scale. Following their

method, the original nominal expressive patterns were recoded to scalar values in the

following way: amplify was recoded to .5651, express to .3842, qualify to .1218, de-amplify

to -.1545, masque to -.3828, neutralise to -.5338. Thus, higher scores represent endorsement

of more expressive of emotions.

2.6 Results

2.6.1 Culture, Social Context and Gender as Predictors of Emotional Display Rules

A mixed design multivariate analysis of covariance (MANCOVA) was conducted for

each of the 9 emotions with gender (2) and country (3) as between-subject factors, and social

context (6) as the within-subject factor; age was entered as a covariate. Descriptive statistics

are reported in Table 2.1.

Table 2.1 *Means and Standard Deviations of Nine Emotions for Each of the Six Social Contexts for the Three Cultural Groups in Study 1*

Americans

	Alone		Family		Close Friends		Colleagues/ Acquaintance		Strangers		People Online		Average Across Social Contexts	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Anger	.17	.34	-.06	.31	-.01	.33	-.21	.30	-.18	.36	.02	.38	-.05	.22
Contempt	.10	.37	-.11	.33	-.09	.32	-.22	.32	-.17	.36	.01	.39	-.08	.24
Disgust	.14	.35	-.09	.32	-.08	.34	-.22	.31	-.19	.36	-.00	.39	-.08	.22
Fear	.09	.37	-.04	.36	-.04	.33	-.24	.30	-.25	.32	-.12	.38	-.10	.23
Sadness	.17	.34	.01	.32	.05	.33	-.18	.32	-.18	.36	-.01	.37	-.03	.22
Happiness	.33	.19	.34	.21	.33	.25	.22	.28	.13	.36	.22	.33	.26	.19
Surprise	.30	.23	.28	.27	.27	.28	.12	.34	.02	.37	.16	.36	.19	.22
Shame	.09	.36	-.12	.32	-.11	.32	-.27	.31	-.29	.32	-.16	.40	-.15	.24
Guilt	.09	.36	-.06	.33	-.06	.32	-.23	.32	-.26	.33	-.15	.39	-.12	.24
Average Across Emotions	.16	.24	.02	.20	.03	.20	-.14	.21	-.15	.25	-.01	.30		

Chinese

	Alone		Family		Close Friends		Colleagues/ Acquaintance		Strangers		People Online		Average Across Social Contexts	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Anger	.17	.35	.08	.33	.03	.34	-.21	.31	-.07	.38	.09	.40	.02	.20
Contempt	.00	.38	-.17	.36	-.15	.36	-.32	.27	-.23	.34	-.02	.40	-.14	.20
Disgust	.08	.37	-.13	.38	-.12	.37	-.27	.30	-.19	.34	.05	.39	-.09	.21
Fear	.15	.38	-.04	.38	.03	.36	-.24	.32	-.24	.32	-.08	.41	-.07	.23
Sadness	.19	.36	-.05	.39	.03	.36	-.23	.33	-.28	.32	.01	.40	-.06	.22
Happiness	.30	.31	.25	.33	.28	.30	.05	.34	-.03	.37	.20	.35	.18	.21
Surprise	.20	.31	.26	.29	.25	.30	.04	.38	-.01	.38	.22	.35	.16	.21

Table 2.1

Means and Standard Deviations of Nine Emotions for Each of the Six Social Contexts for the Three Cultural Groups in Study 1 (Continued)

Chinese

	Alone		Family		Close Friends		Colleagues/ Acquaintance		Strangers		People Online		Average Across Social Contexts	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Shame	.10	.39	-.01	.39	.02	.36	-.13	.35	-.16	.36	-.02	.40	-.03	.24
Guilt	.15	.38	.05	.38	.09	.36	-.04	.38	-.08	.38	.05	.40	.04	.24
Average Across Emotions	.15	.23	.02	.21	.05	.21	-.15	.20	-.14	.23	.06	.28		

Japanese

	Alone		Family		Close Friends		Colleagues/ Acquaintance		Strangers		People Online		Average Across Social Contexts	
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Anger	.09	.41	.08	.36	-.09	.37	-.23	.30	-.25	.36	-.13	.42	-.09	.22
Contempt	.01	.40	-.17	.36	-.19	.37	-.26	.32	-.27	.37	-.19	.41	-.16	.21
Disgust	.04	.42	-.02	.38	-.17	.34	-.25	.31	-.24	.36	-.17	.41	-.14	.20
Fear	.09	.40	-.05	.37	-.03	.39	-.19	.33	-.22	.35	-.18	.39	-.10	.21
Sadness	.20	.35	-.03	.38	-.03	.37	-.17	.33	-.26	.33	-.04	.39	-.05	.20
Happiness	.31	.31	.31	.32	.38	.26	.21	.34	.05	.38	.17	.39	.24	.22
Surprise	.20	.34	.27	.31	.29	.28	.14	.36	.00	.38	.19	.39	.18	.22
Shame	.07	.41	-.06	.38	-.01	.39	-.15	.36	-.25	.36	-.11	.41	-.08	.25
Guilt	.17	.39	-.05	.39	-.03	.39	-.07	.39	-.24	.38	-.10	.41	-.06	.25
Average Across Emotions	.13	.22	.04	.20	.01	.19	-.11	.20	-.19	.23	-.06	.30		

Note: The means and standard deviations reported in this table are raw (did not control for age). However, the comparisons reported in the following text were based on estimated marginal means with age as a covariate.

Table 2.2 *Effects of Culture, Social Context, Gender, and Their Interactions on Nine Emotions in Study 1*

Effect	Anger				Contempt				Disgust				Fear				Sadness			
	F	$\eta2$	p	OP	F	$\eta2$	p	OP	F	$\eta2$	p	OP	F	$\eta2$	p	OP	F	$\eta2$	p	OP
C	7.03	.038	.001	.93	3.13	.018	.045	.60	2.18	.012	.114	.45	1.00	.006	.367	.23	.06	.000	.946	.06
SC	10.80	.030	< .001	1.00	3.25	.009	.006	.89	6.62	.018	< .001	1.00	8.24	.023	< .001	1.00	11.45	.031	< .001	1.00
SC * C	3.31	.018	< .001	.99	3.18	.018	< .001	.99	3.28	.018	< .001	.99	.96	.004	.478	.52	.78	.004	.647	.42
G	8.76	.024	.003	.84	12.43	.034	< .001	.94	13.53	.037	< .001	.96	3.42	.010	.065	.46	.79	.002	.374	.14
C * G	.33	.002	.718	.10	.24	.001	.784	.09	.14	.001	.870	.07	.40	.002	.672	.11	.60	.003	.552	.15
SC * G	3.04	.009	.010	.87	7.42	.021	< .001	1.00	5.80	.016	< .001	.99	4.20	.012	.001	.96	4.49	.012	< .001	.97
SC * C * G	1.51	.008	.131	.76	.99	.006	.451	.53	1.46	.008	.148	.74	1.06	.006	.393	.57	1.67	.009	.082	.81

Effect	Happiness				Surprise				Shame				Guilt			
	F	$\eta2$	p	OP	F	$\eta2$	p	OP	F	$\eta2$	p	OP	F	$\eta2$	p	OP
C	3.08	.017	.047	.59	.15	.001	.860	.07	6.78	.037	.001	.92	11.88	.063	< .001	1.00
SC	7.27	.20	< .001	1.00	7.07	.019	< .001	1.00	3.23	.009	.007	.89	2.89	.008	.013	.85
SC * C	2.10	.012	.022	.91	1.26	.007	.249	.66	.89	.005	.546	.48	2.17	.012	.017	.92
G	4.66	.013	.032	.58	.35	.001	.555	.09	5.20	.014	.023	.62	1.23	.005	.190	.26
C * G	1.05	.006	.352	.23	.24	.001	.786	.09	.59	.003	.556	.15	.27	.002	.763	.09
SC * G	.76	.002	.581	.28	.41	.001	.844	.16	.92	.003	.464	.34	1.04	.003	.395	.37
SC * C * G	.85	.005	.583	.46	1.13	.006	.336	.60	1.58	.009	.108	.78	2.07	.012	.024	.90

Note: C = Culture, SC = Social Context, G = Gender; OP = Observed Power

2.6.1.1 Main Effect of Culture

As seen in Table 2.2, there was a significant main effect of culture in the expression of anger, contempt, happiness, shame and guilt. No effect for culture was found for disgust, fear, sadness and surprise. It should be noted that the post hoc powers of the main effect of culture in the expression of contempt and happiness were less than .80 (as shown in Table 2.2) which were below acceptable level (Cohen, 2013). Also, further Bonferroni-corrected multiple comparisons (based on the estimated marginal means with age as a covariate) did not show significant differences in expression of contempt and happiness among three cultures. Therefore, Americans did not report more expression of happiness and surprise than Chinese and Japanese (Hypothesis 1c was rejected). However, hypothesis 1d was confirmed; there were no differences in the expression of fear and sadness across the three cultures.

Bonferroni-corrected multiple comparisons (based on the estimated marginal means with age as a covariate) indicated that the Chinese participants had significantly higher means in the expression of anger (averaging across the social contexts) than both the Americans ($M_{\text{difference}}$ = .08, p = .030) and the Japanese ($M_{\text{difference}}$ = 1.0, p = .002); and there was no significant difference in the expression of anger between Americans and Japanese ($M_{\text{difference}}$ = .02, p >.05). Therefore, Hypothesis 1a was rejected, Chinese and Japanese did not show significantly less expression of other-condemning emotions than Americans. The mean score for American participants in the expression of shame was significantly lower than that of Chinese participants ($M_{\text{difference}}$ = -.13, p = .001); and there were no significant differences between Chinese and Japanese participants ($M_{\text{difference}}$ = .05, p = .329), and American and

Japanese ($M_{\text{difference}}$ = -.07, p = .143). American participants reported expressing significantly

less guilt than Chinese participants ($M_{\text{difference}}$ = -.17, p < .001), Chinese participants reported

expressing significantly more guilt than Japanese participants ($M_{\text{difference}}$ = .09, p = .019), but

there was no significant difference between American and Japanese ($M_{\text{difference}}$ = -.08, p

= .139). Therefore, Hypothesis 1b was partially supported that Chinese endorsed greater

expression of self-conscious emotions (e.g., guilt and shame) than Americans.

2.6.1.2 Main Effect of Social Context and Culture × Social Context

First, there were significant main effects for social context in the expression of the all

nine emotions (anger, contempt, disgust, fear, sadness, happiness, surprise, shame and guilt

(see Table 2.2, Figure 2.1). Therefore, Hypothesis 2 was supported that there were differences

across social contexts for all nine emotions. Specifically, participants endorsed the most

expression when they were alone across all negative emotions (anger, contempt, disgust, fear,

sadness, shame and guilt (see Figure 2.2).

The significant main effects of culture and social contexts were further qualified by

significant culture × social context interactions for anger, contempt, disgust, happiness and

guilt. No interaction effects of culture and social contexts were found for fear, sadness,

surprise and shame (see Table 2.2).
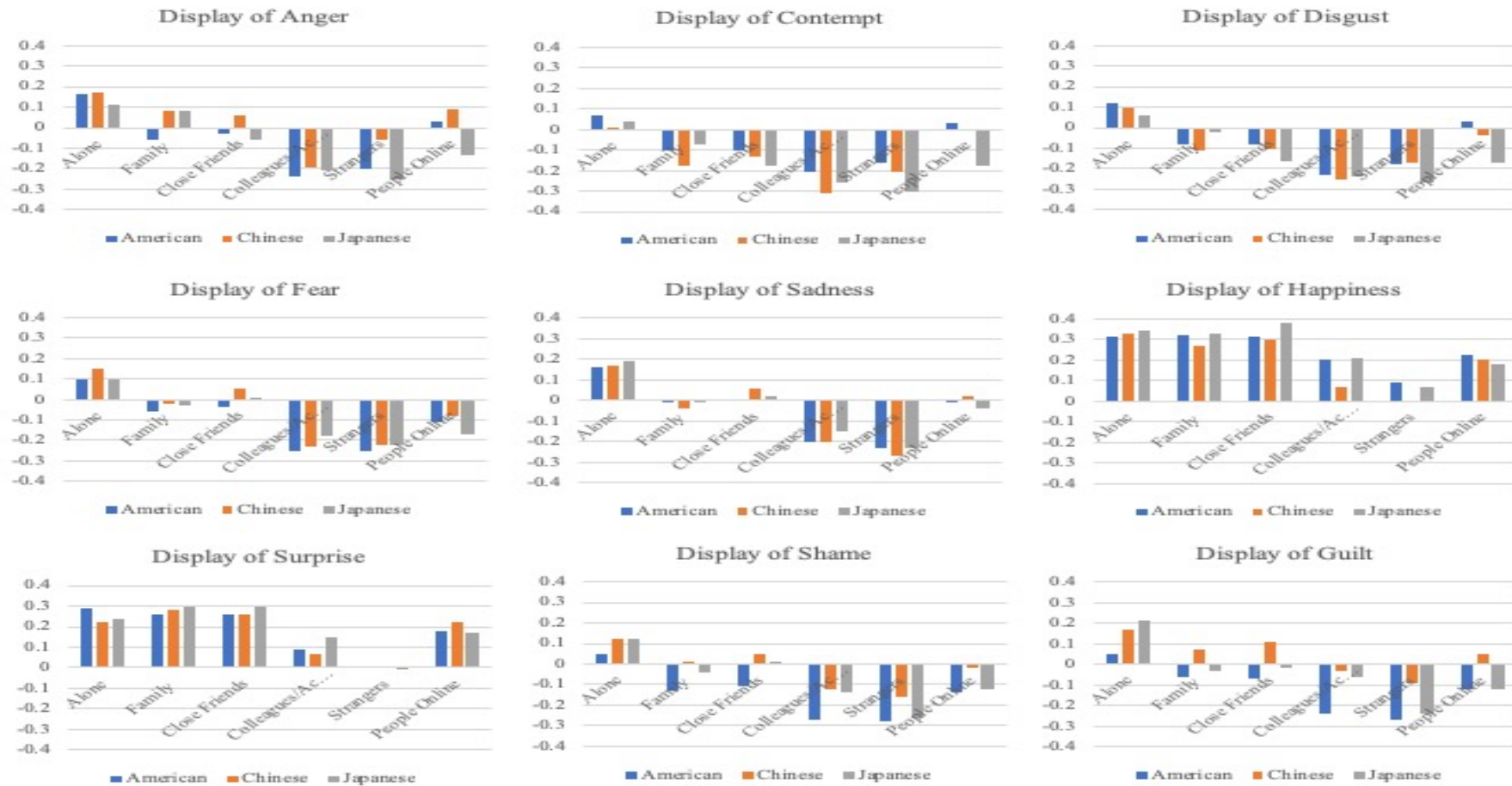
Figure 2.1 Display of Each Emotion by Culture × Social Context in Study 1

Note: The means in this figure were based on estimated marginal means with age as a covariate.
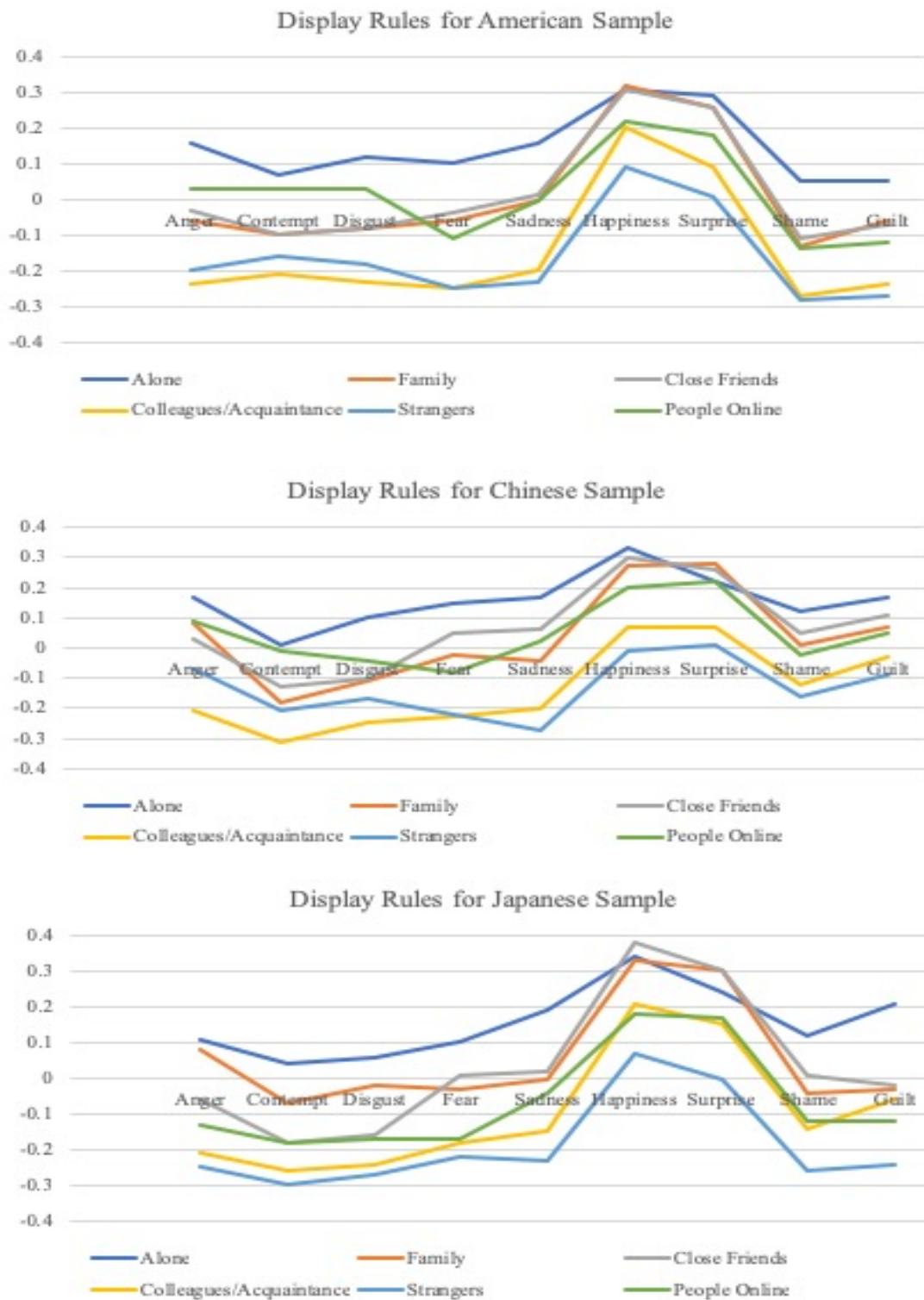
Figure 2.2 Display Rules for Each Culture in Study 1

Note: The means in this figure were based on estimated marginal means with age as a

covariate

Pairwise comparisons with Bonferroni corrections (based on the estimated marginal means with age as a covariate) revealed that there were significant cultural differences in the expression of anger depending on whether one was interacting with family, close friends, strangers, or people online. Specifically, American participants reported expressing less anger toward family members than did Chinese ($M_{difference}$ = -.14, p = .012) and Japanese participants ($M_{difference}$ = -.14, p = .027). Chinese participants reported expressing more anger when they interacted with close friends than did Japanese ($M_{difference}$ = .11, p = .044). In terms of interacting with strangers, Chinese participants expressed significantly more anger than Americans ($M_{difference}$ = .14, p = .028) and Japanese ($M_{difference}$ = .19, p = .001). Finally, Japanese showed significantly less anger to people online than did Americans ($M_{difference}$ = -.16, p = .030) and Chinese ($M_{difference}$ = -.22, p < .001).

For contempt, there were significant differences when participants interacted with colleagues/acquaintances, strangers, and people online. Specifically, Americans expressed significantly more contempt than Chinese ($M_{difference}$ = .11, p = .043) when interacting with colleagues/acquaintances. Americans reported greater expression of contempt than Japanese ($M_{difference}$ = .14, p = .040) when interacting with strangers. Japanese expressed less contempt to people online than Americans ($M_{difference}$ = -.21, p = .002) and Chinese ($M_{difference}$ = -.16, p = .007).

For disgust, one significant group difference occurred: Japanese indicated significantly less disgust than Americans ($M_{difference}$ = -.20, p = .003) and Chinese ($M_{difference}$ = -.21, p < .001) when interacting with people online.

For happiness, Chinese participants reported expressing significantly less than Japanese ($M_{difference}$ = -.14, p = .003) and Americans ($M_{difference}$ = -.14, p = .009) when interacting with colleagues/acquaintances.

For guilt, Chinese expressed significantly more than Americans ($M_{difference}$ = .16, p = .007) when they were alone. Chinese reported significantly higher scores when they expressed guilt to close friends, to strangers and to people online than Americans ($M_{difference}$ = .19, p = .001, $M_{difference}$ = .18, p = .002, $M_{difference}$ = .17, p = .010, respectively) and Japanese ($M_{difference}$ = .13, p = .027, $M_{difference}$ = .15, p = .007, $M_{difference}$ = .17, p = .005, respectively). Moreover, Americans showed less guilt to colleagues/acquaintances group than Chinese ($M_{difference}$ = -.21, p < .001) and Japanese ($M_{difference}$ = -.17, p = .006).

Table2.3 *Gender-Specific Raw Means and Standard Deviations of Nine Emotions for Each of the Six Social Contexts in Study 1*

Females	Emotions	Alone		Family		Close Friends		Colleagues/ Acquaintance		Strangers		People Online		Average Across Social Contexts	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
	Anger	.16	.35	.01	.34	-.07	.35	-.26	.29	-.20	.35	-.06	.40	-.07	.21
	Contempt	.07	.37	-.14	.35	-.18	.35	-.33	.29	-.28	.34	-.14	.39	-.16	.21
	Disgust	.13	.37	-.11	.35	-.18	.34	-.31	.28	-.25	.33	-.10	.39	-.14	.20
	Fear	.15	.37	-.05	.38	-.03	.37	-.25	.31	-.28	.31	-.18	.39	-.11	.22
	Sadness	.24	.33	-.04	.38	.02	.36	-.22	.32	-.27	.33	-.04	.39	-.05	.21
	Happiness	.34	.26	.32	.29	.36	.25	.17	.33	.05	.38	.23	.34	.25	.20
	Surprise	.25	.29	.29	.27	.29	.28	.10	.36	.00	.38	.19	.36	.19	.20
	Shame	.09	.39	-.08	.37	-.05	.36	-.22	.35	-.27	.37	-.13	.40	-.11	.25
	Guilt	.14	.38	-.01	.38	.00	.38	-.14	.38	-.22	.37	-.09	.41	-.05	.25
	Average Across Emotions	.17	.22	.02	.20	.02	.20	-.17	.19	-.19	.22	-.04	.28		
Males	Emotions	Alone		Family		Close Friends		Colleagues/ Acquaintance		Strangers		People Online		Average Across Social Contexts	
		Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD	Mean	SD
	Anger	.12	.39	.05	.34	.04	.35	-.16	.31	-.12	.39	.07	.40	-.00	.23
	Contempt	-.01	.39	-.09	.36	-.09	.34	-.18	.31	-.15	.37	.05	.40	-.08	.23
	Disgust	.04	.39	-.04	.37	-.05	.34	-.17	.32	-.15	.37	.05	.41	-.05	.22
	Fear	.06	.39	-.03	.36	.01	.34	-.19	.32	-.18	.34	-.06	.39	-.06	23
	Sadness	.12	.36	-.01	.35	.02	.34	-.16	.33	-.20	.35	.02	.38	-.03	.22
	Happiness	.29	.28	.27	.30	.29	.30	.15	.32	.05	.37	.16	.37	.21	.22
	Surprise	.23	.31	.25	.30	.25	.30	.10	.36	.01	.38	.19	.37	.17	.24
	Shame	.08	.38	-.05	.35	-.02	.36	-.14	.34	-.16	.37	-.05	.40	-.06	.25
	Guilt	.13	.38	-.03	.37	-.01	.34	-.08	.35	-.16	.38	-.04	.41	-.03	.25
	Average Across Emotions	.12	.24	.04	.20	.05	.20	-.09	.21	-.12	.25	.04	31		

2.6.1.3 Main Effects of Gender and Gender × Social Context

There were significant main effects of gender in the display rules for anger, contempt, disgust, happiness and shame (see Table 2.2). Pairwise comparisons with the Bonferroni corrections (based on the estimated marginal means with age as a covariate) indicated that women had significantly lower means than men for the expression of anger ($M_{\text{difference}}$ = -.07, p = .003), contempt ($M_{\text{difference}}$ = -.08, p < .001), disgust ($M_{\text{difference}}$ = -.08, p < .001), and shame ($M_{\text{difference}}$ = -.06, p = .023). Therefore, Hypothesis 3a was supported that women endorsed less expression of other-condemning emotions than men. For happiness, women expressed more than men ($M_{\text{difference}}$ = .05, p = .032), Hypothesis 3b was partially supported that women endorsed more expression of happiness than men; however, there was no gender differences for expression of surprise.

These main effects of gender were further qualified by significant interactions with social contexts for anger, contempt, disgust, fear and sadness (see Table 2.2). Specifically, according to pairwise comparisons with the Bonferroni corrections (based on the estimated marginal means with age as a covariate), women reported significantly less expression of anger, contempt and disgust toward close friends ($M_{\text{difference}}$ = - .11, p = .002; $M_{\text{difference}}$ = - .09, p = .023; $M_{\text{difference}}$ = - .13, p = .001; respectively), colleagues/acquaintances ($M_{\text{difference}}$ = - .10, p = .002; $M_{\text{difference}}$ = - .14, p < .001; $M_{\text{difference}}$ = - .14, p < .001; respectively), and people online ($M_{\text{difference}}$ = - .11, p = .008; $M_{\text{difference}}$ = - .18, p < .001 $M_{\text{difference}}$ = - .15, p = .001; respectively) than men. Women also showed significantly less contempt and disgust toward strangers than men ($M_{\text{difference}}$ = - .11, p = .004; $M_{\text{difference}}$ = - .09, p = .020;

respectively). Additionally, women expressed significantly less fear than men when interacting with colleagues/acquaintances ($M_{difference}$ = - .07, p = .032), strangers ($M_{difference}$ = - .10, p = .005), and people online ($M_{difference}$ = - .11, p = .012). For sadness, women expressed significantly more sadness than men ($M_{difference}$ = .11, p = .003) when they were alone, but women reported significantly less expression of sadness than men when interacting with colleagues/acquaintances ($M_{difference}$ = - .07, p = .047) and strangers ($M_{difference}$ = -.08, p = .031). Hypothesis 3c was partially supported that gender differences on expressions of fear and sadness depends on social contexts.

2.6.2 Schwartz's Values

Table 2.4 shows mean scores and standard deviations for self-transcendence, self-enhancement, openness to change and conservation across the three cultures. A multivariate analysis of covariance (MANCOVA) was conducted to test differences in these values; in line with Schwartz's recommendation (2012), the values were centred on individual mean. Gender (2) and culture (3) were entered as between-subject factors; age was entered as a covariate. As can be seen from Table 2.5, there was a significant main effect of culture on conservation. There was a significant main effect of culture, a significant main effect of gender, and significant culture × gender interaction effect on self-transcendence. There were no cultural differences on self-enhancement and openness to change, Hypothesis 4a and Hypothesis 4b were rejected.

Pairwise comparisons with Bonferroni corrections (covariate was age) indicated that there were significant differences in self-transcendence between Americans (M = 2.09) and

Chinese ($M = 1.01$, $p = .001$), as well as Americans and Japanese ($M = .88$, $p = .001$). Thus, Americans endorsed more self-transcendence than Chinese and Japanese (Hypothesis 4c was rejected). Moreover, American females ($M = 2.67$) were significantly higher in self-transcendence than American males ($M = 1.51$, $p = .002$). Additionally, there were significant differences in conservation between Americans ($M = -1.01$) and Chinese ($M = .02$, $p = .007$), as well as Americans and Japanese ($M = .02$, $p = .014$). That is, Americans endorsed less conservation than Chinese and Japanese (Hypothesis 4d was supported).

Table 2.4 *Original Means and Standard Deviations of Four Higher Order Values in Study 1*

Self-transcendence		Mean	SD	Mean(C)	SD(C)	**Self-enhancement**		Mean	SD	Mean(C)	SD(C)
Americans	Female	24.53	3.36	2.86	2.37	Americans	Female	10.49	2.91	-2.51	2.27
	Male	22.92	3.71	1.72	2.66		Male	10.63	2.77	-2.09	2.36
	Total	23.74	3.62	2.30	2.57		Total	10.56	2.83	-2.30	2.32
Chinese	Female	24.09	3.42	.72	1.97	Chinese	Female	12.22	2.56	-1.81	2.00
	Male	24.16	3.91	.97	1.51		Male	12.64	2.44	-1.28	1.65
	Total	24.12	3.61	.82	1.80		Total	12.39	2.51	-1.59	1.87
Japanese	Female	20.37	4.15	.99	2.29	Japanese	Female	10.49	2.45	-1.13	1.97
	Male	19.28	3.00	.33	1.62		Male	10.45	2.31	-.92	1.49
	Total	19.91	3.74	.72	2.06		Total	10.48	2.38	-1.04	1.78
Openness to change		Mean	SD	Mean(C)	SD(C)	**Conservation**		Mean	SD	Mean(C)	SD(C)
Americans	Female	22.43	3.58	.87	2.10	Americans	Female	29.72	4.91	-.61	2.88
	Male	22.26	3.35	1.13	1.84		Male	29.31	5.14	-.37	2.21
	Total	22.34	3.46	.99	1.97		Total	29.52	5.01	-.49	2.57
Chinese	Female	24.49	3.63	1.02	2.02	Chinese	Female	32.84	3.73	.11	2.21
	Male	24.30	3.65	.94	1.44		Male	31.91	5.05	-.56	2.15
	Total	24.41	3.62	.99	1.80		Total	32.46	4.32	-.16	2.20
Japanese	Female	20.62	3.88	1.01	2.22	Japanese	Female	26.73	4.86	-.40	2.50
	Male	20.54	3.72	1.26	2.04		Male	26.10	4.32	-.43	2.31
	Total	20.59	3.80	1.12	2.14		Total	26.47	4.63	-.41	2.41

Note: Original means and standard deviations without age as a covariate. Mean(C) and SD(C) = Means and standard deviations after centering on individual mean.

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Table 2.5

*Effects of Culture, Gender, and Culture * Gender on Four Higher Order Values in Study 1*

	Self-Transcendence				Self-Enhancement		
	F	*p*	OP		*F*	*p*	OP
Gender	5.56	.019	.65	Gender	3.23	.073	.43
Culture	8.07	< .001	.96	Culture	.79	.457	.18
Gender * Culture	3.87	.022	.70	Gender * Culture	.08	.928	.06
	Openness to Change				Conservation		
	F	*p*	OP		*F*	*p*	OP
Gender	.02	.884	.05	Gender	.01	.910	.05
Culture	1.34	.263	.29	Culture	5.55	.004	.85
Gender * Culture	.13	.880	.07	Gender * Culture	1.76	.174	.37

Note: A covariate appearing in the model is age; OP = Observed Power

2.6.3 Schwartz's Values and Emotional Display Rules

2.6.3.1 Schwartz's Values and Emotional Expression

A series of hierarchical multiple regressions were performed to test the predictors of

the emotional display scores for anger, contempt, disgust, fear, sadness, happiness, surprise,

shame and guilt (averaged across all 6 social contexts of the DRAI). The predictors were self-

transcendence, self-enhancement, openness to change and conservation. In addition, age,

gender and the dummy variables of culture (i.e., Chinese 0 vs. American 1; Chinese 0 vs.

Japanese 1) were entered in the first block. According to Schwartz and colleagues (2012), un-

centred value scores need be entered in regressions to ensure meaningful results.

As demonstrated in Table 2.6, participants' age was not associated with emotional

display rules across 8 emotions except happiness: the older participants were, the more

happiness they displayed. In terms of gender, men expressed more other-condemning

emotions (anger, contempt, disgust) and shame significantly more than women. Women

tended to display significantly more happiness than men. In terms of cultural groups, Chinese

participants displayed significantly more anger than American participants and Japanese

participants. Compared with Chinese participants, American participants expressed

significantly more contempt, but Japanese participants did not. Moreover, Chinese

participants allowed significantly less expression of happiness than Japanese participants.

Furthermore, Chinese participants displayed more guilt and shame than American

participants, and more guilt than Japanese participants. Over and above these variables, self-

transcendence positively predicted the display of happiness and the display of shame as well.

Hypothesis 5a was rejected, but Hypothesis 5b was supported. Openness to change

negatively predicted the display of fear and the display of sadness. Therefore, Hypothesis 5c

and Hypothesis 5d were supported. Conservation negatively predicted the expression of

anger. Hypothesis 5e was partially supported.

Table 2.6 *Results of Multiple Regression Analysis: Value Types on Emotional Display of Different Emotions in Study 1*

	Anger		Contempt		Disgust		Happiness		Surprise		Fear		Sadness		Shame		Guilt	
Final R^2	**.117**		**.098**		**.092**		**.095**		.030		.045		.043		**.078**		**.092**	
	β	p	β	p	β	p	β	p	β	p	β	p	β	p	β	p	β	p
Control variables																		
Age	.02	.719	-.06	.376	-.05	.429	.13	.038	.06	.394	.02	.805	.09	.151	-.01	.825	-.02	.774
Gender (Male=1, Female=-1)	.15	**.003**	.19	**.000**	.19	**.000**	-.11	**.036**	-.04	.511	.10	.070	.05	.386	.12	**.021**	.07	.183
Culture																		
Chinese vs. American	-.18	**.008**	.14	**.045**	.02	.719	.13	.063	-.01	.920	-.10	.147	.00	.964	-.25	**< .001**	-.32	**< .001**
Chinese vs. Japanese	-.22	**.000**	-.04	.556	-.11	.065	.16	**.009**	.03	.598	-.06	.338	.03	.633	-.08	.157	-.16	**.008**
R^2	**.063**		**.057**		**.052**		**.051**		.004		.015		.010		.058		**.082**	
Step 2 Predictors																		
Self-transcendence	-.01	.914	-.09	.275	-.15	.090	.19	**.024**	.14	.120	.11	.224	.12	.159	.19	**.023**	.11	.220
Self-enhancement	.06	.348	.10	.110	.06	.347	-.04	.565	-.10	.136	-.11	.086	-.03	.600	-.03	.618	-.05	.426
Openness to change	-.07	.361	-.08	.286	-.04	.597	.10	.161	.10	.199	-.15	**.038**	-.21	**.004**	-.02	.798	-.02	.811
Conservation	-.25	**.002**	-.13	.099	-.10	.195	-.02	.756	-.04	.612	.03	.721	-.05	.560	-.16	.053	-.11	.175
ΔR^2	**.054**		**.040**		**.041**		**.044**		.026		.030		.033		.019		.010	
Observed power	1.00		1.00		1.00		1.00		.65		.85		.83		.99		1.00	

Note: Significant values are in bold.

2.6.3.2 Schwartz's Values and Social Contexts

Next, the relationships between Schwartz's values and emotional display rules in different social contexts were tested in this study based on an exploratory purpose. Six hierarchical multiple regressions tested the predictors of the emotional display scores for each of the following social contexts: alone, family, close friends, colleagues and acquaintances, strangers and people online. The emotional display scores were averaged across all 9 emotions. Age, gender and the dummy variables for culture (i.e., Chinese 0 vs. American 1; Chinese 0 vs. Japanese 1) were entered in the first block of the regression models, and self-transcendence, self-enhancement, openness to change and conservation in the second block. Same as before, un-centred value scores were entered in regressions to ensure meaningful results.

As demonstrated in Table 2.7, participants' age was not associated with emotional display across all 6 social contexts. In terms of gender, women showed significantly more emotional expression than men when they stayed alone; men reported more emotional display than women when they interacted with colleagues and acquaintances, strangers, and people online. For cultural groups, compared with Chinese participants, Japanese participants expressed significantly less emotion when they interacted with people online. Over and above these variables, conservation negatively predicted emotional display when people were alone; openness to change negatively predicted emotional display when people interacted with their colleagues/acquaintances; and self-transcendence showed significance as a positive predictor of emotional display when people interacted with close friends.

Table 2.7 *Results of Multiple Regression Analysis: Value Types on Emotional Display of Different Social Contexts in Study 1*

	Alone		Family		Close friends		Colleagues &acquaintances		Strangers		People online	
Final R^2	**.053**		.020		.028		**.063**		**.046**		**.063**	
	β	p	β	p	β	p	β	p	β	p	β	p
Step 1: control variables												
Age	.08	.186	.02	.745	.06	.377	.06	.385	.02	.793	-.09	.148
Gender (Male=1, Female=-1)	-.11	**.034**	.05	.331	.08	.120	.19	**.000**	.14	**.007**	.13	**.010**
Chinese vs. Americans	.02	.781	-.04	.529	-.12	.098	-.03	.644	-.05	.453	-.08	.241
Chinese vs. Japanese	.01	.937	.06	.345	-.07	.287	-.09	.116	-.11	.081	-.12	.002
R^2	.018		.008		.014		**.045**		**.029**		**.048**	
Step 2 Predictors												
Self-Transcendence	.08	.329	.07	.416	.18	**.036**	.04	.625	.06	.495	-.05	.598
Self-Enhancement	-.08	.226	.04	.518	.05	.461	.08	.239	-.06	.348	-.03	.607
Openness to Change	.07	.316	-.14	.049	-.04	.598	-.18	**.013**	-.02	.821	.04	.577
Conservation	-.22	**.005**	.02	.854	-.12	.132	.01	.915	-.14	.082	-.11	.192
ΔR^2	.035		.011		.014		.018		.018		.015	
Observed power	.92		.44		.61		.96		.86		.96	

Note: Significant values are in bold.

2.7 Discussion

This study investigated how emotional display rules differed across cultures, type of emotion, social contexts, and gender. Hypothesis 1 was partially supported: there were no differences among Chinese, Japanese, and American participants in the expression of fear and sadness. It is consistent with findings from past research (Safdar et al., 2009). Since fear and sadness as powerless negative emotions are not threatening to interpersonal harmony. However, there were no cultural differences in the expression of happiness and surprise (Hypothesis 1c was rejected), which are different from previous research (Safdar et al., 2009). Further findings of culture by social contexts interaction effects suggested that differences of expression of happiness across cultures occurred depending on social contexts, which will be discussed later. Regarding other-condemning emotions and self-conscious emotions, the findings were more complex.

Contrary to predictions and findings from past research, Chinese and Japanese did not show significantly less expression of other-condemning emotions than Americans (Hypothesis 1a was rejected). Findings from past research showed that Japanese endorsed significantly less expression of anger, contempt and disgust than Americans research (Safdar et al., 2009). However, this study takes Chinese participants in account. Chinese participants reported the highest expression of anger compared with Japanese and even Americans. Expression of anger is a functional way to claim self-requirements. Compared with contempt and disgust, anger is the least relationship-damaging other-condemning emotion (Hutcherson & Gross, 2011). In addition, Chinese culture is considered a relatively "loose" culture in

contrast to American culture and Japanese culture, which are "tight" cultures (Eid & Diener, 2001). In a loose cultural context, more diversity is allowed and there is less coercion to obey forceful norms (Eid & Diener, 2001). Therefore, because Chinese culture is a collectivistic but loose context, its display rules may restrict expressions of some other-condemning emotions (i.e., contempt and disgust), but it may allow people to assert their demands even in a comparably intense way (i.e., expression of anger).

Furthermore, it is important to note that there were no significant cultural differences in the display of contempt and disgust. This may be because comparing to anger, contempt and disgust are more damaging for relations (Haidt, 2003; Hutcherson & Gross, 2011; Rozin et al., 1999), resulting in the restriction of their expressions across the three cultures. However, according to culture by social contexts interaction effects which will be discussed later, people from different cultures adjusted their displays of other-condemning emotions to different extent depends on social contexts.

Partially supporting predictions regarding the self-conscious emotions in Hypothesis 1b, that Chinese endorsed significantly greater expression of self-conscious emotions (guilt and shame) than Americans. This is consistent with previous studies that found that, since guilt and shame reveal negative information pertaining to the self and may obstruct a positive self-view, they are less desirable in individualistic cultures (De Leersnyder et al., 2013). Moreover, the current findings suggested that Chinese norms support more expression of shame and guilt than Japanese and American norms. This suggests that Chinese individuals may value self-conscious emotions' expression as a profitable way to achieve social worth

and positive self-other relationships. Self-conscious emotions point out defects and faults in oneself, and to some extent might contribute to adjusting oneself to social norms and encourage the maintenance of harmonious relationships (De Leersnyder et al., 2013).

Hypothesis 2, which stated that, there were differences across social contexts for all nine emotions, was supported. This finding is consistent with previous research (Matsumoto et al., 2008; Safdar et al., 2009). There is an important clue revealed in the results. Participants reported the most expression of all negative emotions (anger, disgust, contempt, fear, sadness, shame and guilt) when they were alone When people were alone, they were more likely to disclose their true emotions to the greatest degree (Tafarodi et al., 2004). This suggests that, apart from considering various regulating reasons, individuals prefer to express their inner feelings at least negative feelings in a more private situation (Tafarodi et al., 2004). The results of social contexts by culture interactions main effects will be discussed below.

Unlike Chinese and American participants, Japanese suppressed all other-condemning negative emotions – anger, contempt, and disgust – toward people online. This could be because the online social world has various meaningful and functional purposes for people in different cultural contexts. Japanese participants extended their usual social norms (Qiu et al., 2013) into the online environment, suggesting that they have tighter social relationships and less open self-disclosure in online social networking. Americans tend to have wider social relationships and bolder online self-disclosure (Jackson & Wang, 2013; Qiu et al., 2013). Chinese participants' online culture, on the other hand, may be influenced by their loose

cultural environment (Eid & Diener, 2001), which allows the expression of negative emotions more than collectivistic but tight Japanese culture.

Another result is worth mentioning. Chinese participants adjusted themselves more when they interacted with colleagues or acquaintances. That is, they controlled more of their expressions of happiness and contempt but showed more guilt. This could be because Chinese culture values adaptivity and changeability more for managing and coping with various contexts (Qiu et al., 2013). Moreover, Chinese may modulate the expression of both very positive and very negative emotions around people who may be higher in status (which may include colleagues or acquaintances). Also, this could be because the dialectical thinking characteristic of the Chinese people prevent themselves from disclosing too much happiness, in case they experience a reversal of fortune and an ensuing period of unhappiness (Ji, Nisbett, & Su, 2001). In contrast, Americans may feel free to show their emotions with their colleagues or acquaintances, with the exception of guilt, which is generally undesirable to show in American culture (Tafarodi, et al., 2004).

Chinese participants reported more expressions of anger and guilt towards their close friends than Japanese participants did. This result suggests that there might be a difference of distance consideration between Japanese and Chinese cultures regarding close friends. That is, if we can gauge closeness by how free friends are to express negative emotions around each other, close friendships in Japan may be more distant than they are in China. Furthermore, the present results show that American display rules permitted the expression of anger significantly less than their Chinese and Japanese counterparts when they interacted

with family. This result is in line with other findings indicating that Americans control their

negative emotions regarding family more than East Asians (Eid & Diener, 2001). This effect

may be explained by American familism, which stresses values of strong commitments to

family harmony and respect (Eid & Diener, 2001). Nonetheless, there was no significant

interaction effect between social contexts and culture for fear, sadness, surprise, and shame,

suggesting that cultural differences in the expression of these emotions is less context-

sensitive than the expression of anger and guilt.

In terms of the gender differences predicted in Hypothesis 3, women across cultures

showed less other-condemning emotions (anger, contempt, and disgust) than men

(Hypothesis 3a was confirmed), and expressed more positive emotion (i.e., happiness) than

men (Hypothesis 3b was confirmed). These results are in line with previous findings in the

literature (Suh et al., 2004). Moreover, women chose to control their expressions when they

felt fear or sadness toward strangers, even though they may have felt more intense sadness

than men when they were alone (Hypothesis 3c was confirmed). This might be seen as a kind

of self-protection, as strangers may be associated with unfamiliarity and danger. Overall, the

results of the current study suggest that traditional gender stereotypes have an impact on

men's and women's display rules, which allow for expression in some situations but not

others.

Hypothesis 4 was partly supported; in line with previous research (Ralston et al.,

1997), Chinese and Japanese participants endorsed more conservation than Americans did

(Hypothesis 4d was confirmed). However, there was no significant difference among the

three groups in self-enhancement and openness to change (Hypothesis 4a and Hypothesis 4b

were rejected). Additionally, in terms of self-transcendence, the results were opposite to the

hypothesis (Hypothesis 4c was rejected): that is, American participants reported more self-

transcendence than Chinese and Japanese participants did.

Hypothesis 5 was also partly supported. Self-transcendence positively predicted the

expression of shame (Hypothesis 5b was confirmed), but not the expression of guilt

(Hypothesis 5a was rejected). As individuals with higher self-transcendence value

connections with others and transcend personal concerns (Schwartz et al, 2012), it seems

reasonable that expression of shame is an admission of a failure to accomplish their social

obligation to maintain their relationship with others. Furthermore, openness to change

negatively predicted the expression of fear (Hypothesis 5c was confirmed) and sadness

(Hypothesis 5d was confirmed). Individuals who more strongly endorse openness to change

values are more likely to desire adventure and discovery (Schwartz et al, 2012), which seems

opposite to the expression of fear and sadness. In terms of conservation, it negatively

predicted the expression of anger but not of disgust and contempt (Hypothesis 5e partly

confirmed). Individuals who more strongly value conservation tend to restrict themselves, so

it is logical that they also tend to control the expression of anger. The results also

demonstrated that individuals with higher endorsement of self-transcendent values tended to

endorse more display of happiness. As self-transcendence emphasises connections with

others, expressing more happiness would help individuals to fulfil their desire for affiliation.

In general, the results of Study 1 match the logic between values and expression of emotions

mentioned in the introduction of this thesis. Individuals allow themselves to express certain emotions when these expressions are consistent with values they support; individuals control the expression of specific emotions when these emotions are against values they support.

Finally, this study also explored relationships between Schwartz's values and emotional display rules within different social contexts. The results indicate that individuals with higher endorsement of conservation values tended to endorse less display of emotions in general when they were alone. Even though individuals tend to disclose their true feelings to the greatest degree when they are alone (Tafarodi et al., 2004), individual differences still exist, and the differences could be explained at least in part by conservation. People who value conservation more may control their emotions even in a private situation; this might be because they value self-restraint and emotional expression may also threaten their sense of personal security. By contrast, participants who more strongly valued openness to change tended to endorse less emotional displays in general when they interacted with their colleagues and acquaintances. Altogether, individuals' emotional expression in certain social contexts seemed to allow them to achieve the values they endorsed.

2.9 Limitations, Future Directions, and Conclusion

Several limitations of this study should be noted. First, in terms of social contexts, this study combined colleagues and acquaintances into one interaction setting; future study should differentiate between them, as colleagues may have more status and power over the individual than acquaintances. People may be more likely to suppress their emotions while in the presence of higher-status others (Friesen, 1972). Second, the different participant

recruitment methods in each culture could be considered as another limitation. For example, Japanese participants were undergraduates and American participants were MTurk users. However, age was controlled in the analyses, so that the younger age of the Japanese undergraduate participants was less of an issue. Also, some studies have suggested that data collected from MTurk is just as high-quality as more traditional data (e.g., from undergraduates) (Hauser & Schwarz, 2016).

In summary, Study 1 offers wide-ranging empirical evidence on that emotional display rules vary across nine emotions (i.e., anger, contempt, disgust, happy, surprise, fear, sadness, shame and guilt) and six social contexts (alone, with family, close friends, colleagues and acquaintances, strangers and people online) in China, Japan and the United States. Various main effects of culture, type of emotion, social context, and gender, as well as the interactions between these variables, were discerned to some degree. This study also found that Schwartz's values were associated with emotional expression in general, in different social contexts, and with several specific emotional expressions. Expanding on these findings, the purpose of Study 2 was to examine the contribution of other cultural factors to emotional display rules.

3. Study 2: Self-Construal, Regulatory Focus and Emotional Display Rules in China,

USA and the UK

Study 1 documented the similarities and differences of emotional display rules across six social contexts and nine emotions in three different cultures. It also found relationships among Schwartz's values and emotional display rules for different emotions and various situations. Building on Study 1, Study 2 aimed to explore other predictors of emotional display rules, including independent and interdependent self-construal, and promotion and prevention regulatory focus. Moreover, in terms of emotional display rules, Study 2 specifically focused on displays of other-condemning emotions (defined here as anger, contempt and disgust), and displays of self-conscious emotions (defined here as shame and guilt), because Study 1 found significant effects of culture, social contexts and culture by social context interactions for these emotions. A review of the literature and hypotheses for Study 2 are described below.

First, Study 2 examined self-construal as a predictor of emotional display rules (self-construal was described in the general introduction chapter). In Study 2, participants were recruited from the United States, the UK and China. These three countries were chosen because two are highly individualistic (USA and the UK) and one is highly collectivistic (China) (Hofstede, 2011). Also, Study 1 suggested that in terms of displays of emotions, Japanese fell in somewhere between Chinese and Americans, so that Japanese was dropped from Study 2. It is worth noting that following from social change (e.g., globalisation, urbanisation, economic development) over the last thirty years, China, as a typical East Asian

culture, has shown an increase in individualism (Zeng & Greenfield, 2015). At the same time,

China still demonstrates high levels of collectivism (Greenfield, 2016; Zeng & Greenfield,

2015). It is likely that such changes will be reflected at the individual level as well, with

Chinese people reporting high levels of both independence and interdependence. However,

consistent with previous findings (Oyserman et al., 2002), it is still proposed that Chinese

will endorse a more interdependent self-construal than Americans and British (Hypothesis

1a), while Chinese will endorse a less independent self-construal than Americans and British

(Hypothesis 1b).

Moreover, the current study examined the influence of independence and

interdependence on the endorsement of displays of other-condemning emotions (defined here

as anger, contempt and disgust) and self-conscious emotions (defined here as shame and

guilt). As mentioned in the general introduction, because expressions of other-condemning

emotions may be viewed as reflections of autonomy that may help individuals claim their

rights, displays of these emotions might be more acceptable in cultures that encourage

independence (Boiger, et al.,2013). On the other hand, in cultures that encourage

interdependence, displays of other-condemning emotions may be harmful to group harmony

and therefore less acceptable (Eid & Diener, 2001; Markus & Kitayama, 2001). Expressions

of self-conscious emotions may be viewed as less desirable in cultures that encourage

independence since they may expose negative information about the self and are harmful to a

positive self-view (Mesquita & Boiger, 2014). On the other hand, in cultures that encourage

interdependence, displays of self-conscious emotions might be beneficial for maintaining

group harmony as they indicate one's insufficiencies and might inspire further adjustment to

fit in with the social norms (De Leersnyder et al., 2013). Consistent with Study 1, it is

proposed that Chinese will report endorsing displays of other-condemning emotions (anger,

contempt and disgust) less than Americans and British (Hypothesis 2a); however, Chinese

will endorse greater expressions of self-conscious emotions (guilt and shame) than

Americans and British (Hypothesis 2b).

3.1 Regulatory Focus

Additionally, the present study tested promotion and prevention regulatory focus as

mediators of the associations of independence and interdependence with the endorsement of

expressing other-condemning and self-conscious emotions (the proposed model is shown in

Figure 3.1). Regulatory focus theory (Higgins, 1997, 1998) holds that individuals may be

promotion- or prevention-focused when pursuing preferred goals. When individuals are

promotion-focused, they tend to be motivated to achieve gains, aspirations and

accomplishments; when individuals are prevention-focused, they tend to value security needs

and stability, so that avoiding losses and fulfilling obligations are priorities (Brockner &

Higgins, 2001; Lockwood, Marshall, & Sadler, 2005). Moreover, promotion-focused

individuals are inclined to take greater risks, and therefore choose eagerness strategies,

whereas prevention-focused individuals are inclined to avoid risks and therefore choose

vigilance strategies (Brockner & Higgins, 2001). It is hypothesised that Chinese participants

will endorse less promotion focus than American and British participants (Hypothesis 3a);

meanwhile, Chinese participants will endorse more prevention focus than American and

British participants (Hypothesis 3b).

Previous research has found that independent self-construal is positively associated

with promotion focus, and interdependent self-construal is positively associated with

prevention focus (Aaker & Lee, 2001; Komissarouk & Nadler, 2014; Lin, Chang, & Lin,

2012; Lockwood et al., 2005; Zhang & Mittal, 2007). Indeed, promotion focus is aligned with

the independent self's pursuit of personal achievements and uniqueness, whereas prevention

focus is aligned with the interdependent self's desire to avoid violating social roles while

maintaining group harmony and fulfilling obligations (Cross et al., 2011). Though the

relationship between regulatory focus and emotional display rules has rarely been

documented in literature, according to theoretical logic, it is proposed that promotion-focused

individuals may be more likely to display other-condemning emotions (anger, contempt and

disgust) because it is risky to display these emotions but rewarding if their expression enables

one's independence. On the other hand, prevention-focused individuals may be more likely to

express self-conscious emotions (shame and guilt) to demonstrate their desire to take

responsibility for their faults and maintain stability in their interdependent relationships.
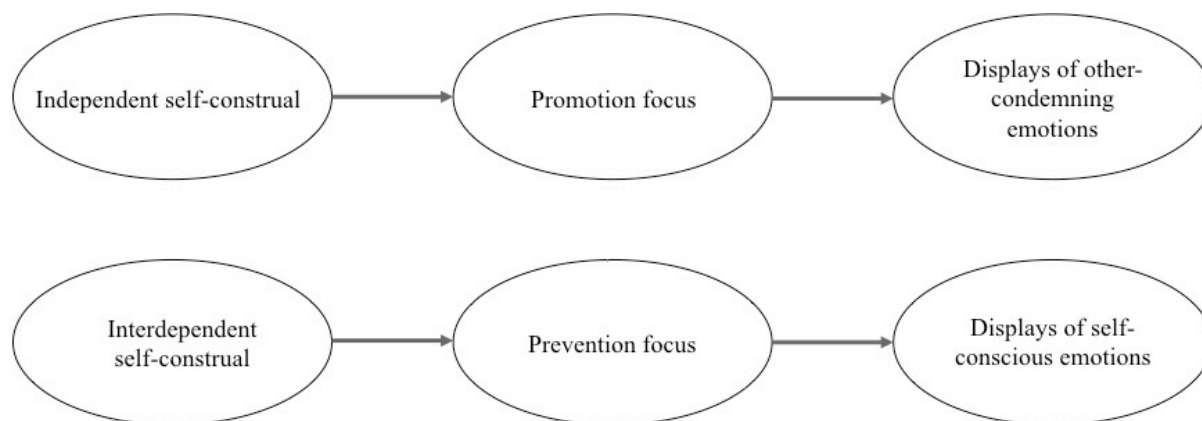
Figure 3.1 Proposed Model in Study 2

3.2 Proposed Model

In sum, Study 2 proposes that regulatory focus may play a mediating role between self-construal and endorsement of emotional displays. Specifically, individuals with independent self-construal will be prone to promotion focus and, in turn, will be more likely to endorse the display of other-condemning emotions. Individuals with interdependent self-construal, on the other hand, will be prone to prevention focus and, in turn, will be more likely to endorse the display of self-conscious emotions. That is, independent self-construal will predict displays of other-condemning (anger, contempt, disgust) emotions through promotion focus (Hypothesis 4a); while, interdependent self-construal will predict displays of self-conscious emotions (shame and guilt) through prevention focus (Hypothesis 4b).

3.3 Method

3.3.1 Participants

The sample size of 423 included 140 Americans (56% female), 152 Chinese (70% female), and 131 British (63% female). Chi-square analysis indicated that the gender distribution did not significantly differ by group χ^2 (2, $N = 423$) = 2.80, $p = .062$, $\eta_p^2 = .013$.

In terms of ethnicity, American and British sample were predominantly Caucasian (80%+), and the Chinese sample was 100% Chinese. 76% of the American sample, 92% of the Chinese sample, and 69% of the British sample had at least a university degree. Chi-square analysis indicated that there were group differences in education, χ^2 (2, $N = 422$) = 13.27, $p < .001$, $\eta_p^2 = .059$; more Chinese participants had at least a university degree than American and British participants. To ascertain exposure to contrasting cultural environments, participants were asked "*Have you ever lived abroad over one year? (Yes/No)*": 87% of participants claimed they did not have any prior overseas experience over one year and no group differences were found in overseas experience, χ^2 (2, $N = 422$) = 1.042, $p = .354$, $\eta_p^2 = .005$. There was a significant age difference by group, F (2, $N = 419$) = 76.91, $p < .001$, $\eta_p^2 = .269$; the Chinese participants ($M = 23.67$, $SD = 5.24$) were significantly younger than both American participants ($M = 36.86$, $SD = 13.12$) and British participants ($M = 37.45$, $SD = 12.28$). Age was thus entered as a covariate in the following analyses.

Chinese participants were recruited online by posting a survey link on popular public social networking websites (e.g., weibo.com). They were entered into a lottery to receive an Amazon gift voucher (i.e., every eight participants had a chance to receive an Amazon gift voucher worth 100 Chinese Yuan). American participants were recruited through Amazon's MTurk and paid $1 USD for completing the survey. British participants were recruited from Prolific Academic (https://prolific.ac) and paid £1.25 for completing the survey.

3.3.2 Procedure

American and British participants completed the survey in English, and the Chinese participants completed a version that was translated to Chinese by two bilingual translators following a back-translation method (Brislin, 1970).

3.3.3 Materials

Demographic questionnaire. Demographic questions asked about participants' gender, age, education level, and overseas experience.

Self-Construal Scale (Singelis, 1994). This is a 30-item instrument with two subscales to measure independent and interdependent self-construal. Each subscale is comprised of 15 items. For example, "*My personal identity, independent of others, is very important to me*" is an item measuring independence; "*It is important for me to maintain harmony with my group*" is an item measuring interdependence. Participants respond with a 7-point Likert-type scale (1 = *strongly disagree* to 7 = *strongly agree*). Cronbach's alpha coefficients for American, Chinese, and British participants were .81, .85 and .82 for independent self-construal and .83, .86 and .81 for interdependent self-construal, respectively.

Short-form of Regulatory Focus Scale (van Kleef, van Trijp, & Luning, 2005). This scale is a shortened version of regulatory focus scale from Lockwood, Jordan and Kunda (2002). As ELSamen (2011) argued that original 18- item version could be problematic and suggested to use the shorter version. Also, he supported that promotion focus and prevention focus should be treated as separate constructs which match current study's proposal. This shortened version consists of two subscales that have six items each: the promotion focus

subscale (e.g., '*I typically focus on the success that I hope to achieve in the future*'; '*Overall, I am more oriented toward achieving success than preventing failure*') and the prevention focus subscale (e.g., '*In general, I am focused on preventing negative events in my life*'; '*I am more oriented toward preventing losses than I am toward achieving gains*'). Participants rate their agreement on a 7-point scale ranging from 1 (*strongly disagree*) to 7 *(strongly agree)*. This instrument has been demonstrated to be highly valid and reliable in several studies (Avnet & Sellier, 2011; ELSamen, 2011; Haws, Dholakia, & Bearden, 2010; Zhao & Pechmann, 2007). In the current study, both subscales, promotion focus and prevention focus were reliable: Cronbach's alpha coefficients for promotion focus were .90, .86, and .89 for Americans, Chinese and British participants, respectively; Cronbach's alpha coefficients for prevention focus were 87, .80, and .79 for Americans, Chinese and British participants, respectively.

Display Rule Assessment Inventory (DRAI)*.* The DRAI, developed by Matsumoto and colleagues (2005), has several versions. The instrument applied in this study was adjusted according to the research requirements of the present study and it was slightly different from the version used in Study 1. It measured emotional display rules by asking participants what they should do if they felt each of five emotions in five social contexts. Anger, contempt, and disgust were emotions from the original version of the DRAI, and shame and guilt were added specifically for the current thesis. The five contexts were as follows: alone, with family, close friends, acquaintances, and people online.[1] For each

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[1] Analysing the influence of social contexts was the focus of Study 1 rather than Study 2, so I averaged across those social contexts to obtain a general endorsement of display of emotions.

emotion in each context, six possible behavioural options were provided: show more than you feel it (*amplify)*, express it as you feel it (*express*), show it but with another expression (*qualify*) show less than you feel it (*de-amplify*), hide feelings by showing something else (*mask*), hide feelings by showing nothing (*neutralise*). For simplicity, responses were scored in the manner applied by Fok and colleagues (2008) to create a continuous variable. This continuum arranges the response categories in the following order of descending strength: *Amplify, Express, Qualify, De-amplify, Mask, and Neutralise*. The category of *Other* was removed since only 1% of participants chose this option. "*Amplify*" was coded as 6, "*neutralise*" was coded as 1, and the other categories fell in between in a step-wise metric. Therefore, higher scores represent more endorsement of expressing an emotion (Fok et al., 2008).

3.4 Results

3.4.1 Main Effects of Culture

Table 3.1 shows mean scores and standard deviations of independent self-construal, interdependent self-construal, promotion focus, prevention focus and emotional display rules for five emotions (average scores across the five social contexts to obtain general endorsements of display of emotions), display of other-condemning emotions (combined scores of displays of anger, contempt and disgust) and self-conscious emotions (combined scores of displays of shame and guilt) for the three cultures. To assess cultural differences in means, MANCOVAs were performed on measurements with multiple subscales. Culture was entered as a between-subjects factor, and age was entered as a covariate.

Table 3.1.

Means, Standard Deviations, and Main Effects of Culture in Study 2

	Total sample		Americans		Chinese		British		Culture Effects			
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	*F*	*p*	η^2	Observed Power
Independent self	4.80	.83	5.00	.82	4.80	.85	4.58	.80	10.62	<.001	.049	.99
Interdependent self	4.66	.81	4.56	.80	4.89	.84	4.50	.73	3.95	.020	.019	.71
Promotion focus	5.33	1.14	5.58	1.05	5.09	1.23	5.34	1.07	6.79	.001	.032	.92
Prevention focus	4.45	1.27	4.01	1.40	4.78	1.16	4.54	1.12	8.30	<.001	.038	.96
Display of anger	3.36	.95	3.42	.98	3.33	1.03	3.33	.83	.40	.674	.002	.11
Display of contempt	3.03	1.05	3.23	1.13	2.85	1.01	3.01	.97	4.41	.013	.022	.76
Display of disgust	3.16	.97	3.29	1.06	3.03	.94	3.15	.87	1.38	.254	.007	.30
Display of shame	3.14	1.09	3.08	1.12	3.45	1.12	2.86	.95	6.36	.002	.031	.90
Display of guilt	3.32	1.10	3.24	1.12	3.64	1.12	3.07	.97	6.15	.002	.030	.89
Other-condemning emotions	9.55	2.55	9.94	2.90	9.21	2.37	9.49	2.28	1.83	.162	.009	.38
Self-conscious emotions	6.46	2.12	6.31	2.19	7.09	2.12	5.93	1.86	6.71	.001	.032	.92

As seen in Table 3.1, there were main effects of culture on all variables except endorsement of display of anger and endorsement of display of disgust. Pairwise comparisons (Bonferroni) indicated that British participants were significantly less independent in their self-construal than Americans ($p < .001$) and Chinese ($p = .002$), and there was no difference between Chinese and Americans ($p > .05$). Meanwhile, Chinese participants indicated significantly more interdependence in their self-construal than British ($p = .023$), and there were no significant differences between Chinese and Americans ($p = .075$); and Americans and British ($p > .05$). Therefore, Hypothesis 1a was partially confirmed: Chinese were more interdependent in their self-construal than British but not American. However, Hypothesis 1b was not supported: Chinese participants were not less independent in their self-construal than the two Western groups. Rather, British participants were less independent than Chinese and American participants.

Additionally, Chinese participants reported significantly less promotion focus than American participants ($p = .001$) but not British participants ($p = .111$, and there was no significant difference between American and British participants ($p = .268$). Therefore, Hypothesis 3a was partially confirmed. Conversely, Chinese participants endorsed significantly more prevention focus than American participants ($p = .004$) but not British participants ($p > .05$), and British participants reported significantly more prevention focus than American participants ($p = .001$). Therefore, Hypothesis 3b was partially confirmed.

Regarding displays of emotions, pairwise comparisons with Bonferroni correction indicated that Chinese participants endorsed less expression of contempt than American

participants (p = .011) but not British participants (p = .589); there was no significant

difference between Americans and British (p = .241). Moreover, Chinese participants

reported significantly more expression of shame than British participants (p =.001) but not

Americans (p = .100); Chinese participants reported significantly more expression of guilt

than Americans (p = .047) and British (p = .002). There were no significant differences on

expression of shame and guilt between American and British participants (ps = .299 and .648,

respectively). Therefore, Hypothesis 2 was partially confirmed: Chinese reported endorsing

the display of contempt less than Americans but not British; there were no differences in

endorsement of the display of anger and disgust across cultures (Hypothesis 2a partially

confirmed); and Chinese endorsed greater expressions of guilt and shame than British and

endorsed greater expression of guilt than Americans (Hypothesis 2b confirmed).

3.4.2 Tests of Associations

Given that there were no significant differences between American and British participants in emotional displays of different emotions. Thus, these two groups were combined into a Western cultural group ($N = 206$) and compared with the Chinese group ($N = 141$) in the following analyses.

Pearson correlation coefficients for the total sample as well as the Western sample and Chinese sample separately are displayed in Tables 3.2 and 3.3. Independent self-construal was significantly positively associated with promotion focus and promotion focus was significantly positively associated with displays of other-condemning emotion in the total sample, Western sample, and the Chinese sample. Additionally, independent self-construal was significantly positively associated with displays of other-condemning emotions in the total sample and the Western sample.

In contrast, interdependent self-construal was significantly positively associated with prevention focus in the total sample, Western sample, and the Chinese sample. Moreover, prevention focus was significantly negatively associated with self-conscious emotions in the Westerner sample. Additionally, interdependent self-construal was significantly positively associated with displays of self-conscious emotions in the total sample and Chinese sample. Therefore, the correlations partially supported our proposed linkages.

Table 3.2

Pearson Correlation Coefficients for the Total Sample in Study 2

	1	2	3	4	5	6	7	8	9	10
1.Independent self	1									
2.Interdependent self	.20***	1								
3.Promotion focus	.33***	.15**	1							
4.Prevention focus	-.14**	.23***	.12*	1						
5.Display of anger	.16**	-.06	.14**	-.09	1					
6.Display of contempt	.14**	.01	.13**	-.01	.49***	1				
7.Display of disgust	.16**	-.02	.12*	-.01	.59***	.73***	1			
8.Display of shame	.12*	.19***	.06	.01	.36***	.39***	.44***	1		
9.Display of guilt	.10*	.16**	.07	-.01	.37***	.33***	.42***	.86***	1	
10.Other-condemning emotions	.18***	-.03	.15**	-.05	.80***	.87***	.90***	.46***	.43***	1
11. Self-conscious emotions	.11*	.18***	.07	.00	.38***	.38***	.44***	.97***	.97***	.46***

Note: *p < .05, **p < .01, ***p < .001

Table 3.3.

Pearson Correlation Coefficients for Western and Chinese Samples in Study 2

	1	2	3	4	5	6	7	8	9	10	11
1.Indepedent self	1	.64***	.17*	.08	.01	.07	.05	.09	.04	.05	.07
2.Interdependent self	-.07	1	.15†	.18*	-.09	.03	-.01	.21*	.17*	-.05	.20*
3.Promotion focus	.45***	.23***	1	.54***	.23**	.06	.09	.09	.12	.16†	.11
4.Prevention focus	-.26***	.21**	-.06	1	.10	.07	.11	.15†	.14†	.11	.16†
5.Display of anger	.25***	-.03	.08	-.20**	1	29***	.40***	.11	.14	.72***	.13
6.Display of contempt	.18**	.04	.15*	-.02	.60***	1	.69***	.29**	.23**	.82***	.27**
7.Display of disgust	.22***	.01	.12†	-.05	.71***	.75***	1	.26**	.20**	.86***	.24**
8.Display of shame	.13*	.10†	.10†	-.13*	.54***	.51***	.59***	1	.80***	.27**	.95***
9.Display of guilt	.12*	.07	.09	-.15*	.54***	.44***	.59***	.89***	1	.24**	.95***
10.Other-condemning	.24***	.01	.13*	-.09	.86***	.89***	.92***	.61***	.58***	1	.27**
11.Self-conscious	.13*	.09	.10†	-.15*	.56***	.49***	.61***	.97***	.97***	.62***	1

Note: †$p < .10$, *$p < .05$, **$p < .01$, ***$p < .001$; Western group's correlation coefficients are reported below the diagonal, and Chinese sample's correlation coefficients are reported above the diagonal.

3.4.3 Structural Equation Models

Structural equation modelling (SEM) with AMOS 20 was used to test the indirect

effects of independent and interdependent self-construals on displays of other-condemning

emotions (anger, contempt and disgust) and displays of self-conscious emotions (shame and

guilt) through promotion focus and prevention focus. Rather than conducting separate

mediation analyses for each dependent variable, structural equation modelling offers the

possibility of assessing pathways among multiple independent variables, mediators, and

dependent variables within a single all-encompassing model. Model fit indices were

evaluated as follows: the chi-square statistic should be non-significant (however, this index is

impractical when conducting SEM with larger sample sizes; Byrne, 2013); the comparative

fit index (CFI) should be .90 or greater (Bentler, 1992); the root-mean-square error

approximation (RMSEA) should be .08 or less (Browne & Cudeck, 1989); and the

standardised root-mean-square residual (SRMR) should be .10 or less (Kline, 2011). Since

AMOS 20 requires complete data, the following analyses were based on 401 participants.

In addition, the latent variables were produced by parcelling items. To ensure that

parcels fairly indicated each latent variable, exploratory factor analyses were performed for

each scale and items were ranked by their factor loading sizes. They were then combined into

parcels, with the highest loading item paired with the lowest loading item (Russell, Kahn,

Spoth, & Altmaier, 1998). Three parcels each were generated for the latent variables of

independent self-construal, interdependent self-construal, promotion focus and prevention

focus. Parcels were not generated for the latent variables of other-condemning emotions

(indicators consisted of the displays of anger, contempt, and disgust) and self-conscious

emotions (indicators consisted of the displays of shame and guilt).

3.4.3.1 Measurement Model

The measurement model revealed an acceptable fit to the data [$\chi^2(105) = 291.51$, p

$< .0001$, CFI $= .94$, RMSEA $= .07$ (CI $= .06, .08$), SRMR $= .06$]. The observed variables

loaded significantly onto their respective latent variables (all $p < .001$), indicating that all

item parcels sufficiently represented the latent variables.

3.4.3.2 Structural Model

The initial structural model, which included all direct and indirect paths between

independent variables, mediators, and dependent variables, provided the same fit indices as

the measurement model. Several structural coefficient pathways were not significant: two

direct pathways between independent self-construal to displays of self-conscious emotions,

and interdependent self-construal to displays of other-condemning emotions; and the path

between interdependent self-construal and promotion focus, promotion focus and displays of

self-conscious emotions, promotion focus and displays of other-condemning emotions,

prevention focus and displays of self-conscious emotions, and prevention focus and displays

of other-condemning emotions. A modified structural model that removed those pathways in

order of lowest standardised regression weights showed an acceptable fit [$\chi^2(111) = 298.97$,

$p < .0001$, CFI $= .94$, RMSEA $= .07$ (CI $= .06, .0.7$), SRMR $= .06$], and did not significantly

differ from the initial model [$\chi^2\Delta(6) = 7.46$, $p > .05$].]). The observed power for other-

condemning emotions of this model was .82; the observed power for self-conscious emotions

from this model was .97. Therefore, the more parsimonious modified model was retained.

Standardised structural path coefficients and significance values of this final model are

shown in Figure 3.2. Independent self-construal was positively associated with promotion

focus and displays of other-condemning emotions, and negatively linked with prevention

focus; interdependent self-construal was positively associated with prevention focus and

displays of self-conscious emotions. Therefore, Hypothesis 4a and Hypothesis 4b were

partially confirmed, that is, independent self-construal predicted promotion focus and

interdependent self-construal predicted prevention focus; however, regulatory focus did not

appear to mediate the associations of self-construal with displays of other-condemning and

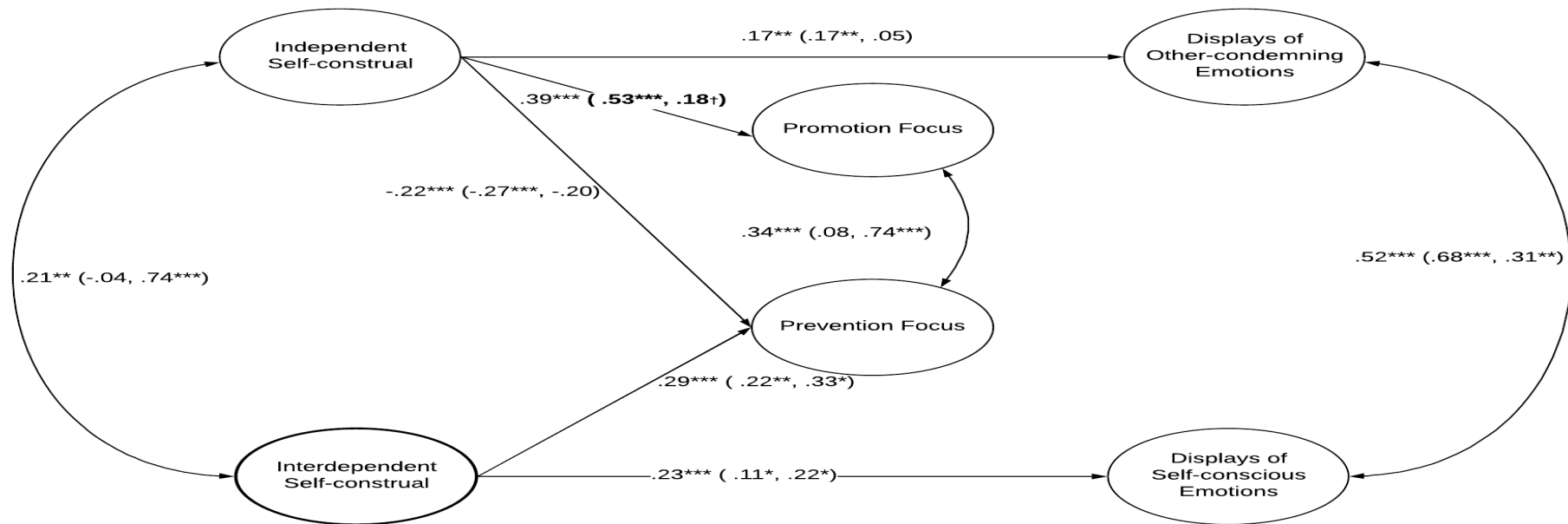self-conscious emotions.

Figure 3.2 Standardised Structural Path Coefficients and Measurement Weights of Final Model in Study 2

Note: The values within parentheses are the path coefficients for Westerners (left side) and Chinese (right side). Significant group differences in the path coefficients are indicated in bold values. $p^\dagger < .10$; $p^* < .05$; $p^{**} < .01$; $p^{***} < .001$.

3.4.3.3 Multiple-Group Comparison Analysis: Westerners vs. Chinese

Multiple-group comparison analysis showed that the factor loadings did not significantly differ across groups [$\chi^2\Delta(11) = 16.17$, $p = .135$], verifying the invariance of the measurement model. Second, given equivalent factor loadings, the model of structural path coefficients constrained to invariance across groups differed from the unconstrained model of [$\chi^2\Delta(5) = 11.06$, $p = .050$] (though $p = .050$ is not technically significant, it is close enough to warrant further assessment to ascertain which paths were not invariant). This suggested that at least one of the structural path coefficients was not equal between the two groups. Further assessment demonstrated that the path from independent self-construal to promotion focus was not equal [$\chi^2\Delta(1) = 4.92$, $p = .027$]: the path coefficient was stronger for Westerners ($\beta = .52$, $p < .001$) than for Chinese ($\beta = .18$, $p = .076$).

3.5 Discussion

The present study provided evidence that individuals with a more independent self-construal supported a higher endorsement of displays of other-condemning emotions. In contrast, individuals with a more interdependent self-construal more strongly supported displays of self-conscious emotions. Key findings will be discussed below.

First, as predicted, Chinese participants endorsed a more interdependent self-construal than did British participants but not Americans. However, the result showed an approached significant difference between Chinese and Americans for interdependent self-construal. Additionally, Chinese and American participants endorsed an independent self-construal to a similar degree, which supports previous findings (Greenfield, 2016; Zeng & Greenfield,

2015). To explain these results, Chinese people's experience of rapid socioeconomic

development and globalisation during recent decades may have increased their individualistic

values but not diminished their heritage collectivistic values (Greenfield, 2016; Hamamura &

Xu, 2015; Santos, Varnum, & Grossmann, 2017; Zeng & Greenfield, 2015). Consequently,

Chinese people emphasise both individual-level independent self-construal and

interdependent self-construal.

As predicted concerning displays of emotions, Chinese participants more highly

endorsed displays of self-conscious emotions (i.e., guilt and shame) than did American and

British participants, consistent with the results of Study 1. Moreover, Chinese participants

endorsed less display of contempt than did American and British participants. However, there

were no differences in terms of display of anger and display of disgust across the three

groups. The results again supported that shame and guilt are prevalently displayed in Chinese

cultural contexts. However, at the same time, displays of anger and disgust may also be

increasingly condoned in Chinese cultural contexts given the rapid rise of individualistic

values in Chinese culture (Zeng & Greenfield, 2015).

By way of explanation, the structural equation model developed in this study revealed

that individuals with a more independent-self construal were more likely to display other-

condemning emotions. The independent self-construal emphasises the expression of inner

feelings and thoughts in an effort to attain personal autonomy and independence (Kim &

Sherman, 2007), and therefore may value emotional displays more freely, even for other-

condemning emotions.

Notably, the structural equation model also revealed that interdependent self-construal was positively linked with displays of self-conscious emotions, which provided evidence of the prevalent displays of shame and guilt among individuals with highly interdependent self-construal. such individuals are more likely to take responsibilities for their defects and faults, to modify themselves to meet social norms, and to maintain stability in interdependent relationships and group harmony (De Leersnyder et al., 2013; Kitayama et al., 2006). Until now, the self-construal has been considered to contribute to displays of emotions. Findings show that independent self-construal links with displays of other-condemning and self-conscious emotions and that interdependent self-construal directly links with displays of self-conscious emotions.

Although independent self-construal was positively linked with promotion focus and negatively linked with prevention focus, and interdependent self-construal was positively linked with prevention focus, neither promotion focus, nor prevention focus predicted displays of other-condemning and self-conscious emotions. Therefore, Hypothesis 4a and Hypothesis 4b were partially confirmed. These findings suggest that regulatory focus does not necessarily mediate the association of self-construal with displays of emotions. Independent self-construal predicted promotion focus and interdependent self-construal predicted prevention focus is aligned with the findings of previous research (e.g., Lockwood et al., 2005). However, regulatory focus did not significantly contribute to endorsement of emotional displays, at least within the structural equation model (Pearson's correlations for Westerners at least revealed a significant positive association of promotion focus with other-

condemning emotions, and a significant negative association of prevention focus with self-conscious emotions). Furthermore, multi-group comparison revealed a pathway that was stronger for Westerners than for Chinese participants: independent self-construal to promotion focus. In line with previous literature (Aaker & Lee, 2001; Komissarouk & Nadler, 2014) individuals with a more independent self-construal tend to endorse greater promotion focus and this pattern is more likely to be stronger in Western cultural settings.

3.6 Limitations, Future Directions, and Conclusion

There were several limitations of the current study. First, applying self-report surveys invariably allows for social agreeableness bias, which should be borne in mind when interpreting the results. Furthermore, emotional display rules are nevertheless values and norms, that people may endorse regarding the display of emotions, and people are liable to believe that they might display a particular emotion in a particular way in different relationships; it remains unclear how they actually behave when those situations happen (Matsumoto et al., 2008). Furthermore, the results of the present study did not show links between regulatory focus and displays of emotions; however, other previous studies have documented associations between regulatory focus and emotional experience (Brockner & Higgins, 2001). In the future, researchers could also design other ways to test these research questions. Higgins (1997) has argued that regulatory focus is a relatively stable personality trait, though it is possible to activate either focus by situational priming (Zhang & Mittal, 2007). Therefore, a situational priming design could be considered in future designs to test whether regulatory focus is causally related to emotional display rules.

Altogether, the present study elucidates relationships among self-construal, regulatory focus, and displays of other-condemning and self-conscious emotions. Specifically, the results suggest that independent self-construal links to endorsements of displays of other-condemning emotions (defined here as anger, contempt and disgust) and interdependent self-construal links to self-conscious emotions (defined here as shame and guilt). These results have some important practical implications. For instance, clinicians working with clients who display inappropriate levels of other-condemning emotions (such as expressing too much or too little anger) may wish to take the patient's independent self-construal into account. Likewise, insofar as excessive (or inhibited) displays of shame and guilt have negative intrapersonal or interpersonal consequences, clinicians would be advised to assess the patient's degree of interdependence.

4. Study 3: Cultural Priming, Cultural Intelligence, Acculturation and Adaptation among Chinese International Students in the UK

4.1 Cultural Priming

Studies 1 and 2 provide correlational evidence that cultural values predict emotional display rules. Study 3 extended this work by seeking causal evidence that cultural influences on display rules. Cultural priming is a method that may allow for such causal inferences to be made. To examine the influence of culture on individuals through an experimental approach, Hong, Morris, Chiu, and Benet-Martínez (2000) proposed the method of cultural priming on bicultural individuals. Bicultural individuals refer to individuals who have internalised two cultures, such as immigrants and international students (Hong, Benet-Martínez, Chiu, & Morris, 2003; Nguyen & Benet-Martínez, 2013). According to Hong and colleagues (2003), priming bicultural individuals with cultural icons can activate their corresponding cultural knowledge systems. Emotional display rules are a part of cultural knowledge systems; therefore, it is surmised that they can be activated and accessible after exposing bicultural participants to cultural icons. In Study 3, Chinese international students who study in the UK were chosen as our bicultural sample because they have experienced both Chinese culture and British culture. Considering that Study 2 involved local British and local Chinese as samples, it was worth investigating how culture influences emotional display rules in Chinese international students in the UK – a group of individuals who combine these two cultures. Similar to Study 2, Study 3 focused on participants' endorsements of displays of other-condemning emotions (anger, contempt and disgust) and displays of self-conscious emotions

(shame and guilt). Consistent with the results of Study 2, it was hypothesised that participants exposed to Chinese cultural priming would endorse less other-condemning emotions than participants exposed to British cultural priming (Hypothesis 1a), while participants exposed to Chinese cultural priming would endorse more self-conscious emotions than participants exposed to British cultural priming (Hypothesis 1b).

Apart from experimental cultural priming, we considered other factors that could influence bicultural individuals' endorsements of emotional display rules: cultural intelligence, heritage cultural identification, mainstream cultural identification, sociocultural and psychological adaptation. Each of these constructs has been introduced briefly in general introduction. A more detailed introduction will be described below.

4.2 Adaptation

As describe in previous chapter, acculturation's most discussed outcome, adaptation includes sociocultural adaptation and psychological adaptation. Sociocultural adaptation refers to the capability to accommodate and deal with daily life in the new culture environment (Searle & Ward, 1990; Ward & Kennedy, 1999). Effective skills and knowledge in the new cultural setting are the key points of sociocultural adaptation (Ward & Kennedy, 1994). It is usually positively related with the amount of time that individuals spend in the host (new) culture, cultural knowledge, interactions with members of the host culture, mainstream cultural identification, language level and previous overseas experience. Therefore, a higher level of sociocultural adaptation difficulties may be related to more

negative emotions that may strongly impact on one's life quality (Spencer-Oatey & Xiong, 2006; Ward, 2008).

By contrast, psychological adaptation refers to feelings of well-being, personal life satisfaction, and low acculturative stress in the new cultural context (Ward & Kennedy, 1999; Schwartz, Unger, Zamboanga, & Szapocznik, 2010). Ward and Kennedy (1994) suggested that psychological adaptation could be indexed by acculturative stress and life satisfaction. Acculturative stress refers to an individual's stress response when they fail to manage their daily life events and intercultural contacts during acculturation (Sam & Berry, 2010). Previous research has illustrated that acculturative stress may be caused by three major factors (Crockett et al., 2007, Yeh & Inose, 2003). First, separation from family members and friends in the homeland may result in homesickness and sense of loss. Second, sociocultural adaptation difficulties suffered in new cultural settings may lead to anxiety and depression (Hovey, 2000). Third, conflicts between heritage cultural systems and mainstream cultural systems may lead to pressure among acculturating individuals. For example, in terms of bicultural identity integration (BII), individuals low on BII may experience greater acculturative stress (Benet-Martínez & Haritatos, 2005). More specifically, the stress experienced by international students is usually related to language difficulties, education and work challenges, lack of knowledge about mainstream cultural value systems and perspectives, discrimination and intercultural communication (Ye, 2006; Constantine, Okazaki, & Utsey, 2004). Acculturative stress has been linked with higher levels of negative emotions, anxiety and depression (Crockett et al., 2007; Wu & Mak, 2012). For instance,

Chinese international students with higher levels of acculturative stress are at high risk to

suffer from depression (Wei et al., 2007).

Life satisfaction, another indicator of psychological adaptation, refers to an

individual's own appraisal of their quality of life (Shin & Johnson, 1978). Because self-

reported life satisfaction allows people to judge their life quality according to their own

unique standard, it can be measured universally – different individuals may endorse various

values and have different understandings of life (Diener, Oishi, & Lucas, 2003; Sam, 2000).

Altogether, less acculturative stress and higher life satisfaction represent better psychological

adaptation.

4.3 Relations among Cultural Intelligence, Acculturation and Adaptation

In terms of the relationship between cultural intelligence (CQ) and acculturation,

Peng, Van Dyne and Oh (2015) found that motivational CQ (one of four dimensions of CQ)

and heritage cultural identification were positively associated. Furthermore, Wang, Heppner,

Wang and Zhu (2014) found mainstream cultural identification was positively related to CQ

among Chinese international students studying in the USA. As CQ is a construct about

individuals' ability to understand and absorb cultures (Earley & Ang, 2003), it is reasonable

that CQ would be positively related to both heritage cultural identification (Hypothesis 2a)

and mainstream cultural identification (Hypothesis 2b).

Previous research has demonstrated that heritage cultural identification is positively

related to psychological adaptation, whereas mainstream cultural identification is related to

better sociocultural adaptation (Berry, et. al, 2006; Ward & Kennedy, 1994). In Ryder, Alden,

and Paulhus's (2000) study, mainstream cultural identification was also related to better

psychological adaptation. Zhang and Goodson (2011) found that mainstream cultural

identification was negatively correlated with sociocultural adaptation difficulties and

depression, whereas heritage cultural identification was negatively related to depression

among Chinese international students in the USA. Therefore, following the previous research,

it was hypothesised in this study that heritage cultural identification would be positively

associated with life satisfaction (Hypothesis 3a) and negatively correlated with acculturative

stress (Hypothesis 3b); meanwhile, mainstream cultural identification would positively

correlate with sociocultural adaptation (Hypothesis 3c) and life satisfaction (Hypothesis 3d)

and negatively correlate with acculturative stress (Hypothesis 3e).

Because acculturative stress reflects negative affect (Crockett et al., 2007),

acculturative stress may also predict displays of negative emotions, such as displays of other-

condemning emotions (anger, contempt and disgust) (Hypothesis 4a) and displays of self-

conscious emotions (shame and guilt) (Hypothesis 4b). Conversely, life satisfaction may

negatively predict displays of other-condemning emotions (Hypothesis 4c) and self-conscious

emotions (Hypothesis 4d).

In terms of the relationship between adaptation and cultural intelligence, as mentioned

before, recent empirical studies have shown that CQ is positively related to sociocultural

adaptation and psychological adaptation (Ang et al., 2007; Lee & Sukoco, 2010; Presbitero,

2016; Wang et al., 2015). For instance, Presbitero (2016) demonstrated that cultural

intelligence positively predicts both psychological adaptation and sociocultural adaptation

among international students in Australia. Therefore, it is hypothesised that cultural

intelligence will be positively associated with sociocultural adaptation (Hypothesis 5a) and

life satisfaction (Hypothesis 5b), and negatively associated with acculturative stress

(Hypothesis 5c). Integrating those variables together, indirect effects of cultural intelligence

on displays of emotions through cultural identification and adaptation variables will be tested

on an exploratory basis.

4.4 Method

4.4.1 Participants

161 Chinese international students (49% females; M_{age} = 24.32, SD_{age}= 3.35) living in

the UK participated in this study. All participants were currently enrolled at university (32%

Bachelor's degree, 57% Master's degree and 11% doctorate). Participants were recruited

online by posting a survey link on popular public social networking websites (e.g.,

www.weibo.com) and by recruiting students on campus at Brunel University London. The

first 91 respondents were entered into a lottery to receive an Amazon gift voucher (i.e., every

ten participants had a chance to receive an Amazon gift voucher worth £20); the rest of the

participants each received a £5 Amazon gift voucher directly after completing the survey.

4.4.2 Materials

Demographic questionnaire. Demographic questions asked about participants'

gender, age, education level, resident time in the UK (i.e., "*For how long have you been*

living in the UK?") and English proficiency (i.e., "*Please rate your English language*

proficiency by using 1-7 points; 1 refers to extremely bad and 7 refers to extremely good.").

Cultural Intelligence Scale (CQS; Ang et al., 2007). This 20-item scale measures four cultural intelligence (CQ) dimensions: motivational CQ (5 items, e.g., "*I enjoy interacting with people from different cultures*"), cognitive CQ (6 items, e.g., "*I know the cultural values and religious beliefs of other cultures*"), meta-cognitive CQ (4 items, e.g., "*I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me*"), and behavioural CQ (5 items, e.g., "*I vary the rate of my speaking when a cross-cultural situation requires it*"). A 7-point Likert scale ranging from strongly disagree (1) to strongly agree (7) was applied to rate each item. The composite score indicating overall CQ was used in this study. Individuals with high endorsement on the four dimensions of CQ have the ability and willingness to understand and learn the knowledge of diverse cultures, and in turn, they are willing to act in a culturally acceptable way. Therefore, if individuals score higher on multiple dimensions of CQ, they could more easily adapt in the new cultural settings and adjust themselves to behave in a proper way in the new culture. A higher score indicates higher cultural intelligence in general. The Cronbach's alpha reliability of the CQ was .94.

Vancouver Index of Acculturation (VIA; Ryder, Alden, & Paulhus, 2000). This measure is a two-subscale self-report instrument that measures an individual's heritage cultural identification and mainstream cultural identification. Each subscale includes 10 items that refer to traditions, marriage, social activities, comfort, entertainment, behaviour, practices, values, humour, and friends. For example, in terms of friends, a heritage cultural identification item is, "*I am interested in having friends from my heritage culture*," and a

mainstream identitification item is, "*I am interested in having British friends*." Each item is

rated on a 9-point scale ranging from disagree (1) to agree (9). For the purposes of this study,

the mainstream contexts were referred to as "British", and the heritage items specifically

measured Chinese cultural identification. This instrument has been found to be valid and

reliable in many studies (Huynh, Howell, & Benet-Martínez, 2009). The Cronbach's alpha

reliabilities of mainstream identification and heritage identification were .93 and .88,

respectively.

Sociocultural Adaptation Scale (SCAS; Ward & Kennedy, 1999). This is a 20-item,

unidimensional scale to assess sociocultural adaptation. It requires participants to indicate the

amount of difficulty they experience in different situations, such as "understanding the local

value system" or "making friends", by applying a 5-point scale anchored with *No difficulty*

(1) to *Extreme difficulty* (5). For easier interpretation of coefficients, we reverse coded this

scale so that higher scores indicate better sociocultural adaptation. The Cronbach's alpha

reliability of sociocultural adaptation was .93.

Riverside Acculturation Stress Inventory (RASI; Benet-Martínez, 2003). The RASI

is a multiple dimensional scale that contains 15 items. Its five subscales (3 items each)

describe five acculturative stress domains: language skills (e.g. "*I often feel misunderstood or*

limited in daily situations because of my English skills"); discrimination (e.g. "*I have been*

treated rudely or unfairly because of my cultural/ethnic background"); intercultural relations

(e.g. "*I feel that my particular cultural/ethnic practices have caused conflict in my*

relationships"); cultural isolation (e.g. "*When I am in a place or room where I am the only*

person of my ethnic/cultural group, I often feel different or isolated"); and work challenges

(e.g. "*In looking for a job, I sometimes feel that my cultural/ethnic status is a limitation*").

Each item is rated on a 5-point Likert scale ranging from strongly disagree (1) to strongly

agree (5). This instrument has been shown to be highly valid and reliable in several studies

(Chen, Benet-Martínez, & Bond, 2008; Miller, Kim, & Benet-Martínez, 2011). In the current

study, the total score was used to indicate participants' acculturative stress in general. A

higher total score indicates a higher level of acculturative stress. The Cronbach's alpha

reliability of the total acculturative stress was .85.

The Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin,

1985). Another indicator of psychological adaptation among Chinese international students

was measured with the SWLS, which was developed by Diener and colleagues (1985) to

assess global life satisfaction. It is the most generally applied instrument to measure life

satisfaction. The SWLS is a unidimensional scale which includes five items, and participants

rate their agreement by using a 7-point Likert-type scale, from 1 (strongly disagree) to 7

(strongly agree). A higher score indicates higher life satisfaction. The Cronbach's alpha

reliability of the life satisfaction scale was .81.

Cultural priming materials (Ng, Ng, & Ye, 2016). The present study applied

cultural icons published by Ng and colleagues (2016) as cultural priming materials. Five

pictures of British cultural icons were selected from the original ten Western icons as British

culture primes, five pictures of Chinese cultural icons as Chinese culture primes, and five

pictures of natural weather phenomena (e.g., rainbow, lightning) as culturally neutral primes.

The two groups of culture primes comprised various cultural aspects, including food, tableware, landmarks, musicals and movie stars. Each British icon was matched with a Chinese counterpart. For instance, in terms of food, a picture of a British afternoon tea set was matched with a picture of Chinese Dim Sum; in terms of landmarks, a picture of the Houses of Parliament was matched with The Great Wall.

Manipulation check. Directly after showing the cultural priming pictures, participants were asked to indicate which culture these pictures represented (British or Chinese). For the neutral prime, we asked participants if the pictures were natural or artificial, similar to the check used by Ng and colleagues (2016).

Display Rule Assessment Inventory (DRAI). The same version described in Study 2 was used in Study 3.

4.4.3 Procedure

The participants (i.e., Chinese international students living in the UK) completed the study in English. Before being presented with the cultural priming materials, participants completed the demographic questions and the measures of CQ, heritage cultural identification, mainstream cultural identification, sociocultural adaptation, acculturative stress, and life satisfaction. Participants were then randomly assigned to one of the three priming conditions: British primes ($N = 53$), Chinese primes ($N = 54$) or neutral primes ($N = 54$). The experimenter was blind to the participants' condition. Participants who failed the manipulation check were omitted from the following analyses testing the effect of the primes

on the dependent variables[2], so that final sample sizes for the cultural priming analyses were as follows: British primes ($N = 50$), Chinese primes ($N = 54$) or neutral primes ($N = 52$). Chi-square analyses indicated that there were no significant gender differences, χ^2 (2, $N = 155$) = .72, $p = .48$, and no significant age differences, χ^2 (2, $N = 155$) = .52, $p = .59$, by experimental condition. Following the cultural primes, participants were asked to complete the measure of emotional display rules. Thus, although participants were assigned to different conditions, all of the other questions were exactly the same in the survey. To avoid the influence of cultural primes on the individual difference variables, the survey's order was designed as described above. Only the DRAI was completed after the cultural priming procedure; as such, interactions of the individual difference variables with the cultural priming variables were tested on an exploratory basis in the following hierarchical regression analyses.

4.5 Results

4.5.1 Cultural Priming Experiment

A mixed design MANOVA was conducted for each of the five emotions with condition (3) as the between-subjects factor and social context (5) as the within-subject factor. Means and standard deviations are illustrated on Table 4.1. Table 4.2 shows the effects of experimental conditions and social contexts. First, there were no significant main effects of experimental conditions on the displays of all five emotions (i.e., anger, contempt, disgust, shame, and guilt). Therefore, Hypothesis 1a (participants exposed to Chinese cultural priming

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[2] Omitted participants were re-included in the sample when the results showed that the experiment was unsuccessful.

would endorse less other-condemning emotions than participants exposed to British cultural

priming) and Hypothesis 1b (participants exposed to Chinese cultural priming would endorse

more self-conscious emotions than participants exposed to British cultural priming) were

rejected. Consistent with the results of Studies 1 and 2, there were significant main effects for

social contexts in the displays of all five emotions. Further multiple comparisons based on

Bonferroni tests revealed more details. Compared with the other social contexts, participants

endorsed significantly less expression of all five emotions when they interacted with

acquaintances. For anger, contempt, and disgust (other-condemning emotions), participants

indicated the most expression when they interacted with people online and close friends (i.e.,

there were no significant differences in expression between people online and close friends).

However, for shame and guilt (self-conscious emotions), participants endorsed the most

expression when they interacted with family and with close friends (i.e., there were no

significant differences in expression between family and close friends).

Table 4.1

Means and Standard Deviations of Five Emotions for Each of the Five Social Contexts for the Three Experimental Conditions in Study 3

		Alone		Family		Close friends		Acquaintances		People online	
		Means	SD	Means	SD	Means	SD	Means	SD	Means	SD
Anger	Chinese primes	3.16	1.77	3.00	1.57	3.04	1.41	2.24	1.35	3.44	1.58
	British primes	3.23	1.43	3.04	1.32	3.13	1.39	2.38	1.33	3.47	1.77
	Neutral primes	2.88	1.36	2.75	1.42	3.44	1.69	2.77	1.37	3.52	1.66
	Total	3.09	1.53	2.93	1.44	3.20	1.50	2.46	1.36	3.48	1.66
Contempt	Chinese primes	3.15	1.49	3.37	1.34	3.29	1.49	2.58	1.41	3.37	1.57
	British primes	3.37	1.50	3.07	1.42	3.46	1.41	2.74	1.45	3.39	1.73
	Neutral primes	3.16	1.36	3.14	1.44	3.53	1.42	3.00	1.51	3.39	1.79
	Total	3.22	1.44	3.20	1.40	3.42	1.43	2.77	1.46	3.38	1.69
Disgust	Chinese primes	3.32	1.30	3.24	1.36	3.22	1.30	2.72	1.43	3.54	1.50
	British primes	3.28	1.53	3.02	1.41	3.63	1.44	2.78	1.47	3.39	1.73
	Neutral primes	3.25	1.18	3.02	1.36	3.65	1.48	3.00	1.43	3.63	1.66
	Total	3.29	1.33	3.10	1.37	3.50	1.41	2.84	1.44	3.52	1.62
Shame	Chinese primes	3.73	1.61	3.25	1.51	3.41	1.47	2.84	1.46	3.14	1.52
	British primes	3.20	1.60	3.24	1.50	3.69	1.59	3.09	1.55	3.36	1.71
	Neutral primes	2.96	1.36	3.44	1.36	3.58	1.42	3.20	1.53	3.02	1.80
	Total	3.31	1.56	3.31	1.45	3.55	1.49	3.04	1.51	3.17	1.67
Guilt	Chinese primes	3.83	1.41	3.75	1.37	3.74	1.36	3.26	1.62	3.38	1.54
	British primes	3.61	1.40	3.55	1.39	3.68	1.38	3.18	1.45	3.57	1.78
	Neutral primes	3.36	1.63	3.79	1.35	3.60	1.42	3.43	1.49	3.38	1.82
	Total	3.61	1.49	3.70	1.36	3.67	1.38	3.29	1.52	3.44	1.70

Table 4.2

Effects of Experimental Priming Conditions, Social Contexts on Five Emotions in Study 3

Effect	Anger			Contempt			Disgust			Shame			Guilt		
	F	η^2	OP	F	η^2	OP	F	η^2	OP	F	η^2	OP	F	η^2	OP
EC	.14	.002	.07	.12	.002	.07	.17	.002	.08	.05	.001	.06	.09	.001	.06
Social Contexts	11.94***	.078	1.00	6.49***	.043	.99	8.31***	.055	1.00	3.66**	.026	.88	3.12*	.022	.82

Note: *$p < .05$, **$p < .01$, ***$p < 001$. EC = Experimental Conditions; OP = Observed Power.

4.5.2 Tests of Associations

Table 4.3 shows mean scores and standard deviations of participants' age, resident time in the UK (time in months), English proficiency (English), heritage cultural identification (HC), mainstream cultural identification (MC), cultural intelligence (CQ), sociocultural adaptation (SCAS), acculturative stress (RASI), life satisfaction (SWLS), displays of other-condemning emotions (OCEMO; combined displays of anger, contempt and disgust; and displays of self-conscious emotions (SCEMO; combined displays of shame and guilt). Endorsement of each emotion was averaged across the five social contexts to assess participants' general, cross-situational tendency to display the emotion. Pearson correlation coefficients between variables are also displayed on Table 4.3.

Participants' age was significantly positively related to cultural intelligence and displays of other-condemning emotions and displays of self-conscious emotions. The resident time in the UK was significantly positively associated with English proficiency, heritage cultural identification, sociocultural adaptation and displays of other-condemning emotions. Moreover, English proficiency was significantly positively correlated with mainstream cultural identification, cultural intelligence, and sociocultural adaptation, while significantly negatively associated with acculturative stress. Cultural intelligence was significantly positively associated with both heritage cultural identification and mainstream cultural identification, confirming Hypothesis 2a and Hypothesis 2b. Furthermore, cultural intelligence was significantly positively associated with sociocultural adaptation and life satisfaction, whereas acculturative stress was

significantly negatively associated with it, confirming Hypotheses 5a, 5b, and 5c,

respectively. Additionally, both heritage cultural identification and mainstream cultural

identification were significantly positively correlated with life satisfaction, confirming

Hypothesis 3a, 3d; mainstream cultural identification was significantly positively

correlated with sociocultural adaptation, confirming Hypothesis 3c. However, no

significant correlations found between heritage cultural identification and acculturative

stress; and between mainstream cultural identification and acculturative stress; therefore,

Hypothesis 3b and 3e were rejected. Also, sociocultural adaptation was significantly

negatively correlated with acculturative stress.

Table 4.3

Means, Standard Deviations and Pearson Coefficients of Variables in Study 3

	Mean	SD	1	2	3	4	5	6	7	8	9	10
1.Age	24.32	3.35										
2.Time	21.64	32.12	-.06									
3.English	4.73	1.38	.08	.37***								
4.HC	6.43	1.55	.06	.17*	.15							
5.MC	5.42	1.31	-.02	.10	.24**	.35***						
6.CQ	4.60	.98	.17*	.16	.33***	.39***	.51***					
7.SCAS	3.48	.70	.09	.16*	.32***	.05	.21**	.37***				
8.RASI	2.81	.58	-.10	-.06	-.26**	.10	-.13	-.16*	-.35***			
9.SWLS	21.68	5.57	-.02	.05	.10	.18*	.32***	.31**	.18*	-.08		
10.OCEMO	9.40	2.68	.18*	2.7**	.16	.16	.03	.05	-.09	.10	.11	
11.SCEMO	6.85	2.05	.26**	.01	.04	-.06	.09	.12	-.11	.05	.14	.45***

Note: *p* < .05, **p* < .01, *** *p* < .001; English = English proficiency, HC = heritage cultural identification, MC = mainstream cultural identification, CQ = cultural intelligence, SCAS = sociocultural adaptation, RASI = acculturative stress, SWLS = life satisfaction, OCEMO = displays of other-condemning emotions, SCEMO = displays of self-conscious emotions.

4.5.3 Hierarchical Regressions

Two hierarchical multiple regressions were conducted to test the predictors of displays of other-condemning emotions and displays of self-conscious emotions (see Table 4.4). Participants' age, gender (male = 1, female = -1), resident time in the UK, and English proficiency were entered in the first block as control variables in each regression model. Cultural intelligence, heritage cultural identification, mainstream cultural identification, sociocultural adaptation, acculturative stress and life satisfaction were entered in the second block. To test whether these individual difference variables interacted with the experimental conditions to influence displays of emotions, dummy coded experimental conditions (Neutral = 0 vs. Chinese = 1; Neutral = 0 vs. British = 1) were entered in the third block, and twelve interaction terms (six individual difference variables × two dummy codes) were entered in the fourth block. All of the interaction terms were group-mean centred (Fischer, 2004).

Results revealed that resident time in the UK significantly predicted more displays of other-condemning emotions; over and above all the control variables, acculturative stress approached significance as a predictor of displays of other-condemning emotions. For displays of self-conscious emotions, participants' age was a significant positive predictor; furthermore, acculturative stress and life satisfaction approached significance as predictors of displays of self-conscious emotions. Because acculturative stress approached significance as a predictor for displays of other-condemning emotions and displays of self-conscious emotions, there is some tentative support for Hypothesis 4a and Hypothesis 4b. None of the interaction terms were significant; therefore, the individual difference variables presented

before the primes did not interact with experimental condition in their associations with

displays of emotions.

4.5.4 Indirect Effects of Cultural Intelligence on Displays of Emotions

The indirect effects of cultural intelligence on displays of emotions were tested next.

An SPSS tool, the PROCESS macro (Hayes, 2013), was used for testing serial mediation

effects (Model 6). Of relevance here, it is not necessary to have a significant association

between predictor (X) and outcome (Y) variables to obtain a significant indirect effect of X on

Y through the mediating variable (Hayes, 2009). This is especially the case when the putative

causal process is complicated and lateral, because the total association between two variables

includes all the direct and indirect paths, which may act in opposing directions (Hayes, 2009).

Two serial mediation models were tested to predict displays of other-condemning emotions

and displays of self-conscious emotions. Cultural intelligence was the independent variable,

and the four mediators in order were heritage cultural identification, sociocultural adaptation,

acculturative stress and life satisfaction. To reproduce the previous hierarchical regression

models, all previous control variables (i.e., age, gender, resident time in the UK, English

proficiency) and mainstream cultural identification were included as covariates.[3]

Examination of the 95% bias-corrected confidence intervals (CI) based on 5,000 bootstrap

samples indicated support for two indirect effects. The indirect effect of cultural intelligence

on displays of other-condemning emotions through sociocultural adaptation and, in turn, to

acculturative stress, was significant (b = -.07, SE = .04, 95% CI [-.20, -.01]). The observed

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[3] These models were constructed on the basis of the pattern of associations previously reported. Mainstream cultural identification was included as a covariate because mainstream cultural identification showed the weakest associations with the DVs in the previous hierarchical regression models.

power for this mediation model was .82. Detailed pathways are showed in Figure 4.1. Higher

cultural intelligence was linked with higher sociocultural adaptation; higher sociocultural

adaptation, in turn, was linked with less acculturative stress; higher acculturative stress, in

turn, was linked with more displays of other-condemning emotions. Moreover, the indirect

effect of cultural intelligence on displays of self-conscious emotions through heritage cultural

identification was significant (b = -.14, SE = .09, 95% CI [-.41, -.01]). The observed power

for this mediation model was .997. Detailed pathways are showed in Figure 4.2.

Table 4.4

Results of Hierarchical Regression Analyses Testing Predictors of Displays of Other-Condemning Emotions and Displays of Self-Conscious Emotions in Study 3

Model	Displays of other-condemning emotions			Displays of self-conscious emotions		
	β	t	p	β	t	p
Block 1						
Age	.10	1.13	.259	.27	3.04	**.003**
Gender	.10	.91	.364	.04	.43	.671
Time in UK	.25	2.64	**.009**	.04	.38	.702
English Proficiency	.04	.37	.709	.02	.20	.843
R^2	**.092**		**.020**	.07		.055
Block 2						
CQ	-.13	-.1.14	.259	.05	.41	.682
HC	.12	1.21	.227	-.18	-1.79	.076
MC	-.06	-.51	.612	.09	.88	.383
SCAS	-.05	-.46	.647	-.15	-1.52	.131
RASI	.17	1.79	.077	.17	1.71	.090
SWLS	.14	1.36	.176	.17	1.68	.095
ΔR^2	.08		.123	.08		.103
Block 3						
Neutral vs. Chinese	-.07	-.63	.528	.04	.32	.748
Neutral vs. British	-.00	-.03	.985	.08	.61	.543
ΔR^2	.00		.774	.00		.830
Block 4						
CQ x Neutral vs. Chinese	-.16	-.89	.374	-.17	-1.02	.309
CQ x Neutral vs. British	-.00	-.02	.983	.07	.44	.658
HC x Neutral vs. Chinese	-.08	-.49	.625	-.09	-.57	.571
HC x Neutral vs. British	-.05	-.34	.739	-.06	-.43	.666
MC x Neutral vs. Chinese	-.04	-.23	.821	.00	.01	.995
MC x Neutral vs. British	-.24	-1.44	.152	-.04	-.25	.800
SCAS x Neutral vs. Chinese	.16	1.00	.318	-.20	-1.33	.188
SCAS x Neutral vs. British	.21	1.44	.153	-.13	-.91	.364
RASI x Neutral vs. Chinese	.14	.93	.357	.14	.97	.334
RASI x Neutral vs. British	.02	.12	.905	.02	.12	.902
SWLS x Neutral vs. Chinese	-.04	-.28	.777	-.07	-.56	.574
SWLS x Neutral vs. British	.06	.42	.675	-.03	-.18	.859
ΔR^2	.061		.787	.097		.354
Observed Power	1.00			.99		

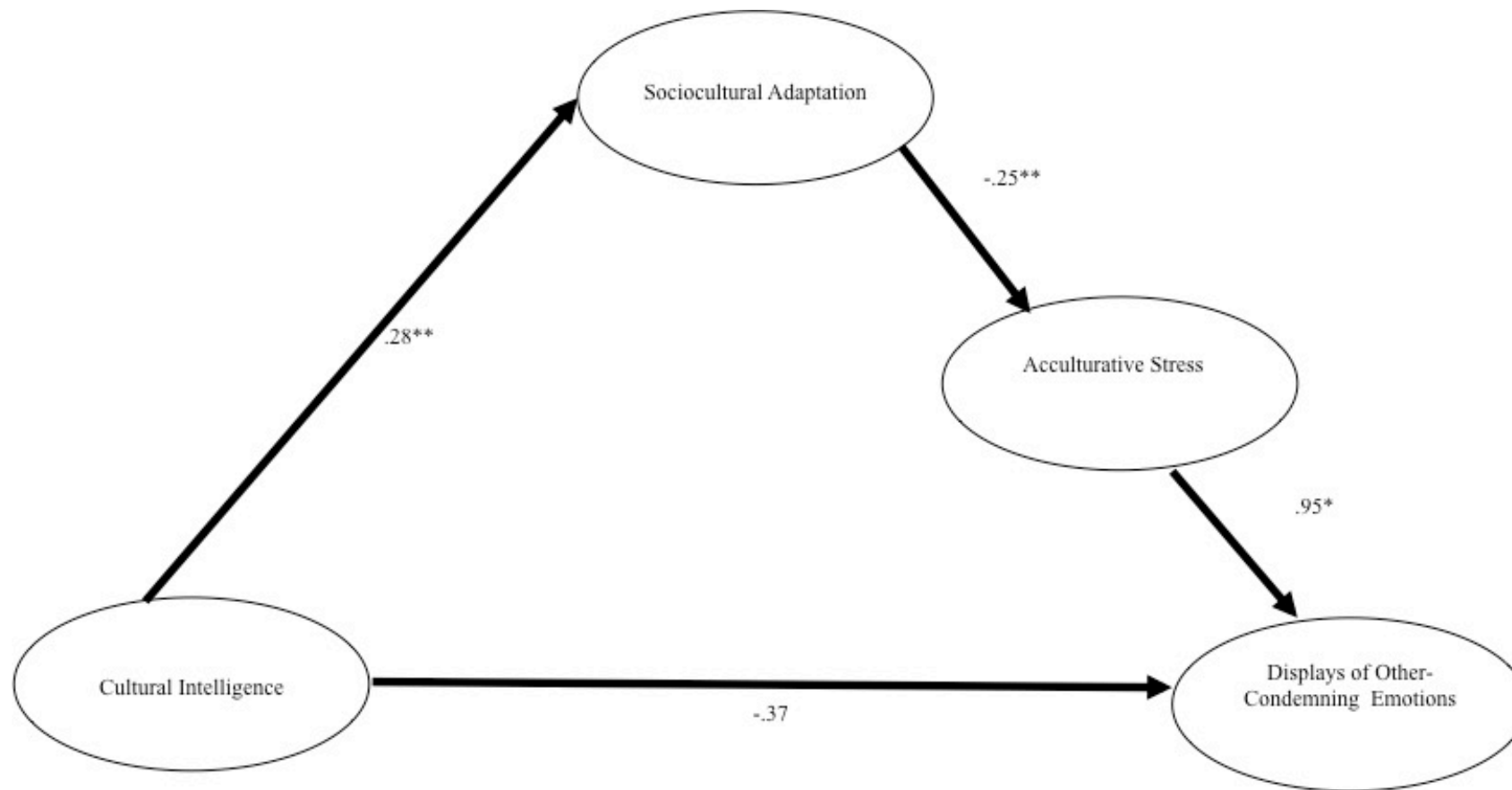*Note*: The significant values are in bold.

Figure 4.1 The Indirect Effects of Cultural Intelligence on Displays of Other-Condemning Emotions in Study 3

Note: Numbers indicated in the figure are standardised path coefficients, *p** < .05; *p*** < .01.
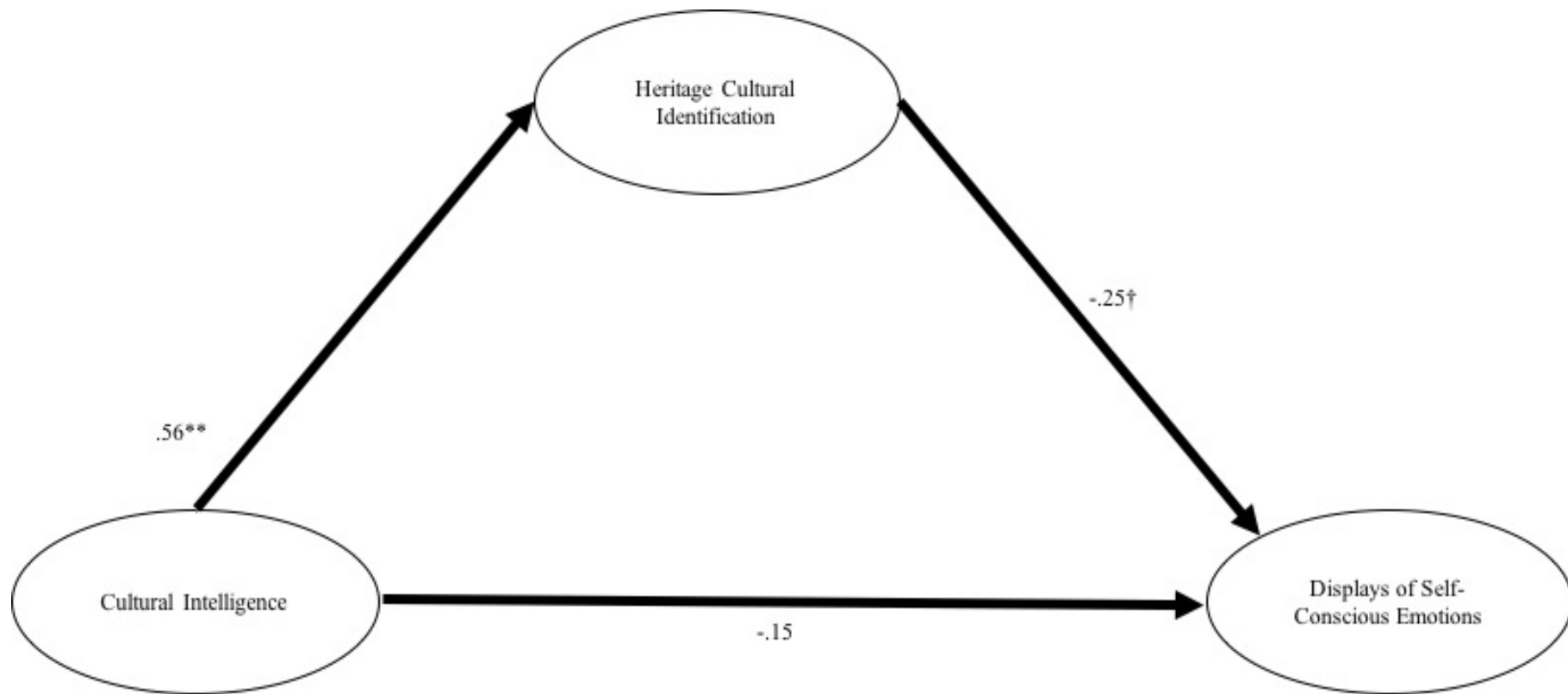
Figure 4.2 The Indirect Effects of Cultural Intelligence on Displays of Self-Conscious Emotions in Study 3

Note: Numbers indicated in the figure are standardised path coefficients, *p*†< .09; *p** < .05; *p*** < .01.

4.6 Discussion

The present study examined the effect of cultural priming on endorsements of displays of other-condemning and self-conscious emotions in Chinese international students living in the UK. This study also explored the indirect effects of cultural intelligence on display of these emotions through cultural identification and cultural adaptation. The main findings are discussed below.

First, Chinese international students were primed with cultural icons (Chinese cultural icons or British cultural icons) to activate their relevant cultural knowledge systems (Chinese culture or British culture). Though participants passed the manipulation check, there were no significant priming effects on endorsement of emotional display rules according to the MANCOVA analyses. Furthermore, the hierarchical regression analyses indicated that the primes did not interact with the individual difference variables presented before the primes to influence the associations of the individual difference variables with the endorsements of displays of emotions. Therefore, cultural priming did not have any significant effects for Chinese international students in the UK in the current study. That is, participants primed with Chinese culture and participants primed with British culture did not significantly differ with each other in their endorsements of displays of other-condemning emotions and self-conscious emotions.

There are several possible reasons for this negative result. First, this study was conducted online: participants were asked to fill out an online survey rather than complete the study in a lab. It was not possible to control the surroundings when participants were

completing the experiment; thus, it is possible that the influence from the primes may have

been reduced. Second, participants in this study were Chinese international students in the

UK, with varied length of residence in the UK. For instance, some of them had recently

arrived in the UK when they participated in this study, raising the possibility that British

culture had not yet had enough time to be "internalised" by the participants. Moreover, it is

possible that the cultural priming materials applied in this study might not be effective.

Different cultural icons might have produced stronger priming effects (i.e., Hong et al.,

2000). Last, the other possible reason for the negative result of this study could be related to

the recent controversy in experimental priming studies especially in social psychology (Open

Science Collaboration, 2015; Stroebe & Strack, 2014; Tincani &Travers, 2019). Many

psychologists have become sceptical of priming method because of the difficulties on

replicability of priming effects (Doyen, Klein, Pichon, & Cleeremans, 2012; Lilienfeld, 2017;

Magid, Sarkol, & Mesoudi, 2017). It is possible that the published work on cultural priming

might actually be driven with false positives, and current non-replication is closer

approximation of the true effect size. In sum, cultural priming effects did not significantly

show up in the current study.

As predicted, cultural intelligence (CQ) was positively correlated with both heritage

cultural identification and mainstream cultural identification, consistent with previous studies

(Peng et al., 2015; Wang et al., 2015). Because CQ is a construct tapping the ability to

understand, learn, and strategize the ways of dealing with diverse cultural systems in

culturally appropriate ways (Earley & Ang, 2003), it is logical that people high in CQ would

be knowledgeable about and more fluent in both heritage and mainstream cultures. Moreover,

acculturation theory suggests that heritage and mainstream cultural identifications are

relatively independent of each other (Berry, 1997; Ryder et al., 2000), and that the strategy of

integration seeks to combine both cultural identifications. CQ – the ability to deal with

multiple cultural settings – enables individuals to have multiple cultural identifications, such

as strong identification with both Chinese and British cultures, and, in turn, better adaptation.

Further confirming hypotheses, CQ was positively correlated with sociocultural

adaptation and life satisfaction and negatively correlated with acculturative stress. These

results supported several previous studies (Ang, et al., 2007; Huff, 2013). CQ implies

individuals' capability to fit in a new cultural context. Fitting in better in various new cultural

situations and feeling better in terms of psychological adaptation require knowledge of the

new culture (cognitive CQ), willingness to learn and understand the new culture

(motivational CQ), higher-order cognitive ability to notice, learn about, and navigate the new

culture (metacognitive CQ), and culturally appropriate and functioning behaviours

(behaviour CQ). Therefore, this study provided empirical support that individuals with higher

CQ have better sociocultural and psychological adaptation (more life satisfaction and less

acculturative stress).

Additionally, acculturative stress approached significance as a predictor of displays of

other-condemning and self-conscious emotions. Acculturative stress, indicating poorer

psychological adaptation can be a trigger of negative emotions (Crockett et al., 2007). In this

study, individuals with more acculturative stress showed a trend towards endorsing the

display of more other-condemning emotions (anger, contempt and disgust) and more self-conscious emotions (shame and guilt). Though these results should be interpreted cautiously given they did not quite reach significance, they imply that international students experiencing acculturative stress might be anxious and frustrated, which is expressed through displays of other-condemning emotions. They might also express shame and guilt for experiencing acculturation difficulties, such as when they create difficulties for others or experience failure in living up to role expectations in the new cultural setting. These speculations might be verified in future studies that have higher statistical power.

Finally, Study 3 explored the association of cultural intelligence with displays of emotions through cultural identification and cultural adaptation. Serial mediation analyses revealed that there was an indirect effect of cultural intelligence on displays of other-condemning emotions through sociocultural adaptation and acculturative stress. Individuals with higher cultural intelligence were higher in sociocultural adaptation, which was then linked with less acculturative stress; in turn, less acculturative stress triggered less endorsement of displays of other-condemning emotions (anger, contempt and disgust). Moreover, there was an indirect effect of cultural intelligence on displays of self-conscious emotions through heritage cultural identification: individuals with higher cultural intelligence reported higher heritage cultural identification, and in turn, endorsed less displays of self-conscious emotions (e.g., shame and guilt). This seems counter-intuitive as heritage cultural identification in this study refers to Chinese cultural identification, and those with higher heritage cultural identification should display more shame and guilt, which are prevalently

applied in Chinese cultural context (De Leersnyder et al., 2013). In fact, the findings of

Studies 1 and 2 suggest that Chinese participants display self-conscious emotions more than

Western participants. One possible explanation of this unexpected finding is that participants

in Studies 1 and 2 were not acculturating individuals. Also, Studies 1 and 2 discussed

between-group comparisons among participants from different cultural groups. Study 3

focused on associations between cultural identification and displays of emotions within

Chinese international students in the UK. It is important to note that, regardless of cultural

setting, shame and guilt are still relatively negative emotions. Therefore, in this acculturative

case, it is reasonable to surmise that culturally intelligent individuals invoke adaptive

elements of heritage cultural identification, which in turn protect against the endorsement of

displaying negative emotions like shame and guilt.

4.7 Limitations, Future Directions, and Conclusion

There were several limitations of this study. First, cultural priming was not effective

in this study; as mentioned before, it is difficult to control experimental surroundings in

online surveys. Future research could test cultural priming effects on emotional display rules

in a lab-based study and could also try a different cultural priming technique, such as

different symbols or different methods. For example, future studies could use a within-

subject design to control within-person error and increase statistical power. Second, applying

self-report surveys invariably allows social desirability bias, which should be kept in mind

when interpreting the results. For example, Chinese participants may be reluctant to admit

that they are experiencing acculturative stress due to greater mental health stigma in Chinese

cultures (Ng, 1997). Last, participants in this study were Chinese international students in the

UK. It is worthwhile for future studies to include other bicultural individuals and in different

receiving cultures to test the effect of cultural priming on emotional display rules, and to test

relationships between cultural intelligence and emotional display rules. It is possible that

international students who are not visible minorities in the UK might report different

relationships among these variables; for example, they may experience less acculturative

stress due to perceiving less discrimination, and in turn, report less endorsement of negative

emotional displays.

In sum, the present study offers empirical evidence that in this particular sample

(Chinese international students in the UK) and with this particular method (online cultural

priming), cultural priming did not significantly affect the endorsement of cultural display

rules. However, this study does offer empirical evidence that cultural intelligence was

positively correlated with sociocultural adaptation and life satisfaction, and negatively

correlated with acculturative stress. Moreover, there was tentative evidence that acculturative

stress may lead to more displays of other-condemning emotions (anger, contempt and

disgust) and self-conscious emotions (shame and guilt). There were also indirect effects of

cultural intelligence on emotional display rules through cultural identification and cultural

adaptation. Along with the results of Studies 1 and 2, the results of Study 3 shed further light

on the mechanisms that may influence emotional display rules. These findings also offer

some practical implications for acculturating individuals. For example, these findings might

help university counselling services in their provision to Chinese international students. If

these students seek counselling due to acculturative stress, the counsellor might note that they

particularly express other-condemning and self-conscious emotions. This might be treated by

encouraging the clients to enhance their cultural intelligence, such as by developing a better

grasp of the mainstream language or improving consciousness and knowledge of different

cultural customs.

5. General Discussion

The findings of these three studies explain emotional display rules in two ways. First, these studies indicate how emotional display rules themselves differ across cultures, emotions, and social contexts. Second, these studies demonstrate the predictors of display rules. The results have shown that people's emotional display rules are not only influenced by culture (i.e., nationality and cultural values) but also by acculturating experience. This thesis offers empirical evidence to help us better understand how Schwartz's values, self-construal, cultural intelligence, heritage cultural identification, sociocultural adaptation and acculturative stress are linked with displays of emotions.

5.1 Social Contexts and Emotional Display Rules

One of the most important attributes of emotional display rules is that individuals tend to adjust their emotional expressions depending on different social contexts. Findings across this thesis consistently demonstrate that there are main effects of social contexts for displays of emotions. First, as demonstrated in Studies 1-3, when people are alone, they tend to expose their actual emotions, at least negative emotions to the greatest degree. It implies that apart from diverse social and cultural norms, individuals tend to disclose their feelings as much as they feel in a private context. Furthermore, East Asians tend to show higher context differentiation in their emotional display rules than Westerners, which is consistent with previous literature (Matsumoto et al., 2009). For instance, when Chinese participants interacted with acquaintances, they reported that they showed the least degree of emotion (Studies 1-3). In other words, Chinese endorsed suppressing their emotions when they

interacted with acquaintances; while, this was not the case for Americans. Moreover, regarding people online – the novel social context examined in this thesis – results suggested that for different cultural contexts, the online social world has different meanings and functions. Japanese participants tended to extend their social norms into the online environment (Study 1). Accordingly, they endorse less self-disclosure with people online (Jackson & Wang, 2013; Qiu et al., 2013). However, for Chinese and Westerners, online networking has been seen as a relatively open world of communication, and as such, individuals tend to disclose their emotions freely. Altogether, the results of this thesis suggest that individuals across cultures adjust their expressions of emotions depending on various social contexts. Above this rule, Westerners seem to show more contextual consistency than East Asians, in line with the Western cultural emphasis on cross-situational consistency (Heine, 2001; Kanagawa, Cross, & Markus, 2001; Oishi et al.,2004).

5.2 Other-Condemning Emotions vs. Self-Conscious Emotions

For understanding display rules of specific emotions and their predictors, this thesis focused on other-condemning emotions (i.e., anger, contempt and disgust) vs. self-conscious emotions (e.g., shame and guilt). In general, the common rule that one should inhibit expressions of negative emotions was supported across cultures in this thesis. For instance, Study 1 showed that participants endorsed expressing positive emotions significantly more than negative emotions across social contexts and cultures. In terms of other-condemning emotions, there were no clear-cut results across cultures. Specifically, there were no main effects of culture on displays of disgust. However, Western participants (i.e., Americans and

British in Studies 1 and 2) allowed themselves to display contempt more than East Asians

(i.e., Chinese and Japanese in this research). From a cultural perspective, individualist

cultures (such as American and British cultures) allow individuals to display real feelings

including other-condemning emotions in order to encourage autonomy and independence

(Boiger et al., 2013). Conversely, in collectivist cultures (such as Chinese and Japanese

cultures), displays of other-condemning emotions tend to be restricted as they could destroy

interpersonal relationships. However, these results could be explained if we consider the

specific meanings and functions of each other-condemning emotions. For instance, display of

anger is a functional way to claim one's needs and anger is the least relationally-damaging

other-condemning emotion (Hutcherson & Gross, 2011). Moreover, because disgust is the

most relationally-damaging other-condemning emotion, it is rational to suppress it across

cultures. Additionally, the pattern across cultures regarding displays of other-condemning

emotions also might be explained by self-construal, which will be described in the next

section.

On the other hand, Studies 1 and 2 found that Westerners (i.e., Americans and British

in this research) endorsed less displays of self-conscious emotions (defined here as shame

and guilt) than East Asians (i.e., Chinese and Japanese in this research). These findings

supported previous research showing that individualist cultures evaluate displays of shame or

guilt less highly than collectivist cultures (Kitayama et al., 2006; De Leersnyder et al., 2013).

It may be because shame and guilt expose negative characteristics about oneself, such as how

one behaves inappropriately or insufficiently; therefore, they are damaging to one's positive

self-view (De Leersnyder et al., 2013), which is encouraged in individualist cultures (such as American culture). Conversely, shame and guilt are displayed more prevalently in East Asian collectivist cultures. As self-conscious emotions, shame and guilt require individuals' knowledge regarding social and cultural norms, rules, and goals, and they will be displayed when individuals break the social rules or fail to fulfil social obligations (Mesquita et al., 2016). Therefore, the displaying of shame and guilt allow individuals in collectivist cultures to take responsibility for their faults and deficiencies, and thus improve themselves according to social and cultural rules that particularly emphasise relational harmony.

5.3 Self-Construal and Emotional Display Rules

In terms of displays of other-condemning emotions (i.e., anger, contempt and disgust) and displays of self-conscious emotions (e.g., shame and guilt), self-construal predicted emotional display rules. To be specific, Study 2 found that independent self-construal was positively linked with displays of other-condemning emotions (i.e., anger, contempt and disgust), whereas interdependent self-construal was positively linked with displays of self-conscious emotions (e.g., shame and guilt). As a typical collectivist culture (Oyserman et al., 2002), Chinese culture encourages an interdependent self-construal more than American and British cultures. However, because of social changes such as globalisation, economic development, and urbanisation, Chinese culture has shown an increase in individualism in recent years (Greenfield, 2016; Zeng & Greenfield, 2015). Consistent with this rising individualism at the societal level, at the individual level, Chinese individuals endorsed similar levels of independent self-construal as Americans (Study 2), but at the same time,

they also reported a higher endorsement of interdependent self-construal than Westerners.

These results are also consistent with Kağıtçıbaşı (1996)'s theory of autonomous-relational

self; when economic development takes place, individuals develop autonomy (independent

self) but maintain interdependence. It is possible that this is a characteristic observed in

cultures where large economic development has occurred in a short time. This value change

in Chinese society may also explain why it was acceptable to express anger among Chinese

participants. Vignoles and colleagues (2016) proposed that independence and

interdependence are both multifaceted and deconstructed self-construal to seven different

bipolar domains. This approach provides more detailed variations to explore the concept of

self. They also supported that across domains, independent and interdependent attributes are

compatible. Altogether, the results of this thesis suggest that independent individuals tend to

allow displays of other-condemning emotions (anger, contempt and disgust) in order to seek

personal autonomy and independence; interdependent individuals, on the other hand, tend to

express displays of self-conscious emotions (shame and guilt) since they value relationship

harmony more.

5.4 Schwartz's Values and Emotional Display Rules

The findings of this thesis suggest that individuals are more willing to show certain

emotions when those emotions are consistent with values they support. Vice versa,

individuals refrain from showing specific emotions when the emotions are against the values

they support (Koopmann-Holm & Matsumoto, 2011). For instance, individuals with higher

evaluation of self-transcendence tended to allow expression of shame and happiness (Study

1). Self-transcendent individuals value connections with others, over and beyond personal

concerns (Schwartz et al., 2012). Expressing shame allows them to admit their faults and

deficiencies and to show their inclination to change in the future; therefore, it is an effective

way for self-transcendent individuals to show concerns towards others. Displaying happiness

may also allow self-transcendent individuals to express how much they value relationships.

Moreover, individuals who valued conservation tended to allow less expression of anger and

less expression of emotions in general when they are alone. Conservative individuals seemed

to value controlling expressions of emotions. This might reflect conservative individuals'

valuation of traditional gender roles, which tend to inhibit emotional disclosure (Marshall,

2008). Individuals who valued openness to change endorsed less display of fear, consistent

with their curious rather than threatened response to new stimuli (Schwartz et al., 2012).

Overall, the results of Study 1 suggest that Schwartz's values supply another significant way

to understand emotional display rules.

5.5 Cultural Intelligence, Acculturation and Emotional Display Rules

It is claimed that apart from emotional socialisation at early ages, emotional display

rules also are affected by acculturative experience (Mesquita et al., 2016). However, there are

few empirical studies which focus on this issue. Additionally, few studies have examined

whether acculturating individuals who are higher in cultural intelligence are more likely to

express emotions in culturally-appropriate ways. This thesis explored this issue with cultural

intelligence and other acculturative factors (i.e., heritage cultural identification, sociocultural

adaptation, acculturative stress) among Chinese international students in the UK.

Indirect effects of cultural intelligence on displays of other-condemning emotions (anger, contempt and disgust) and displays of self-conscious emotions (shame and guilt) were explored in Study 3. The results of serial mediation analyses showed, first, that cultural intelligence was indirectly associated with displays of other-condemning emotions (anger, contempt and disgust) through sociocultural adaptation and acculturative stress. That is, culturally intelligent individuals reported better sociocultural adaptation, and in turn, less acculturative stress; furthermore, less acculturative stress was linked with less displays of other-condemning emotions. Second, there was an indirect effect of cultural intelligence on displays of self-conscious emotions (shame and guilt) through heritage cultural identification (i.e., Chinese cultural identification in Study 3). That is, culturally intelligent individuals were higher in heritage cultural identification, and in turn, were less likely to display self-conscious emotions (shame and guilt).

Together, these results extend our understanding of both cultural intelligence and emotional display rules. From the cultural intelligence side, previous literature has demonstrated that cultural intelligence predicts higher heritage cultural identification and mainstream cultural identification, and better sociocultural adaptation and psychological adjustment (Ang et al., 2007; Peng et al., 2015; Presbitero, 2016; Wang et al., 2015; Ward et al., 2010), which are in line with the results of the current research. The indirect influence of cultural intelligence on displays of other-condemning emotions and displays of self-conscious emotions further extends these processes. For the literature on emotional display rules, these results suggest mechanisms for interpreting how individuals' acculturative experiences are

associated with their endorsements of displays of emotions.

5.6 Implications

Several implications from this thesis are worth mentioning. One of the most

significant implications of extending knowledge of emotional display rules is that it may lead

to enhanced interpersonal and multicultural communication. First, greater understanding of

emotional display rules within clinical or counselling settings could be significant, especially

in cross-cultural counselling settings. Unawareness and lack of knowledge of emotional

display rules might lead to miscommunication and inefficient counselling practices between

counsellors and clients (Hutchison & Gerstein, 2017). Therefore, it is important to equip

counsellors with enough information about cross-cultural emotional display rules to improve

interpersonal skills and multicultural counselling capabilities. Greater knowledge of cultural

display rules might also be beneficial for individuals in other multicultural settings, such as

higher education or multinational corporations. For example, universities might improve

polices or provide training to create more effective communication when teaching students

from diverse backgrounds.

Furthermore, this research also has implications for individuals who are acculturating.

As evidenced in this research, emotional display rules are also influenced by individuals'

acculturative experiences. To understand and adjust to diverse cultures, acculturating

individuals need to be aware of the new culture's emotional display rules and also whether

their culturally-learned display rules can be interpreted by the members of the new culture.

Likewise, the members of the new culture would do well to raise their awareness of how

people from diverse cultures express their emotions. A process of greater emotional

understanding is important for acculturating individuals to effectively navigate and stabilise

their intercultural life.

5.7 Limitations and Future Directions

This thesis had its limitations. Only the limitations that were common across all three

studies are summarised here. First, the data from the three studies in this thesis were all

collected through online self-report surveys. There is the potential for social desirability bias,

which should be considered when interpreting the findings. Second, results were limited by

only considering one dimension of display rules, degree of expression, rather than additional

dimension such as masking or qualifying emotions, they could be the focus of future

research.

Also, the nature of emotional display rules should be borne in mind. Display rules are

norms and beliefs regarding individuals' displaying of their emotions; individuals tend to

believe that they might display a certain emotion in a specific culturally or socially

acceptable way in a certain social context. These endorsements may not be exactly the same

as what people do in real life situations (Matsumoto et al., 2008). However, display rules still

provide clues for how one behaves. Future research could incorporate behavioural

observation to enhance the strength of findings on display rules. Friesen's (1972) behavioural

observations of display rules conducted almost 50 years ago were far ahead of their time; his

methods could be adapted and improved by psychologists examining this topic today.

Researchers could use behavioural measures such as facial muscle movements and

physiological reactions (e.g., heart rate, blood pressure, salivary cortisol levels) rather than online self-report surveys. For instance, videotape the emotional displays of participants from various cultures not only when alone or in the presence of a higher-status person, but also when with a friend, family member, or romantic partner.

Furthermore, considering the complexity and varied predictors of display rules, it is important to include and discover other cultures, social contexts, and emotions in the future research. For example, much of the research on display rules has focused on comparisons between Westerners and East Asians. Future research needs to go beyond WEIRD participants (i.e. participants from Western, Educated, Industrialised, Rich and Democratic societies; Henrich, Heine, & Norenzayan, 2010). Additionally, much remains unknown about the influence of a social context that was examined in this thesis – how people express emotions in online contexts. Researchers might further examine the antecedents and consequences of expressing other-condemning and self-conscious emotions in online contexts, such as on social media sites, in email, or in messaging apps. Last, this thesis largely focused on the expression of negative emotions (Studies 2 and 3); future work could focus more on the expression of positive emotions. For instance, do acculturating individuals who adapt well to the new culture and strongly identify with the mainstream culture – which, in the case of North America at least, emphasises the expression of positive emotions – endorse displaying happiness?

6. Concluding Remarks

The present research provides empirical evidence that emotional display rules differ according to type of emotions, social contexts and cultures. Furthermore, this thesis links self-construal with emotional display rules. Specifically, independent self-construal positively links to displays other-condemning emotions (anger, contempt and disgust in this thesis); while interdependent self-construal positively links to displays of self-conscious emotions (shame and guilt in this thesis). Moreover, these results suggest that individuals' acculturating experiences could influence the display of certain emotions. Specifically, individuals with higher cultural intelligence may tend to display less other-condemning emotions through better sociocultural adaptation and less acculturative stress; also, culturally intelligent individuals may display less self-conscious emotions through stronger heritage cultural identification. In sum, this thesis extends our current knowledge of emotional display rules and can help improve interpersonal and multicultural understanding and communication.

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Appendix

Display Rule Assessment Inventory (DRAI) (Matsumoto et al.,2005) (Studies 1, 2, 3)

Please think of a specific person in your life for each of the situations and tell us what you think you should do by selecting one of the seven possible responses that are listed on top of the question chart. If you want to choose a response not listed, select "OTHER" and write in what you think you actually do.

Please select a response for each emotion and each situation. Please treat each emotion and each situation separately. Do not consider them occurring in any particular order or to be connected with each other in any way. There are no right or wrong answers, nor any patterns to the answers. Don't worry about how you have responded to a previous item or how you will respond to an item in the future. Just select a unique response for each emotion and situation on its merit. Don't obsess over any one situation and emotion. If you have difficulty selecting an answer, make your best guess; oftentimes your first impression is best.

Possible answers:
1. Hide your feelings by showing nothing
2. Show it but with another expression
3. Show less than you feel it
4. Hide your feelings by showing something else
5. Express it as you feel it
6. Show more than you feel it
7. Other (Please specify)

What do you believe you should do if you are alone and you feel the following emotions toward yourself?

What do you believe you should do if you are interacting with your family and you feel the following emotions toward them?

What do you believe you should do if you are interacting with your close friends and you feel the following emotions toward them?

What do you believe you should do if you are interacting with your acquaintances and you feel the following emotions toward them? (your colleagues/acquaintances for study 1)

What do you believe you should do if you are interacting with strangers and you feel the following emotions toward them? (only applied in Study 1)

What do you believe you should do if you are interacting with people online and you feel the following emotions toward them?

Emotions: anger, contempt, disgust, fear, sadness, happiness, surprise, shame and guilt (for Study 1)

Emotions: anger, contempt, disgust, shame and guilt (for Studies 2 and 3)

Portrait Values Questionnaire (PVQ-RR; Schwartz et al., 2012) (Study 1)

Here we briefly describe different people.   Please read each description and think about how much that person is or is not like you.   Put an X in the box to the right that shows how much the person described is like you.

How much like you is this person?
1.very much like me
2.like me
3.somewhat like me
4. a little like me
5.not like me
6.not like me at all

1.   It is important to him/her form his/her views independently.
2.   It is important to him/her/her that his/her country is secure and stable.
3.   It is important to him/her to have a good time.
4.   It is important to him/her to avoid upsetting other people.
5.   It is important to him/her that the weak and vulnerable in society be protected.
6.   It is important to him/her that people do what he/she says they should.
7.   It is important to him/her never to think he/she deserves more than other people.
8.   It is important to him/her to care for nature.
9.   It is important to him/her that no one should ever shame him/her.
10. It is important to him/her always to look for different things to do.
11. It is important to him/her to take care of people he/she is close to.
12. It is important to him/her to have the power that money can bring.
13. It is very important to him/her to avoid disease and protect his/her health.
14. It is important to him/her to be tolerant toward all kinds of people and groups.
15. It is important to him/her never to violate rules or regulations.
16. It is important to him/her to make his/her own decisions about his/her life.
17. It is important to him/her to have ambitions in life.
18. It is important to him/her to maintain traditional values and ways of thinking.
19. It is important to him/her that people he/she knows have full confidence in him/her.
20. It is important to him/her to be wealthy.
21. It is important to him/her to take part in activities to defend nature.
22. It is important to him/her never to annoy anyone.
23. It is important to him/her to develop his/her own opinions.
24. It is important to him/her to protect his/her public image.
25. It is very important to him/her to help the people dear to him/her.
26. It is important to him/her to be personally safe and secure.
27. It is important to him/her to be a dependable and trustworthy friend.
28. It is important to him/her to take risks that make life exciting.

29. It is important to him/her to have the power to make people do what he/she wants.
30. It is important to him/her to plan his/her activities independently.
31. It is important to him/her to follow rules even when no-one is watching.
32. It is important to him/her to be very successful.
33. It is important to him/her to follow his/her family's customs or the customs of a religion.
34. It is important to him/her to listen to and understand people who are different from him/her.
35. It is important to him/her to have a strong state that can defend its citizens.
36. It is important to him/her to enjoy life's pleasures.
37. It is important to him/her that every person in the world has equal opportunities in life.
38. It is important to him/her to be humble.
39. It is important to him/her to figure things out him/herself.
40. It is important to him/her to honor the traditional practices of his/her culture
41. It is important to him/her to be the one who tells others what to do.
42. It is important to him/her to obey all the laws.
43. It is important to him/her to have all sorts of new experiences.
44. It is important to him/her to own expensive things that show his/her wealth.
45. It is important to him/her to protect the natural environment from destruction or pollution.
46. It is important to him/her to take advantage of every opportunity to have fun.
47. It is important to him/her to concern him/herself with every need of his/her dear ones.
48. It is important to him/her that people recognize what he/she achieves.
49. It is important to him/her never to be humiliated.
50. It is important to him/her that his/her country protects itself against all threats.
51. It is important to him/her never to make other people angry.
52. It is important to him/her that everyone be treated justly, even people he/she doesn't know.
53. It is important to him/her to avoid anything dangerous.
54. It is important to him/her to be satisfied with what he/she has and not ask for more.
55. It is important to him/her that all his/her friends and family can rely on him/her completely.
56. It is important to him/her to be free to choose what he/she does by him/herself.
57. It is important to him/her to accept people even when he/she disagrees with them.

Self-Construal Scale (Singelis, 1994) (Study 2)

Listed below are a number of statements. Read each one as if it referred to you. Beside each statement choose the number that best matches your agreement or disagreement. Please respond to every statement.

1 = Strongly Disagree
2 = Disagree
3 = Slightly Disagree
4 = Neither Agree or Disagree

5 = Slightly Agree
6 = Agree
7 = Strongly Agree

1. I enjoy being unique and different from others in many respects.
2. I can talk openly with a person who I meet for the first time, even when this person is much older than I am.
3. Even when I strongly disagree with group members, I avoid an argument.
4. I have respect for the authority figures with whom I interact.
5. I do my own thing, regardless of what others think.
6. I respect people who are modest about themselves.
7. I feel it is important for me to act as an independent person.
8. I will sacrifice myself interest for the benefit of the group I am in.
9. I'd rather say "No" directly, than risk being misunderstood.
10. Having a lively imagination is important to me.
11. I should take into consideration my parents' advice when making education/career plans.
12. I feel my fate is intertwined with the fate of those around me.
13. I prefer to be direct and forthright when dealing with people I've just met.
14. I feel good when I cooperate with others.
15. I am comfortable with being singled out for praise or rewards.
16. If my brother or sister fails, I feel responsible.
17. I often have the feeling that my relationships with others are more important than my own accomplishments.
18. Speaking up during a class (or a meeting) is not a problem for me.
19. I would offer my seat in a bus to my professor (or my boss).
20. I act the same way no matter who I am with.
21. My happiness depends on the happiness of those around me.
22. I value being in good health above everything.
23. I will stay in a group if they need me, even when I am not happy with the group.
24. I try to do what is best for me, regardless of how that might affect others.
25. Being able to take care of myself is a primary concern for me.
26. It is important to me to respect decisions made by the group.
27. My personal identity, independent of others, is very important to me.
28. It is important for me to maintain harmony within my group.
29. I act the same way at home that I do at school (or work).
30. I usually go along with what others want to do, even when I would rather do something different.

Short-form of Regulatory Focus Scale (van Kleef, van Trijp, & Luning, 2005) (Study 2)

How much do you agree with each of the following statements? Please respond using the scale provided.

1 = Strongly Disagree
2 = Moderately Disagree
3 = Slightly Disagree
4 = Neither Agree or Disagree
5 = Slightly Agree
6 = Moderately Agree
7 = Strongly Agree

1. I frequently imagine how I will achieve my hopes and aspirations.
2. I typically focus on the success that I hope to achieve in the future.
3. I see myself as someone who is primarily striving to reach my 'ideal self'—to fulfill my hopes, wishes, and aspirations.
4. In general, I am focused on achieving positive outcomes in my life.
5. I often imagine myself experiencing good things that I hope will happen to me.
6. Overall, I am more oriented toward achieving success than preventing failure.
7. In general, I am focused on preventing negative events in my life.
8. I am anxious that I will fall short of my responsibilities and obligations.
9. I see myself as someone who is primarily striving to become the self I 'ought' to be— fulfill my duties, responsibilities, and obligations.
10. I frequently think about how I can prevent failures in my life.
11. I often imagine myself experiencing bad things that I fear might happen to me.
12. I am more oriented toward preventing losses than I am toward achieving gains.

Cultural Intelligence Scale (CQS; Ang et al., 2007) (Study 3)

Read each statement and select the response that best describes your capabilities. Select the answer that BEST describes you AS YOU REALLY ARE (1=strongly disagree; 7=strongly agree)

1. I enjoy interacting with people from different cultures.
2. I am confident that I can socialize with locals in a culture that is unfamiliar to me.
3. I am sure I can deal with the stresses of adjusting to a culture that is new to me.
4. I enjoy living in cultures that are unfamiliar to me.
5. I am confident that I can get accustomed to the shopping conditions in a different culture.
6. I know the legal and economic systems of other cultures.
7. I know the rules (e.g., vocabulary, grammar) of other languages.
8. I know the cultural values and religious beliefs of other cultures.
9. I know the marriage systems of other cultures.
10. I know the arts and crafts of other cultures.
11. I know the rules for expressing non-verbal behaviours in other cultures.
12. I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds.

13. I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me.

14. I am conscious of the cultural knowledge I apply to cross-cultural interactions.

15. I check the accuracy of my cultural knowledge as I interact with people from different cultures.

16. I change my verbal behaviour (e.g., accent, tone) when a cross-cultural interaction requires it.

17. I use pause and silence differently to suit different cross-cultural situations.

18. I vary the rate of my speaking when a cross-cultural situation requires it.

19. I change my non-verbal behaviour when a cross-cultural situation requires it.

20. I alter my facial expressions when a cross-cultural interaction requires it.

Vancouver Index of Acculturation (VIA; Ryder, Alden, & Paulhus, 2000) (Study 3)

Please indicate your degree of agreement or disagreement by choosing the number offered. Many of these questions will refer to your heritage culture, meaning the original culture of your family (in this study is Chinese culture).

1	2	3	4	5	6	7	8	9
Strongly Disagree								Strongly Agree

1. I often participate in my heritage cultural traditions.

2. I often participate in mainstream British cultural traditions.

3. I would be willing to marry a person from my heritage culture.

4. I would be willing to marry a British person.

5. I enjoy social activities with people from the same heritage culture as myself.

6. I enjoy social activities with typical British people.

7. I am comfortable interacting with people of the same heritage culture as myself.

8. I am comfortable interacting with typical British people.

9. I enjoy entertainment (e.g. movies, music) from my heritage culture.

10. I enjoy British entertainment (e.g. movies, music).

11. I often behave in ways that are typical of my heritage culture.

12. I often behave in ways that are typically British.

13. It is important for me to maintain or develop the practices of my heritage culture.

14. It is important for me to maintain or develop British cultural practices.

15. I believe in the values of my heritage culture.

16. I believe in mainstream British values.

17. I enjoy the jokes and humour of my heritage culture.

18. I enjoy white British jokes and humour.

19. I am interested in having friends from my heritage culture.

20. I am interested in having British friends.

Sociocultural Adaptation Scale (SCAS; Ward & Kennedy, 1999) (Study 3)

Please indicate the amount of difficulty you experience in the following areas while living in the United Kingdom. Please use this scale:

1=No difficulty   2=Slight difficulty   3=Moderate difficulty
4= Great difficulty   5= Extreme difficulty

1. Understanding the local value system
2. Understanding the locals' world view
3. Seeing things from the locals' point of view
4. Understanding cultural differences
5. Taking a local perspective on the culture
6. Making friends
7. Being able to see two sides of an intercultural issue
8. Family relationships
9. Making yourself understood
10. Communicating with people of a different ethnic group
11. Relating to members of the opposite sex
12. Understanding the local political system
13. Finding your way around
14. Dealing with people in authority
15. Dealing with people staring at you
16. Dealing with someone who is unpleasant
17. Dealing with unsatisfactory service
18. Dealing with bureaucracy
19. The pace of life
20. Finding food you enjoy

Riverside Acculturation Stress Inventory (RASI; Benet-Martínez, 2003) (Study 3)

Please indicate the extent to which you agree with each of the statements below.
Please choose one of the numbers to indicate your degree of disagreement or agreement.

1   2   3   4   5
Strongly   Strongly
Disagree   Agree

1. It's hard for me to perform well at work/school because of my English skills.
2. I often feel misunderstood or limited in daily situations because of my English skills.
3. It bothers me that I have an accent.

4. I feel discriminated against by mainstream British because of my cultural/ethnic background.
5. I have been treated rudely or unfairly because of my cultural/ethnic background.
6. I feel that people very often interpret my behaviour based on their stereotypes of what people of my cultural/ethnic background are like.
7. I have had disagreements with people of my own cultural/ethnic group (e.g., friends or family) for liking British ways of doing things.
8. I feel that my particular cultural/ethnic practices have caused conflict in my relationships.
9. I have had disagreements with British for having or preferring the costumes of my own ethnic/cultural group.
10. I feel that there are not enough people of my own ethnic/cultural group in my living environment.
11. I feel that the environment where I live is not multicultural enough; it doesn't have enough cultural richness.
12. When I am in a place or room where I am the only person of my ethnic/cultural group, I often feel different or isolated.
13. Because of my particular ethnic/cultural status, I have to work harder than most British.
14. I feel the pressure that what "I" do is representative of my ethnic/cultural group's abilities.
15. In looking for a job, I sometimes feel that my cultural/ethnic status is a limitation.

The Satisfaction with Life Scale (SWLS; Diener, Emmons, Larsen, & Griffin, 1985) (Study 3)

Please indicate the extent of your agreement with the following statements.

| 1 | 2 | 3 | 4 | 5 |

Strongly   Strongly
Disagree   Agree

1.In most ways my life is close to my ideal.
2.The conditions of my life are excellent.
3. I am satisfied with life
4.So far I have gotten the important things I want in life.
5.If I could live my life over, I would change almost nothing

Cultural priming materials (Ng, Ng, & Ye, 2016). (Study 3)

Chinese Culture Primes

British Culture Primes

Neutral Primes

Manipulation check questions

Please see the pictures above and indicate which culture do these pictures represent. (for Chinese and British Culture Primes)

A. Chinese   B. British

Please see the pictures above and indicate which kind of phenomena do these pictures represent. (for Neutral Primes)

A. Natural   B. Human-made