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**PSYCHOLOGICAL EFFECTS OF CULTURE ON AESTHETIC MOTIVATION FOR
COSMETIC CUSTOMIZATION OF MOBILE PHONES**

A Thesis in

Media Studies

by

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ABSTRACT

Mobile phones are among the most popular and widespread personal technologies in the world. They are widely seen as extensions of the self, with users customizing them by way of accessories, such as charms, cases, purses and stickers, and features, such as ringtones and wallpapers, in an effort to give their phones a personal look. Such attempts at cosmetic customization are somewhat more prominent in Asian countries, and signal a distinctly aesthetic, rather than utilitarian, motivation.

This thesis examines the degree to which four aspects of cultural psychology—social identity, other-directedness, value of self-expression and self-promotion—predict aesthetic motivations for engaging in mobile phone customization. Furthermore, it explores psychological outcomes, such as emotional attachment to the mobile phone, deriving from such cosmetic customization for aesthetic purposes.

College students ($N = 551$) from two cultures (e.g., individualistic: United States vs. collectivistic: South Korea) participated in an online survey. The results show that culture is directly related to other-directedness, which is in turn related to higher aesthetic motivations for cosmetically customizing mobile phones. They also suggest that cosmetic customization is driven by a desire to use the phone as a vehicle of self-expression rather than as a tool for self-promotion. Findings also show that the more users engage in cosmetic customization for aesthetic purposes, the more they are attached to their mobile phones—a relationship that is mediated by the degree to which they perceive phones as reflecting the self.

Theoretical and practical implications of these findings are discussed, followed by study limitations and directions for future research.

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CHAPTER 1. INTRODUCTION

Researchers asked participants from Tokyo, San Francisco, Berlin and Shanghai the following question: “If you can take only three objects when you leave home, what would they be?” Regardless of the participants’ culture or gender, the researchers found that the three primary items people carry with them are their keys, money, and mobile phone (Chipchase et al., 2005). Mobile phones play a major role in most people’s everyday lives because of their “ability to enable personal, convenient, synchronous and asynchronous communication” (Cui, Chipchase, & Ichikawa, 2007, p. 483). Prior to 1990, mobile phones were considered expensive technology, and the adoption level was low. During the 1990s, however, mobile phone adoption exploded. By the end of 2009, almost one out of every two people had a mobile phone. Mobile phones have been the most rapidly adopted technology in history, and those who do not use mobile phones are now the minority in many countries (International Telecommunication Union (ITU), 2005). According to the ITU’s (2009) most recent report, mobile phones are the most popular and widespread personal technology in the world with subscriptions of an estimated 4.6 billion. Because of the global nature of mobile phone’s adoption and use, researchers have begun to study the ways people think about and use mobile phones in different cultures (Campbell, 2007). Distinctive cultural characteristics affect not only the rate of adoption but also user perceptions toward mobile phones. Traditions, customs and values are believed to contribute to cultural differences in mobile phone adoption and use (Chen, Chiu, & Lin, 2007).

Yet, despite all of the different findings of previous research across cultures, one thing is universal—the mobile phone is seen by its users all over the world as an extension of their self (Hulme & Peters, 2001). As Katz (2006) mentioned, the mobile phone is not only a statement but

also a representative of the self. Katz and Aakhus (2002) proposed the concept of *apparatgeist*, which refers to “the spirit of the machine that influences both the designs of the technology as well as the initial and subsequent significance accorded them by users” (p. 305). Within the rapidly shifting fashion environments of modern society, technologies, especially mobile devices, have been adopted as accessories in individuals’ presentations of the self since users can bring those electronic products with them all the time. Campbell (2007) suggested that mobile phones are more than mere tools. They have become aesthetic statements about their owners. The concept of “machines becoming us” proposed by Katz (2003) can be used to capture the idea that mobile phones could be personal miniature representations for self-expression. For these reasons, the design, color and brand of technology, especially for handheld devices, have become important, resembling how people select their accessories, such as jewelry or wristwatches, based on design, color, or brand (Katz & Sugiyama, 2006).

From downloading and changing ringtones, wallpaper images and applications to hanging mobile phone charms, there are a number of ways people customize their mobile phones. Just as the clothes people wear reflect who they are, mobile phone customization reveals characteristics about users, including their personalities. Mobile phone accessories, such as hand/neck straps, charms, cases, purses and stickers, and customizable features like ringtones and wallpapers, give phones a personal look. It is possible that the mobile phone customization can be one way to broadcast one’s point of view to the world. Therefore, such attempts at customization of cosmetic appearance signal the users’ aesthetic, rather than utilitarian, motivation. But a more fundamental question is: Why do individuals invest such effort in cosmetically customizing their mobile phones for aesthetic motivations? Is it to carve out a unique identity for oneself? Is it a form of self-expression? Also, what role does culture play in

guiding these motivators of aesthetic purposed customization? This thesis is an attempt to answer these questions by proposing a series of hypotheses derived from psychology. More specifically, the aim of this thesis is to test the degree to which intercultural characteristics in terms of one's social identity and self-expression values affect aesthetic motivation for engaging mobile phone customization.

Cross-cultural psychologist Hall (1959) argued that distinctive cultural characteristics play a role in determining how individuals make sense of their social reality, and mobile phones are no exception to this notion (Campbell, 2007). According to a recent news report, the best-selling products across all Korean online shopping Websites are the customizable features for the mobile phone such as phone cases (Jung, 2010). The market research company, NPD Group (2008), reported that the industry for mobile phone accessories in Asia has boomed to such a degree that it has gotten bigger than the mobile phone market itself. With Easterners accessorizing their mobile devices with much greater intensity than their Western counterparts, this appears to be quite a cultural phenomenon. Accordingly, the following hypothesis is proposed to guide the current study:

H1: Culture will affect the degree to which individuals customize their mobile phone's cosmetic appearance for aesthetic purposes.

This study begins with a review of the theoretical framework underlying customization, with a specific focus on aesthetic motivations for cosmetic customization. It will then review the influence of culture on individuals' identity and self-expression, followed by related theoretical models of self-monitoring and impression management. Finally, the outcomes of aesthetic motivations underlying cosmetic customization for users' attachment to their mobile phones are

explored. Methods used to test the proposed model of relationships will be described next, followed by a description of the results. Both theoretical and practical implications will be derived from the findings, followed by a discussion of the study's limitations and directions for future research.

CHAPTER 2. LITERATURE REVIEW

Customization

We are now able to individualize a wide variety of technological products and services. Users can customize their personal media devices in various ways, from appearance and functions to interface content. Customization, which refers to “adaptive interfaces”, allows each user to be unique and distinct, highlighting his/her sense of self (Sundar, 2008). The agency model of customization proposed by Sundar (2008) suggests that the psychological outcomes of customization are fundamentally based on the user playing the role of a source. He emphasized the role of the user as a “creator” and “source” for filtering individual needs, and connecting the technological affordances (i.e., interactivity, modality and navigability) underlying customization to the resulting psychological effects (i.e., cognitive, affective and behavioral).

Researchers have found that customizable affordances help individuals become active producers rather than passive consumers (Rubin, 1993). Nielsen (1998) argued that unlike personalization, which is system-driven, customization is a highly user-driven process of tailoring. Similarly, Sundar and Marathe (2010) pointed out that customization involves a more active user role. Customization is defined as the ability to change appearances, rearrange content, and add or remove widgets or data in a web interface (Bolin, Webber, Rha, Wilson, & Miller, 2005). In terms of the advantages of customization from a user’s perspective, customization allows individuals to modify a product so it fits their needs and tastes better compared to a standard off-the-shelf product (Stuerzlinger, Chapuis, Phillips, & Roussel, 2006). Furthermore, it is likely that customization contributes to one’s sense of identity. As Belk (1988) mentioned, “the idea that we make things a part of the self by creating or altering them appears to be a universal belief” (p. 144). Thus, through product customization, consumers may extend their self into the

products they customize by making the products fit their preferences better (Valenzuela, Dhar, & Zettelmeyer, 2008).

Some recent research has shed light on the different types of customization: cosmetic vs. functional. On the web, cosmetic customization can be seen as options that deal with aspects of presentation, whereas functional customization is seen as options that contain process and utility (Bentley & Dourish, 1995). Similarly, in her dissertation, Marathe (2010) conceptually distinguished the cosmetic and functional dimensions of customization, with the former being a surface-level dimension and the latter being at a deeper level. She conducted an experimental study of customization on a portal website to understand the psychological effects triggered by engaging in cosmetic and functional customization. Her study did not find a difference in the degree to which cosmetic and functional customization contributed to sense of identity, probably because she used an interface that would likely never be exhibited in public, or seen by others (for review, see Marathe, 2010).

In this paper, particular interest is given to the nature of customizable features, such as accessories on mobile phones. Unlike web interfaces, the mobile phone is a personal belonging that is part of one's public self. Except for a few functional customizable features within certain Smartphone applications, the vast majority of visible customization of occurs at a cosmetic level. Gilmore and Pine (1997) classified cosmetic customization as changing the representation of the product without modifying its nature, and listed the activity of changing different surface features on standard products or using accessories or distinctive color cases for mobile phones as prime examples of cosmetic customization.

While the phenomenon of cosmetic customization is well documented, it is not clear why individuals feel compelled to cosmetically customize personal media technologies such as

mobile phones. What is their motivation to engage in such behavior? Cosmetic customization is not always done for aesthetic purposes or to improve appearance, especially in the context of mobile phones. It could also serve a utilitarian purpose, such as distinguishing one's phone from another person's device belonging to the same make and model. Thus, this study adopts a notion of cosmetic customization that can be driven by two kinds of motivations: aesthetic and utilitarian. A number of researchers have argued that aesthetic and hedonic purposes for engaging in cosmetic customization refer to benefits gained from decorative and surface-level changes to the technology, while functional and practical benefits result from utilitarian motivations (for a review, see Chitturi et al., 2007). When it comes to mobile phone customization, however, these two dimensions are somewhat vague. For instance, individuals may use mobile phone cases for protection purposes (utilitarian) or to enhance their phones' appearance (aesthetic) or even both. Another example of the dual nature of mobile phone customization comes in the form of mobile phone charms that individuals hang on their phones. While many users use such charms to decorate their mobile devices, many utilitarian charms have also been invented, such as USB charms and key chain charms. Thus, in the current paper, the different concepts of aesthetic and utilitarian customization are operationalized as users' perceptions of and motivations to use mobile phone accessories, such as cases, and customizable features, such as ringtones. Therefore, if users' motivation is a more aesthetic dimension, we would expect that individuals choose mobile phone accessories for their visual appeal, such as their shape, color, or design. On the other hand, if users' motivation is a more utilitarian dimension, we could expect that individuals' purpose behind adding these accessories is based on practical reasons, such as convenience or utility.

While aesthetic vs. utilitarian motivations for cosmetic customization may differ across individuals, it is likely that the culture within which an individual operates also plays a role (Williams, 1982). Clearly, mobile phone accessories are popular in certain, especially Asian, cultures than others, with a heavy accent on aesthetic motivations. Because the purpose of this study is to examine the effects of intercultural variations on mobile phone customization, previous studies in cross-cultural contexts as well as in cultural psychology are discussed next.

Individualism vs. Collectivism

Cultural difference has been widely discussed in the fields of psychology, communication, marketing, and business. Triandis et al. (1988) mentioned that “if we are to understand the way culture relates to social psychological phenomena, we must analyze it by determining dimensions of cultural variation” (p. 323). Hofstede’s (1980) cultural dimensions have been extensively invoked for explaining the various effects of cross-cultural differences. Hofstede differentiated between five dimensions of national culture: high/low power distance, individualism/collectivism, masculinity/femininity, uncertainty avoidance and long-term/short-term orientation. Researchers argue that individualism/collectivism is the most promising concept in accounting for cultural variation (Triandis et al., 1988). Under this dimension, Hofstede (1984) characterized individualistic societies as those cultures where individuals are focused on their own interests over group or social interests. Collectivistic societies, on the other hand, are cultures in which people consider the group interests or social norms/rules as important factors over individual interests. In addition, people in individualistic cultures highly value their time and need for freedom, while individuals in collectivistic cultures emphasize the importance of harmony and connectedness with others. Western countries, such as the United States, tend to

prefer individualism, while collectivism is widespread in Eastern countries, like South Korea (Hofstede, 2009).

Culture and Identity

In psychology, identity refers to one's ability to reflect upon oneself and become aware of the self (Leary & Tangney, 2003). More specifically, "personal identity" is defined as either the sense of self or of the characteristics that make individuals who they are. In social identity theory, "social identity" refers to expressing one's awareness of being a member of a social group. In order to obtain a better understanding of social identity, we must define what attributes are required for one to be a member of a group, which may include emotional attachment to that group (Hogg & Abrams, 1988; Tajfel, 1981).

As Markus et al. (1997) argued, it is important to consider that the concept of identity is defined differently across cultures. A number of cross-cultural studies found that those from Western cultures tend to make more internal and self-attributions, whereas people from Eastern cultures tend to make more situational and social-attributions (Choi & Nisbett, 1998; Morri & Peng, 1994). Kim and Sherman (2007) mentioned that this phenomenon occurs because Easterners are more likely to recognize the role of situational influences on others' behaviors. In work settings, for instance, collectivists are prone to prefer to work as a member of a group and they have a preference of working in a team project. On the other hand, a person's identity in an individualistic culture tends to be based on his/her personal experiences and uniqueness. When it comes to work settings, Westerners tend to prefer independent work rather than group projects. The most widespread view of the self in Western cultures, including the United States, is the notion of the independent self, which defines a person as an entity that is unique and distinct from others (Kim & Ko, 2007; Markus & Kitayama, 1991). In more collectivistic cultural

contexts, such as Eastern cultures, on the other hand, the view of the self is the interdependent self, which can be defined as being connected with others (Markus & Kitayama, 1991). In collectivistic cultures, relationships with others indeed serve to define the self (Kim & Sherman, 2007; Triandis, 1989). Therefore, social identity is likely to be higher than personal identity in such cultures. Therefore,

H2: Social identity will be higher for individuals in a collectivistic culture (e.g., South Korea) than in an individualistic culture (e.g., the United States).

The salience of one's social identity can be easily detected in the interpersonal communication that underlies social networks and intimate relationships (Kim & Ko, 2007). This distinctive salience of social identity resulting from cultural variation may affect how people monitor themselves in social relationships and how they deal with their behaviors in front of others.

The Other-Directedness Subscale of Self-Monitoring

Snyder (1974) defined self-monitoring (SM) as “self-observation and self control guided by situational cues to social appropriateness” (p. 526). Barrick et al. (2005) found that high self-monitors are socially motivated to maintain desirable impressions to others and constantly scan their social setting in order to ultimately copy others' behaviors for the sake of coming across as appropriate in a given situation. In contrast, individuals who are low self-monitors mainly focus on their own core values and beliefs that they perceive as being a true self even though it is shown to be inappropriate with the social situations around them (Barrick, Parks, & Mount, 2005; Gangestad & Snyder, 1985). Bachner-Melman et al. (2009) pointed out that, compared to high self-monitors, “low self-monitors choose to express a coherent identity consistently, and

they are less concerned about others' evaluations and cues about the appropriateness of their behavior" (p. 171).

With their consistent observation of a particular situation, high self-monitors try to behave and become the *prototypic* person; while low self-monitors emphasize their self-image that truly represents his/her personality or characteristics (Snyder, 1979). Gudykunst et al. (1989) suggested that cultural differences have an impact on the level of SM. According to them, "people in collectivistic cultures must take the context and status relationships into consideration when deciding how to behave in a particular situation (p. 8)" rather than how a *prototypic* person would be. Their findings supported Snyder's (1979) conceptualization, with results indicating that Americans and Australians (i.e., those from individualistic cultures) are significantly higher self-monitors than citizens of Japan, Hong Kong, and Taiwan (i.e., individuals from collectivistic cultures).

Snyder (1974) developed 25 true/false items using a unidimensional scale to measure SM. Despite the fact that this scale has been employed in numerous studies in social psychology and more recently in marketing research (O'Casey, 2000a), this scale has been criticized for not being unidimensional (Briggs, Cheek, & Buss., 1980). A number of studies have shown that there are three common factors underlying SM: other-directedness, extraversion and acting (Briggs et al., 1980; Graziano & Bryant, 1998). However, researchers argued that two of the factors—extraversion and other-directedness—show an entirely opposite pattern. According to Briggs et al. (1980),

"The kind of person who scores high on Other-Directedness appears to be different from the person who scores high on Extraversion. These facts raise a question: Who is a high

self-monitor? One person might score high on Acting and Other-Directedness, another on Acting and Extraversion, and a third on Extraversion and Other-Directedness. The same score might represent quite different items being endorsed. (p.684)”

They argued that the full SM scale with all 25 items has been criticized because the average inter-item correlation is close to zero. The extraversion factor seems to be largely inappropriate to capture the concept of SM and the acting factor is more likely to be relevant for testing real actors’/actresses’ behavior rather than regular individuals. Therefore, they suggested that scholars use the other-directedness subscale because it seems to represent several aspects of the SM construct.

According to Bachner-Melman et al. (2009), the other-directedness subscale of SM is associated with the degree to which people are influenced by others and their expectations. Numerous studies have been conducted to examine how well the other-directedness factor represents the construct of SM. Constanzo and Archer (1989) found that high other-directedness scores are positively related to one’s ability to perceive social cues. In line with this, Harris (1989) found that the higher the people score on other-directedness, the higher they are influenced by others’ expectations. As noted above, Gudykunst et al.’s (1987) study showed that Americans and Australians are higher self-monitors when these three factors are taken into account, while people in Japan, Hong Kong, and Taiwan seem to be lower self-monitors. However, when it comes to the other-directedness factor, people in individualistic cultures scored significantly lower than those in collectivistic cultural contexts. As Briggs et al. (1980) suggested, the current study employs the other-directedness scale rather than all three factors for SM.

Even though the previous studies agreed that cultural variations affect other-directedness, they did not account for the degree to which intercultural differences have an impact on social identity, which may result in distinctive levels of other-directedness. As founder of the concept, Snyder (1974) argued that SM is associated with self-awareness and identity. According to Kumru and Tompson (2003), high-SM individuals perceive themselves as changing entities depending on certain social situations, harmony and roles; that is, they view the self as a flexible “me for this situation” (Snyder, 1987, p. 48). On the other hand, low-SM individuals generally believe that the self defines their identity in terms of inner personal attributes; that is, they see the self as a “me for all times and places” that usually remains the same regardless of the social situation (Snyder, 1987, p. 49). Therefore, it is plausible that social identity would have an impact on individuals’ level of other-directedness. Therefore,

H3: Individuals who have higher social identity will have higher other-directedness of self-monitoring.

The Concept of Connectedness and Customization

There is no doubt that humans want to belong to social groups and like being acknowledged by group members (Leary & Baumeister, 2000). Kim and Ko (2007) extended this idea and claimed that people often attempt to be seen as a good member of their social group, although what comprises “being a good member” might differ depending on cultural characteristics. Bender and Ng (2009) pointed out that two different concepts exist in cultural contexts: social connectedness, which is used to explain Eastern cultures, and individuated uniqueness, which is used to understand Western cultures. Thus, the effects of one’s social identity on other-directedness in different cultures can be divided into two categories: connectedness and uniqueness.

As reviewed above, customization reflects as well as contributes to one's sense of identity. At first glance, we might assume that people in individualistic cultures would be more likely to engage in cosmetic customization to achieve their individual uniqueness as compared to those from collectivistic cultures. However, thinking back to the relationship between social identity in different cultures and the other-directedness of self-monitoring, the opposite assumption appears more viable. Considering that Easterners in mostly collectivistic cultural contexts share interdependent self concepts that define the self as being connected with others (Markus & Kitayama, 1991), it is possible that they are, or would at least like to be, socially connected with others. That is, it is plausible that they are highly other-directed, meaning that they care more about others than Westerners. Also, individuals who are high in other-directedness are more likely to be influenced by others and others' expectations. Since the current study examines the cosmetic customization of mobile phones—which can be seen by others at a quick glance and are consumed in the public—it posits that individuals with high other-directedness are more likely to cosmetically customize their mobile phones than those with low other-directedness. More formally,

H4: The higher the level of other-directedness of self-monitoring, the higher the degree of cosmetic customization for aesthetic purposes.

Aside from the effects of culture on social identity and other-directedness, intercultural variations may have implications for how people express themselves in public, especially in verbal ways. Kim (2002) proposed that the social acceptability for the manner in which individuals self-express differs between individualistic and collectivistic cultural contexts.

Therefore, the cultural and historical views of self-expression in these different cultures should be reviewed, and previous studies on how individuals value the level of self-expression in a given cultural context must also be acknowledged.

Culture and Self-Expression

The self can be expressed by how people interact with their environment based on their beliefs and behaviors (Conner & Armitage, 1998; Prentice, 1987). When it comes to the historical view of differences between the United States and South Korea, the concept of self-expression can be distinguished clearly. More specifically, in an individualistic cultural context, “speaking one’s mind” through speech is conceivably the most effective way for expressing individual’s thoughts and emotions (Kim & Markus, 2002; Kim & Ko, 2007). Ultimately, by engaging in verbal self-expression, individual let others know who they are.

“Freedom of speech” is protected by the First Amendment in the United States since the country’s birth. Also, the phrase “express yourself” signifies people’ underlying motivation of self-expression and encouragement in American culture. Speaking out about their ideas and feelings is an appropriate and encouraged way for Americans to demonstrate their own internal attributes, such as their beliefs, values and preferences.

In contrast, the Confucian saying “the superior man is modest in his speech but exceeds in his actions” can partially explain Eastern cultural beliefs. Because Confucian ideas were widespread throughout East Asia, this is one of the most considerable influences in Korean history as well as a fundamental part of Korean society. Being humble (“humility”) is considered the most important virtue in Korea; therefore, excessive self-expression in terms of one’s own thoughts and feelings is either discouraged or considered inappropriate and negligible depending

on the specific situation (Kim, 2002). Kim and Sherman (2007) mentioned that in collectivistic cultural contexts, social bonds and harmony are important, and “roles and relationships are readily recognizable by others without being expressed by any one individual (p. 2)”. Silence is often valued above talking, and it is possible that expressing and/or talking has negative social meanings in these cultures (Kim & Markus, 2002; Markus, Kitayama, & Heiman, 1996). In other words, verbal self-expression is sometimes seen as arrogant and egotistical. Therefore, the following hypothesis is posited:

H5: Individuals in an individualistic culture (e.g., the United States) will rate the value of self-expression higher than those in a collectivistic culture (e.g., Korea).

Given that individuals have an ongoing interest in how other individuals perceive, evaluate, and treat them, what role does an individual’s value of self-expression play in managing his/her portrayal of the self to others?

Impression Management

Impression management, a concept explored by sociologists, psychologists, and communication researchers for decades, speaks directly to this issue. According to Goffman (1959), a fundamental motive of human being is to be viewed by others in a favorable manner which can be interpreted as to keep away from being seen negatively. Therefore, people strive to establish and maintain positive impressions that others may assess them to be good. In line with this notion, Schlenker (1980) defined impression management as “the conscious or unconscious attempt to control images that are projected in real or imagined social interactions” (p. 6). The literature on impression management can be divided into two major categories: impression motivation and impression construction (Zaidman & Drory, 2001). Impression motivation comes

along with the fact that people commonly monitor and observe their impact on others. Thus, people are motivated to manage their public impression in order to control how others see them. Once they achieve the motivation for impression management, individuals may change their behaviors using a different strategy that is called impression construction (see also Leary & Kowalski, 1990).

Several scholars have developed specific impression management strategies (Bozeman & Kacmar, 1997; Rao, Schmidt, & Murray, 1995). The most widely used one was developed and employed by Jones and Pittman (1982), who identified five specific impression-management strategies: ingratiation, self-promotion, exemplification, supplication, and intimidation. Ingratiation is defined as using flattery or doing favored behavior in order to be seen as *likeable*. Individuals engage in self-promotion by playing up their superior abilities or accomplishments in order to be seen as *competent*. Exemplification is characterized by individuals trying to go above and beyond the call of duty in order to be seen as *dedicated*. Supplication occurs when individuals advertise their shortcomings in an attempt to be seen as *needy*, and intimidation occurs when they attempt to appear threatening or intimidating, so others will view them as being *dangerous* (for review, see Jones & Pittman, 1982, p. 249; Turnley & Bolino, 2001, p. 352). A number of researchers have studied the use of ingratiation and self-promotion (Stevens & Kristof, 1995; Tedeschi & Norman, 1985). In particular, the self-promotion subscale seems to be very common in measuring direct ways that individuals express superiority in verbal ways. If an individual values higher on her/his self-expression, it is possible to say that she/he wants to express his/her superiority in front of others. Thus, the following hypothesis is posited:

H6: Individuals who place a higher value on self-expression are more likely to engage in self-promotion strategies than those who place a lower value on self-expression.

Repression of Self-Expression and Customization

Assuming that self-expression is a basic human tendency, we can say that the desire for self-expression is universal, regardless of culture. As reviewed above, individuals in collectivistic cultures may engage in less self-promotion due to the lower value they place on self-expression as compared to their counterparts in individualistic cultural contexts, which provide free and active verbal self-expression environments. As such, individuals in collectivistic cultural contexts could be repressed when it comes to expressing themselves verbally. The repression of self-expression can lead individuals in collectivistic cultures to express themselves in different ways, such as non-verbally or through the use of personal items or appearance. Walsh and White (2007) pointed out “one way in which individuals reflect their self-identity is through their ownership and use of material objects” (p. 2407). Previous research found that collectivistic consumers value harmony and relatedness with others (Kim & Markus, 1999) and that they tend to express themselves with a product that matches their individual tastes and preferences to maintain connectedness and to fit in rather than through engaging in impression-management activities such as self-promotion. In the context of the current study, an absence of self-promotion due to repression of self-expression may result in greater customization of one’s mobile phone, given that customization serves as a tool for self-expression. This should result in greater expression of personal taste, paving the way for aesthetic, rather than utilitarian, motivations for such cosmetic forms of customization. Thus, the following hypothesis is proposed:

H7: The lower the level of self-promotion of impression management, the higher the degree of cosmetic customization for aesthetic purposes.

The Relationship between Self-Monitoring and Impression Management

There are a number of studies examining the positive relationship between self-monitoring and impression management. Snyder and Copeland (1989) indicated that high-SM individuals are more likely to adapt the image and behaviors they demonstrate to others in ways that best serve their interests. Conducting a meta-analysis in organizational settings, Day et al. (2002) argued that the objective of employing impression management strategies is to “positively influence evaluations of oneself and to win approval from others” (p. 390), which is similar to the motivation of individuals engaging in SM. Using a sample of organizational politicians, Gabrenya and Arkin (1980) found that high self-monitors are prone to follow others’ behaviors in order to adopt socially appropriate impression management. Turnley and Bolino (2001) also found that high self-monitors more frequently achieve their desired images through impression management strategies such as ingratiation and self-promotion. “The primary concern of high self-monitors during social interactions might be to regulate their own self-affect by effectively managing the self in relation to others through impression management” (Ickes et al, 2006, p. 659).

As noted above, however, previous research in SM employed three controversial subscales: extraversion, acting, and other-directedness. The factor analysis in Montagliani and Giacalone’s (1998) study revealed that the impression management scale and the other-directedness subscale of self-monitoring loaded together, with the former loading positively and the latter loading negatively. As discussed earlier, the other-directedness scale can capture the concept of “humility” by measuring individuals’ willingness to change their behavior in favor of others, even if it is inconsistent with their own thoughts and feelings. Impression management, especially self-promotion, is defined as “competence” by playing up their abilities or

accomplishments regardless of what others say and/or think. Therefore, it is plausible to assume that the relationship between other-directedness and self-promotion is negatively correlated.

More formally,

H8: Other-directedness of self-monitoring will be negatively related to self-promotion in impression management.

Perceived Reflection of Self through Mobile Phones and Product Attachment

As reviewed above, the aesthetic purpose behind customization evokes greater decorative and enjoyment-related benefits. By customizing a product's appearance (cosmetic level) in order to look better, consumers invest time, effort and attention in the product. In their empirical study, Mugge, Schifferstein and Schoormans (2004) found that when people engage in cosmetic customization, they need to make creative choices (e.g., design and color), which requires psychic energy. Also, this energy investment leads the consumer to add personal modifications to the product, which becomes special and cherished by the owner. In this way, the owner will become emotionally attached to their products. Product attachment can be defined as the emotional bond that a consumer builds with a product (Schiffestein & Pelgrim, 2003). The current study aims to understand product attachment by investigating how customizing mobile phones for aesthetic purposes contributes to the degree of attachment that users have with their mobile phone. This leads to the following hypothesis:

H9a: The higher the degree of cosmetic customization for aesthetic purposes, the higher the product attachment.

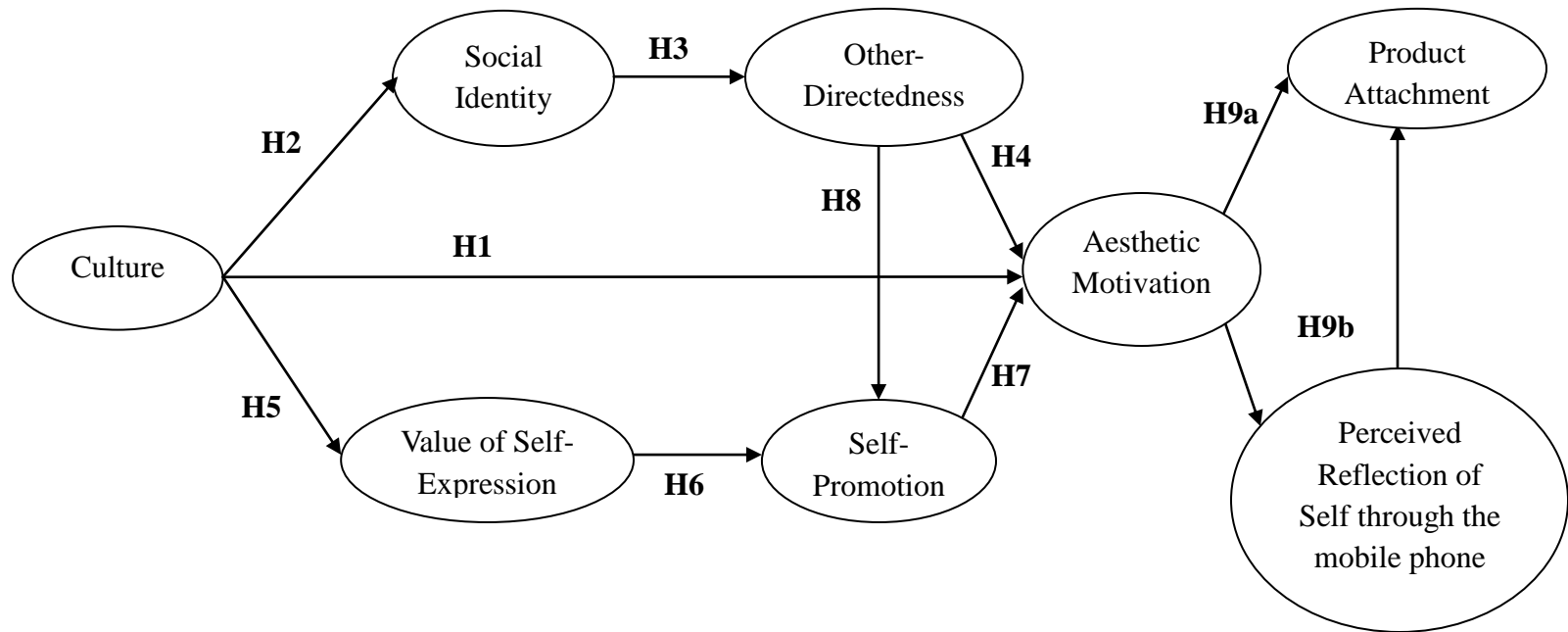
Furthermore, as noted above, customization also enables users to create mobile phones that are unique and personal. In other words, after being cosmetically customized, a phone will

become more reflective of one's self and symbolically displays the owner's self to himself/herself and/or to others. The agency model of customization (Sundar, 2008) proposed that triggering the self-as-source both cognitively and affectively is likely to result in positive attitudes toward customized content, through engaging with content and invoking a greater sense of me-ness. The sense of me-ness means that users may see their customized content as reflecting their identity. Consistent with this reasoning, by customizing a mobile phone's appearance (e.g., cosmetic customization) in order to achieve aesthetic pleasure, a phone can be used to reflect a person's self, which can positively affect the user's degree of attachment to his/her mobile phone. Therefore, it is hypothesized that the perceived reflection of self through the mobile phone would mediate the relationship between individuals' aesthetic motivations for engaging cosmetic customization and product attachment. More formally,

H9b: The perceived reflection of self through the mobile phone will mediate the relationship between the degree of cosmetic customization for aesthetic purposes and perceived attachment to the product (i.e., the mobile phone itself).

Taken together, a hypothetical structural model can be proposed to predict the degree to which intercultural differences in mobile phone users' psychology affect aesthetic motivation for engaging in cosmetic customization, leading in turn to differences in psychological outcomes of customization, such as perceived reflection of self and attachment felt toward one's mobile phone (Figure 1).

Figure 1. Hypothesized Model



CHAPTER 3. METHOD

In order to test the hypotheses, an online survey was created in English and Korean. All questions were identical across the two versions of the survey. The questionnaires were translated from English to Korean and backward again by two bilinguals. The Korean version of the questionnaire was checked for fluency by two native Korean graduate students (Park & Ahn, 2008). Participants completed the questionnaire in their native language.

Overview

Participants. Participants from a U.S. institution, the Pennsylvania State University, and two Korean institutions, Sungkyunkwan University and Hanyang University, were recruited for this study. In all, 400 American students and 205 Korean students (total $N = 605$) participated in the current study, either for extra credit or for a \$3 coffee coupon. The percentages for gender, academic major and mean age were relatively similar in both countries. Out of the 400 American participants, 246 (61.5%) were female, and the mean age was 20.02 years. Among the 205 Korean participants, 128 (62.4%) were female, and the mean age was 20.88 years. Over 55% of the participants in each country were social science majors, such as communications.

Procedure. For the Korean participants, the survey link was posted on the community website for each school. American participants who agreed to participate were e-mailed a link to the questionnaire on Qualtrics, an online software application that hosts electronic surveys. In the study instructions, participants were told that they were participating in a study on how individuals use and customize their mobile phones. All participants were presented with an informed consent form prior to their participation. They were given the option of opting out of the study by simply clicking out of the web browser that contained the questionnaire. Upon

consenting with a click, they were taken to the survey. There were a total of 112 items in the survey questionnaire (see Appendix A), and most of the measures used a seven-point Likert scale response format (1 = strongly disagree; 7 = strongly agree).

Pretest. The entire questionnaire pretested before launch of the study. Thirty-one students (21 females and 10 males) from one of the communications classes at the Pennsylvania State University were recruited for the pretest for extra credit. These participants' ages ranged from 20 to 25 ($M = 21.16$, $SD = 1.00$). Insights gained from this pretest enabled the researcher to finalize the questionnaire, modifying and adding information where needed, especially for the "social identity" items. Due to socially desirability concerns with the social identity items, the final version of the survey included an additional nine items for "personal identity," so that respondents had an opportunity to respond to social identity items as distinct from their thoughts on personal identity.

Measurement

Cosmetic Customization for Aesthetic Purposes (CCA). Based on a quick pretest, this study categorized mobile phone customization features as charms, cases, bags/purses, skins/stickers, ringtones and wallpaper. The first question for each category was if the participants use/have customization features or not. For those who answered yes to the first question, more questions were asked about their motivations for choosing specific mobile phone customization features. In all, 23 out of the 400 American participants (5.7%) and 26 of the 205 Korean participants (11.2%) reported that they did not have any customizable features. Therefore, a total 49 responses were excluded for further analysis, leaving a usable sample size of 556. In order to see if the participants use these features for either/both aesthetic or/and utilitarian purposes, the following questions were asked. For example, for the aesthetic purpose of having

charms on one's mobile phone, three questions were asked: as "I have **charms** because they make my mobile phone look better," "The reason why I have **charms** is because their color and/or design" and "When I purchased the **charms** that I have on mobile phone, the design, color, and/or shape were important factors." The utilitarian motivations for having charms included two items: "I have **charms** because they are useful" and "The reason why I have **charms** is because they make my mobile phone more convenient to use." The above five questions were the same for other accessories except for customized ring tones and wallpapers since these two features do not have color, design or shape characteristics. Instead, "The reason why I have **customized ring tones/wallpaper** is because they make me feel good" was included to detect aesthetic purpose. The correlation between aesthetic and utilitarian motivations was significant, but not strong (Pearson's $r = 0.17, p < .01$). It was not necessary for each user to have every accessory or customizable feature. As noted, the motivation questions were only asked to those who had/used the feature. This resulted in absence of data for a number of customization features. Therefore, the CCH construct was analyzed using only the first question: "I have _____ (name of customizable feature) because they make my mobile phone look/sound better."

Social Identity (SI). A revised version of the identity scale (Cheek, Smith, & Tropp, 2002) was used to measure participants' self-ratings on identity salience: personal vs. social identity. The instructions for these questions were as follows: Please read each item carefully and consider how it applies to you (1 = Not important to my sense of who I am; 7 = Extremely important to my sense of who I am). Nine items were measured for personal identity, including "My personal values and moral standards," "My personal goals and hopes for the future," "My emotions and feelings," "My thoughts and ideas" and "My feeling of being a unique person and

distinct from others” (Cronbach’s $\alpha = .82$). Another ten items measured participants’ relational/social identity, such as “My relationships with the people I feel close to,” “Connecting on an intimate level with another person,” “My feeling of connectedness with those I am close to” and “My social behavior, such as the way I act when meeting people” (Cronbach’s $\alpha = .80$). Since the sole purpose of including personal identity items was to minimize socially desirable responses for social identity questions, these nine items measuring personal identity were not included in the final analyses.

Other-Directedness of Self-Monitoring (OD). This study used a scale that is primarily based on Snyder’s (1974) SM scale but uses only items for the other-directedness subscale (Bachner-Melman, 2009; Gudykunst, 1989). A seven-point Likert scale (1 = strongly disagree; 7 = strongly agree) was used to measure nine items, including “At parties and social gatherings, I attempt to do or say things that others will like,” “When I am uncertain how to act in a social situation, I look to the behavior of others for cues,” “In different situations and with different people, I often act like a very different person” and “Even if I am not enjoying myself, I often pretend to be having a good time.” The Cronbach’s alpha suggests high internal consistency and thus acceptable reliability ($\alpha = .82$).

Value of Self-Expression (VS). In order to measure individuals’ level of self-expression, The Value of Expression Questionnaire (VEQ, Kim & Sherman, 2007) was employed. The VEQ measures the extent to which participants value self-expression in their behaviors (e.g., “I express my feelings publicly, regardless of what others say” and “I do not like to talk about myself to others (R)”) and beliefs (e.g., “Freedom of expression is one of the most important rights that people should have”). The VEQ results for this study had relatively moderate reliability (Cronbach’s $\alpha = .72$).

Self-Promotion in Impression Management (SP). In order to measure participants' self-promotion strategies for impression management, four items developed by Bolino and Turnley (1999) were administered using a seven-point Likert scale (1 = strongly disagree; 7 = strongly agree). These items consisted of "I try to make others aware of my talents and qualifications," "I try to make others aware of my unique skills and abilities," "I try to let others know that I am a valuable member of the group" and "I talk proudly about my past accomplishments" (Cronbach's $\alpha = .90$).

Perceived Reflection of Self (PRS). Based on previous research (Mugge et al., 2004), the present study employed four items to measure participants' perceived reflection of self through their phone: "My phone reflects who I am," "Other people can tell what kind of person I am by looking at my phone," "My phone suits me" and "My phone says nothing about me as an individual (R)" (Cronbach's $\alpha = .79$).

Product Attachment (PA). Four items measuring product attachment (Mugge et al., 2004), included "My phone has no special meaning to me (R)," "My phone is very dear to me," "I have a bond with my phone" and "I am very attached to my phone" (Cronbach's $\alpha = .83$).

Control Variables. In order to control for the potential effects of individual differences on customization as well as product attachment, the survey asked about participants' demographic information (e.g., age, gender, major, etc.). Participants were also asked about their mobile phone usage patterns (e.g., "How long have you been using your current mobile phone?") and accessibility/availability of each mobile phone cosmetic customization feature (e.g., "It is easy to purchase **charms** for mobile phones" and "It cost a lot of money to purchase **charms** for mobile phones").

Model Specification. Structural equation modeling (SEM) with maximum likelihood estimation was performed using *AMOS 18.0* to test the hypothesized model. As for the modeling strategy, the hypothesized model assessed the extent to which intercultural difference between Americans and Koreans predict their cosmetic customization of mobile phones for aesthetic purposes, by incorporating two different paths of mediators based on our theoretical discussion of the psychological aspects of intercultural difference. One path involved the concepts of social identity and other-directedness while the other was related to value of self-expression and self-promotion (see Figure 1). Culture (individualism: USA vs. collectivism: Korea) was used in the analysis as the exogenous variable, while the four mediating variables (social identity, other-directedness, value of self-expression and self promotion), aesthetic-purposed cosmetic customization and its two psychological outcomes (perceived reflection of self through the mobile phone and product attachment to the phone) were used as endogenous variables.

Model Fit Indices. To assess the overall model fit, the following indicators, used most often in previous research, were consulted: chi-square (χ^2), the root mean square error of approximation (RMSEA), comparative fit index (CFI), the standardized root mean square residual (SRMR) and the goodness of fit index (GFI). The chi-square test is sensitive to sample size (Bentler, 1990); therefore, the other incremental fit indices and RMSEA are better indices to measure goodness of fit for the current study. According to Hu and Bentler (1999), RMSEA less than .05 is considered a close approximation, an RMSEA between .05 and .08 is considered reasonable, and a value equal to or exceeding .10 is considered a poor fit. Previous researchers argued that $SRMR < .08$ is satisfactory, and for the CFI and GFI, a value close to 1 is preferred, though a value of .90 or above is considered good (Kline, 2005; Hu & Bentler, 1999).

In order to test the last hypothesis, which proposes an indirect effect of aesthetic motivation for cosmetic customization upon product attachment via perceived reflection of self through the mobile phone, indirect-effects estimation using bootstrapping (Hayes et al., 2010; Preacher & Hayes, 2008) was employed. Bootstrapping (repeated resampling of data) is a useful technique for alleviating statistical problems associated with non-normality in the sampling distributions of the indirect effects. In the current study, the analysis for the indirect effect was based on 5000 bootstrap samples.

CHAPTER 4. RESULTS

Descriptive Analyses

The Effects of Culture on Cosmetic Customizable Features. As noted above, there were six customizable accessories and features in the current study (i.e., charms, cases, bags/purses, stickers/skins, ringtones and background images). An independent-sample t-test revealed that although Koreans have a slightly greater number of customizable accessories and/or features ($M = 2.07$, $SD = 0.94$) than Americans ($M = 1.97$, $SD = 0.86$), this difference fell short of statistical significance, $t(549) = -1.34$, $p > .05$. Table 1 shows the percentages for the total number of customizable accessories/features that each person uses by culture.

Table 1. Percentages of the Total Number of Customizable Features by Country

Number of Customizable Features	Percentages	
	USA	Korea
1	33.9	33.0
2	40.3	34.1
3	21.3	26.1
4	4.5	6.2
5	0.0	0.6
6	0.0	0.0

A chi-square test was employed to examine mobile phone's customizable features as a function of culture. Table 2 shows the percentages and chi-square significance for each customizable feature by country. The results of the chi-square test revealed clear intercultural differences when it comes to having cosmetic customizable features for mobile phones.

Interestingly, the results indicated that there are obvious distinctions among the categorization of

features. For charms and stickers/skins, a significantly larger percentage of Korean participants reported having these features than American participants. When it comes to cases and bags/purses, American participants seemed to have these more than Koreans. It is important to note that cases and bags/purses are usually used not only for decorative (aesthetic) purpose but also for protective (utilitarian) purposes, while charms and stickers/skins are more for aesthetic purposes. Also, Americans scored higher for ringtones and background images than Koreans, which can be explained by understanding the fact that these two features are not seen by others at a quick glance.

Table 2. Percentages and Chi-Square Significance for Each Customizable Feature by Country

Cosmetic Customization Features	Percentages		Significance
	USA	Korea	
Charms ^a	1.5	38.5	***
Cases ^b	47.8	38.5	**
Bags/Purses ^c	7.3	4.4	ns
Stickers/Skins ^d	2.0	8.3	***
Ringtones ^e	44.8	38.5	ns
Background Images ^f	80.0	36.1	***

Note: *** Correlation is significant at $p < .001$; ** Correlation is significant at $p < .05$; ns = non-significant

a $\chi^2(1, N = 605) = 153.96, V^* = .50, p < .000$.

b $\chi^2(1, N = 605) = 4.656, V^* = .09, p < .05$.

c $\chi^2(1, N = 605) = 1.88, V^* = .06, p > .05$.

d $\chi^2(1, N = 605) = 13.55, V^* = .15, p < .000$.

e $\chi^2(1, N = 605) = 2.14, V^* = .06, p > .05$.

f $\chi^2(1, N = 605) = 115.02, V^* = .44, p < .000$.

The Effects of Gender Differences on Cosmetic Customizable Features. We can safely assume that there would be gender differences when it comes to cosmetically customize mobile phones. Females usually have more accessories and care more for their belongings, such as bags,

purses and shoes, more than males do. Fascinatingly, however, when it comes to mobile phone accessories, the results of the chi-square showed that there are no differences in having customizable features in terms of gender differences. In line with this, an independent sample t-test analysis revealed that the gender differences are not a predictor of mobile phone customization for aesthetic motivations (Table 3). Note that gender was dummy-coded as 0 = Male and 1 = Female.

Table 3. Percentages and Chi-Square Significance for Each Customizable Feature by Gender

Cosmetic Customization Features	Percentages		Significance
	Male	Female	
Charms ^a	13.9	14.2	$p = .51$
Cases ^b	44.6	44.7	$p = .53$
Bags/Purses ^c	4.3	7.5	$p = .08$
Stickers/Skins ^d	3.5	4.5	$p = .34$
Ringtones ^e	45.9	40.6	$p = .12$
Background Images ^f	65.4	65.0	$p = .50$
Cosmetic Customization for Aesthetic Purposes ^g	$M = 4.97$ $SD = 1.42$	$M = 5.00$ $SD = 1.59$	$p = .87$

^a $\chi^2(1, N = 605) = .01, V^* = .00, p > .05.$

^b $\chi^2(1, N = 605) = .00, V^* = .00, p > .05.$

^c $\chi^2(1, N = 605) = 2.42, V^* = .06, p > .05.$

^d $\chi^2(1, N = 605) = .42, V^* = .03, p > .05.$

^e $\chi^2(1, N = 605) = 1.61, V^* = .05, p > .05.$

^f $\chi^2(1, N = 605) = .01, V^* = .00, p > .05.$

^g $t(549) = -.17, p > .05.$

Descriptive Statistics for Current Mobile Phone Use Duration. The amount of time participants used their current mobile phone was measured (1 = “less than 6 months,” 2 = “6 months – 1 year,” 3 = “1 year – 2 years” and 4 = “more than 2 years”) for purposes of controlling its effects on product attachment and perceived reflection of self through the mobile phone. Table

4 shows the percentages for the current phone use duration by country. It is likely that those who have used their mobile phones a long time might have strong bonds and attachment to their phone. However, a series of one-way ANOVAs showed that the duration individuals used their current mobile phones was not statistically significant—neither for product attachment ($F(3, 601) = 1.36, p > .05$), nor for perceived reflection of self through the mobile phone ($F(3, 601) = 1.61, p > .05$).

Table 4. Percentages for Current Phone Use Duration by Country

Current Phone Use Duration	Percentages	
	USA	Korea
Less than 6 months	25.5	27.3
6 Months – 1 Year	31.3	27.3
1 Year – 2 Years	31.5	33.7
More than 2 Years	11.8	11.7

Descriptive Statistics for Accessibility and Availability By Culture. In order to control the effects of differences of accessibility and availability of mobile phones’ cosmetic customizable features, additional two questions (i.e., ease and expense to buy) for each category were asked. An independent sample t-test showed that Koreans’ easiness ratings ($M = 5.24, SD = 1.18$) were significantly lower than American ratings ($M = 5.45, SD = 1.00$), $t(603) = 2.27, p < .05$. The same test was conducted to test perceived expensiveness of the overall customizable features, and the results showed that Koreans perceive such features to be expensive ($M = 3.67, SD = 1.19$) more than Americans do ($M = 3.11, SD = 1.14$). $t(603) = -5.65, p < .001$.

Preliminary Analysis

Prior to the analyses for testing the hypotheses, the data were checked for normality and outliers. Multivariate outliers were revealed by calculating the Mahalanobis distance statistic,

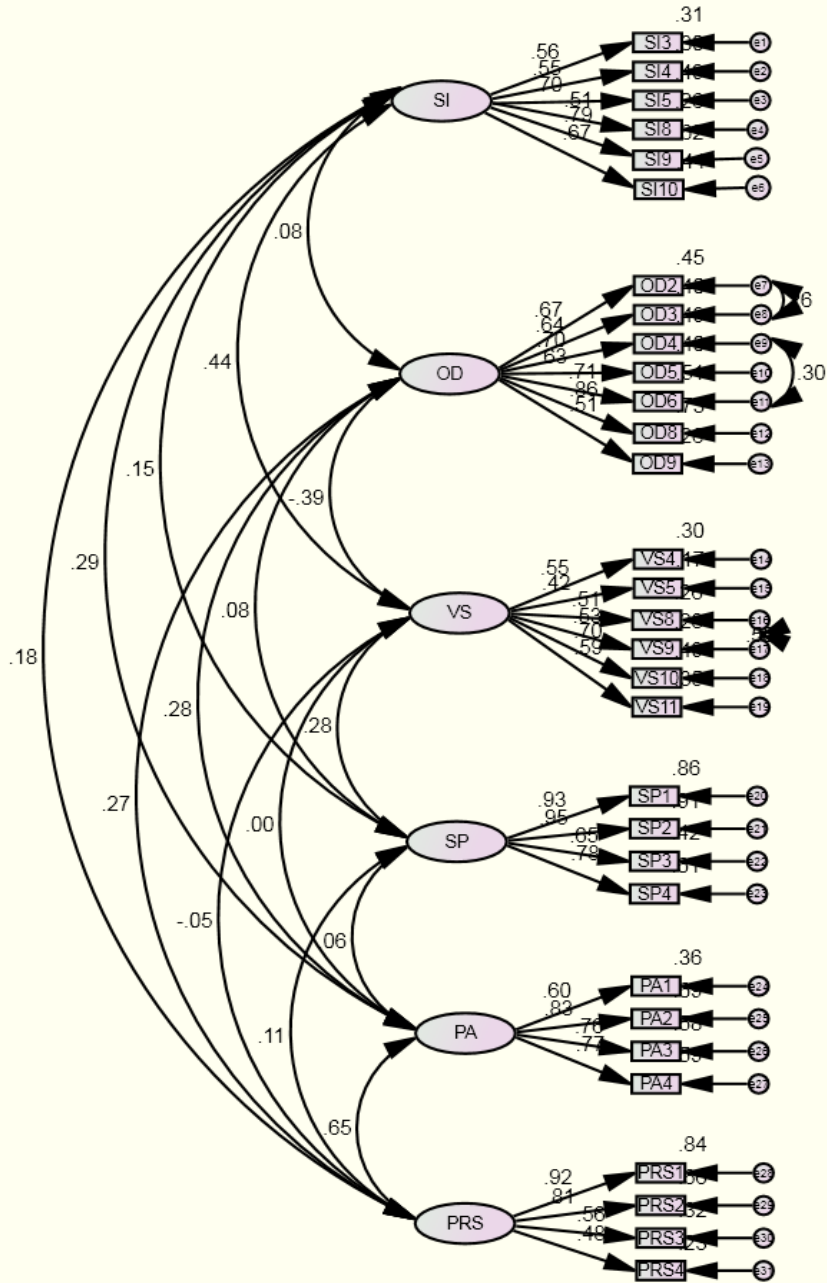
after which two American and three Korean outliers were removed from the data set, leaving a final sample size of 551. According to Kline (2005), univariate normal distribution can be confirmed with absolute value of less than 3.0 for skewness and 10.0 for kurtosis. Measures of skewness and kurtosis indicated that the all variables in the model were normally distributed. In addition, multivariate normality was checked. According to Bollen (1989), the criterion for multivariate normality is that the Mardia's coefficient be lower than $p(p+2)$, where p is the number of observed variables. The Mardia's coefficient for the current study was 19.30. Given that this study had 14 observed variables, we can conclude multivariate normality.

Measurement Portion of the Model. Before the hypothesized model was examined through structural equation modeling (SEM), confirmatory factor analysis (CFA) was performed using *AMOS 18.0* with a maximum likelihood estimation method to test the measurement portion of the model. In CFA, all latent variables except for country and aesthetic motivation for engaging in cosmetic customization were co-varied with each other. The model fit was poor according to the following indices: $\chi^2 = 2809.327$, $df = 804$, $p < .001$; RMSEA = .07 (CI = .065-.070); CFI = .78; GFI = .78. Four items from the 'social identity', two items from 'other-directedness', and five items from the 'value of self-expression' construct were excluded iteratively from the dataset because they were not significantly correlated with and/or had low factor loadings on their respective latent variables. Eliminating these items yielded the following fit indices: $\chi^2 = 1253.863$, $df = 419$, $p < .001$; RMSEA = .06 (CI = .056-.064); CFI = .89; GFI = .86. Additionally, modification indices suggested allowing two pairs of error terms from other-directedness and a pair of error terms from value of self-expression to covary due to method-related effects such as similar wording or content (Eccles & Wigfield, 1995). The following sets of items were covaried: (1) "In different situations and with different people, I often act like a

very different person” with “I’m not always the person I appear to be”; (2) “At parties and social gatherings, I attempt to do or say things that others will like” with “In order to get along and be liked, I tend to be what people expect me to be rather than anything else”; and (3) “Those who are close to me know my preferences and opinions” with “I know preferences and opinions of those who are close to me.” After covarying these error terms, the revised model had an acceptable fit: $\chi^2 = 1037.293$, $df = 416$, $p < .001$; RMSEA = .05 (CI = .048 - .056); CFI = .92; GFI = .89 (Figure 2).

Figure 2. Confirmatory Factor Analysis

Chi-square = 1037.293, DF = 416, p = .000
 RMSEA = .052, 90% CI: .048-.056, CFI = .915



Notes: SI = Social Identity; OD = Other-Directedness; VS = Value of Self-expression; SP = Self Promotion; PA = Product Attachment; PRS = Perceived Reflection of Self through the mobile phone

Based on the result of the CFA, reliability for each construct was assessed with the remaining items. Table 5 shows the reliability (Cronbach's alpha) and the zero-order correlations that were computed in order to test the interrelationships among the constructs in the model of the current study. Most of these bivariate correlations were consistent with hypotheses in the same direction at a statistically significant level.

Table 5. Reliability and Zero-Order Correlations for All Measured Variables

	1	2	3	4	5	6	7	8
	(SI)	(OD)	(VS)	(SP)	(AM)	(UM)	(PA)	(PRS)
1. Social Identity (SI)	1.00							
2. Other-Directedness (OD)	.11**	1.00						
3. Value of Self-Expression (VS)	.31**	-.29***	1.00					
4. Self Promotion (SP)	.14**	.06	.28***	1.00				
5. Aesthetic Motivation (AM)	.15***	.30***	-.04	.05	1.00			
6. Utilitarian Motivation (UM)	.15***	.16***	-.02	.14***	.13**	1.00		
7. Product Attachment (PA)	.27***	.24***	.02	.07	.19***	.25***	1.00	
8. Perceived Reflection of Self (PRS)	.18***	.15***	.01	.13**	.19***	.22***	.55***	1.00
Reliability (Cronbach's α)	.79	.86	.73	.90	-	-	.83	.79

Note: *** Correlation is significant at $p < .001$

** Correlation is significant at $p < .05$

Item Parceling. The next step was to decide whether to use all individual measures for each of the constructs in testing the structural portion of the model, i.e., in testing the hypothesized relationships between latent variables. Peter and Valkenburg (2008) argue that using item parcels rather than individual items results in “more parsimonious models, reduce the chances for double loadings to occur, and diminish the impact of the various sources of sampling error” (p.418). In addition, item parceling should only be used when the goal of the study is to examine relations among the latent constructs rather than among the individual items. However, parceling is allowed only when the constructs are unidimensional (Little et al., 2002). For the current study, therefore, two-item parcels for all variables except aesthetic motivation were employed as indicators of the latent constructs. All item parcels were built according to the *content-based parceling strategy*, which is based on theoretical meaning (Landis et al., 2000). As a result, social identity had two parcels labeled as ‘behavioral’ and ‘emotional’; two parcels of the other-directedness construct were labeled as ‘social situation’ and ‘deceiving’; value of self-expression had two parcels labeled as ‘opinion’ and ‘free to talk’; two parcels of self-promotion were labeled as ‘ability’ and ‘value’; product attachment included two parcels named ‘meaning’ and ‘bond’; perceived reflection of self through the mobile phone had two parcels of ‘reflection’ and ‘fitness’ (See Appendix B).

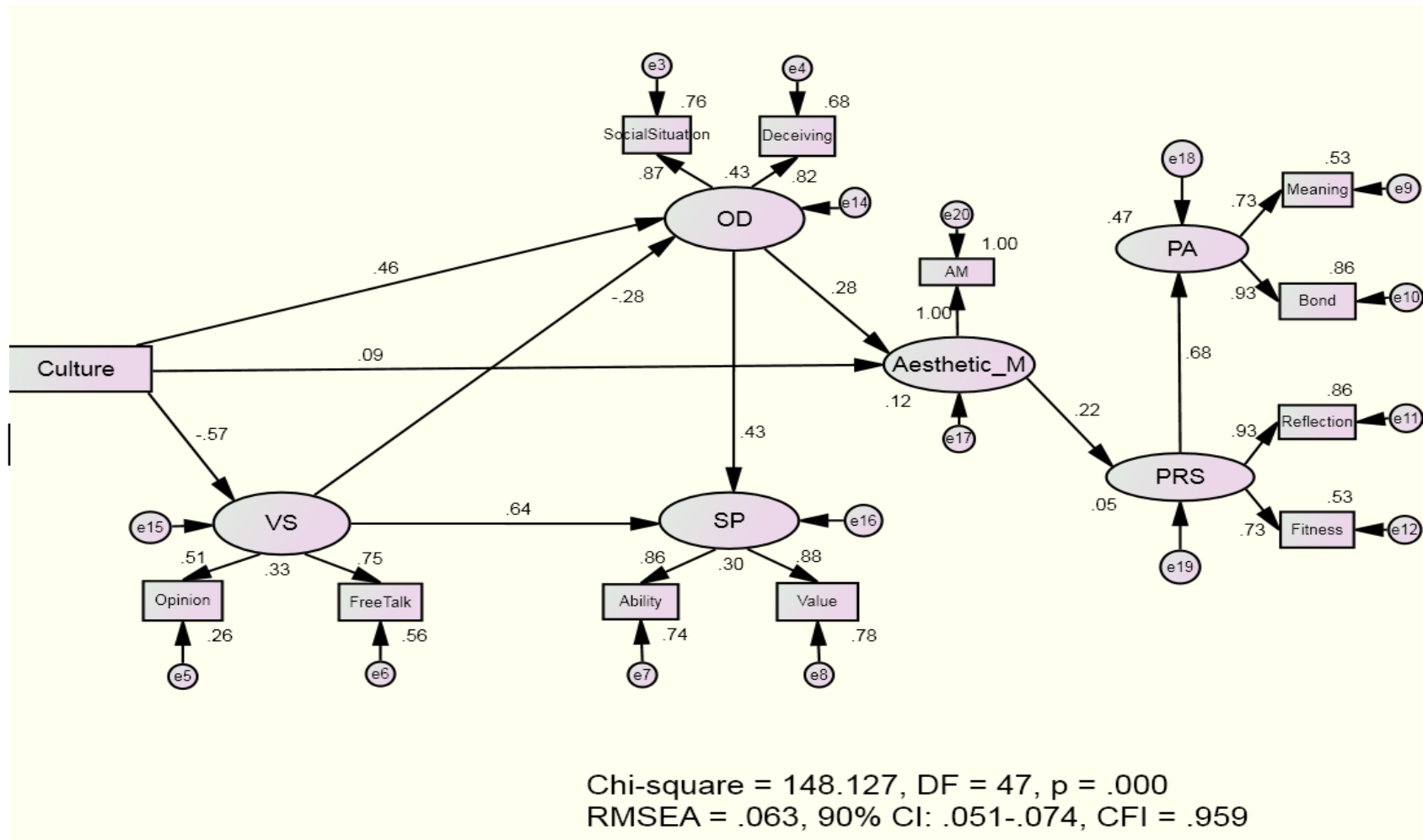
In addition, as noted above, the construct of cosmetic customization for aesthetic purposes was a single-variable indicator in the current study. However, since this construct consists of just one item, the reliability could not be computed. So, the error variance for the single-item scale was set at zero.

Testing the Hypothesized Model

SEM using *AMOS 18.0* with a maximum likelihood estimation method was carried out to test the hypothesized model. The overall model was a poor fit: $\chi^2 = 528.606$, $df = 68$, $p < .001$; RMSEA = .111 (90% CI: .102 - .120); CFI = .843; SRMR = .137; GFI = .889. Therefore, model modifications were conducted based on theoretical rationale and modification indices.

First, a non-significant pathway was detected from culture to social identity ($\beta = 0.059$, $p > .05$), which was eliminated from the model. When this path was removed, social identity lost its theoretical relevance in the model. Since the study failed to support the originally hypothesized path between culture and social identity, the latter holds no theoretical value as an independent exogenous variable. Therefore, this construct was removed from the model entirely. After the deletion of social identity, overall model fit improved: $\chi^2 = 367.558$, $df = 47$, $p < .001$; RMSEA = .111 (90% CI: .101 - .122); CFI = .870; SRMR = .134; GFI = .909, yet this model failed to meet acceptable criteria. The path from culture to other-directedness was previously mediated by social identity. Since the social identity construct was removed, the direct path from culture to other-directedness was added in the modification process. The overall model fit improved to a respectable level: $\chi^2 = 162.206$, $df = 46$, $p < .001$; RMSEA = .068 (90% CI: .057 - .079); CFI = .953; SRMR = .068; GFI = .955. Two non-significant paths (self-promotion \rightarrow aesthetic motivation and aesthetic motivation \rightarrow product attachment) were detected and eliminated one by one, resulting in the following fit statistics: $\chi^2 = 165.892$, $df = 48$, $p < .001$; RMSEA = .067 (90% CI: .056 - .078); CFI = .952; SRMR = .072; GFI = .954. Based partly on the modification indices and partly on theoretical rationale, a path from value of self-expression to other-directedness was added to the model. These changes resulted in a good overall model: $\chi^2 = 148.127$, $df = 47$, $p < .001$; RMSEA = .063 (90% CI: .051 - .074); CFI = .959; SRMR = .068; GFI = .958. Figure 2 depicts the final model that was retained for interpretation.

Figure 3. Standardized path coefficients for the Final Model



Notes: OD = Other-Directedness; VS = Value of Self-expression; SP = Self Promotion; Aesthetic_M = Aesthetic Motivation for engaging in Cosmetic Customization; PRS = Perceived Reflection of Self though the mobile phone; PA = Product Attachment

Summary of Findings

In interpreting the remaining paths in the model, it should be noted that the culture variable was dummy-coded as U.S. = 0 and South Korea = 1. Effects where individualism (i.e., United States) scores higher than collectivism (i.e., South Korea) will show up as negative regression coefficients, while the reverse (where Korea is higher than US) will be indicated via positive coefficients. Culture (e.g., United States vs. Korea) was not directly related to aesthetic motivation for engaging in cosmetic customization of a mobile phone ($\beta = 0.092, p = .09$). However, the indirect effects ($\beta = 0.173, p < .001$) were statistically significant, as was the total effect of culture on cosmetic customization for aesthetic purposes ($\beta = 0.265, p < .001$). The positive regression coefficient suggests that Koreans engage in more cosmetic customization for aesthetic purposes than Americans, and the total effect was statistically significant. Therefore, H1 was supported.

The analysis showed that culture was directly associated with other-directedness. Koreans scored higher on other-directedness than Americans ($\beta = 0.480, p < .000$), meaning that individuals in collectivistic cultures are more willing to change their behaviors in favor of others than those in individualistic cultures. In addition, culture was associated significantly with the value of self-expression ($\beta = -0.575, p < .000$). Americans had higher values of self-expression than Koreans. Therefore, H5 was supported. Furthermore, the path from value of self-expression to other-directedness showed a negative relationship ($\beta = -0.253, p < .000$). Thus, individuals who value self-expression highly are less likely to care about others or alter their behavior to conform to others' expectations. Also, results show that the higher the value of self-expression, the higher the self-promotion ($\beta = 0.642, p < .000$). This means that if individuals valued self-expression more, they are more likely to promote themselves in front of others (H6 supported).

For testing the relationship between other-directedness and aesthetic motivation, the results were consistent with H4, and those whose other-directedness is high tend to engage in more cosmetic customization for aesthetic purposes ($\beta = 0.281, p < .000$). Interestingly, the relationship between other-directedness and self-promotion was statistically significant but in a direction opposite to that of H8 ($\beta = 0.426, p < .000$). Contrary to expectation, the analysis showed that other-directedness was positively related to self-promotion.

The test for the indirect effect of aesthetic motivation for cosmetic customization upon product attachment via perceived reflection of self through the mobile phone, bootstrap analysis revealed a significant mediation, as hypothesized. The 95% bias-corrected CIs for the estimated coefficient of this indirect path did not include zero (null hypothesis of indirect effects): the bootstrapped 95% CI was .084 – .219. Therefore, given that the direct effect of aesthetic motivation of cosmetic customization on product attachment was not significant (H9a was not supported), this result for indirect effect suggests that perceived reflection of self through the mobile phone fully mediated the relationship between cosmetic customization for aesthetic purposes and product attachment (Baron & Kenny, 1986). Table 6 shows the estimates, standard errors and critical ratios for the paths in the model.

Table 6. Estimated (Standardized & Unstandardized) S.E. and C.R. for the supported hypothesized paths

Paths	Estimates (Standardized)	Estimates (Unstandardized)	Standard Error	Critical Ratio
Culture → OD	.455	1.053	.133	7.944
Culture → VS	-.575	-.918	.080	-11.499
OD → AM	.281	.397	.083	4.754
VS → OD	-.277	-.401	.106	-3.783
VS → SP	.642	.987	.157	6.273

OD → SP	.426	.453	.083	5.463
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Note: All of the paths were statistically significant at $p < .01$

In sum, the results showed that culture is directly related to other-directedness, rather than mediated by social identity, which leads individuals to have higher aesthetic motivations for cosmetically customizing their mobile phones. In addition, culture has an impact on the value of self-expression, which is negatively related to other-directedness and positively related to self-promotion. However, this study did not find a statistically significant relationship between self-promotion and cosmetic customization for aesthetic purposes. Finally, the more users engage in cosmetic customization for aesthetic purposes, the more they are attached to their mobile phones because they are more likely to perceive it as a vehicle for reflecting the self.

CHAPTER 5. DISCUSSION

Using structural equation modeling, this study tested the role of psychological factors underlying intercultural difference in influencing mobile phone users' aesthetic motivations to engage in cosmetic customization, and its effects on perceived reflection of self through the mobile phone and product attachment. The overall structural model for this study received support from the data.

Importance of Other-Directedness

The current study found that individuals who are more other-directed seem to have higher aesthetic motivation for engaging in cosmetic customization of their mobile phones, meaning they cosmetically customize in order to make their mobile phones look/sound better. However, the degree to which individuals promote themselves does not seem to be related to aesthetic purposes of cosmetic customization. These findings suggest that the users' underlying psychology for aesthetic-purposed cosmetic customization is more to get others' attention, not for the purpose of showing off their superiority. That being said, mobile phones' cosmetic customization could play an important role as a tool for broadcasting one's personality and identity to others. Therefore, in the final model of the current study, other-directedness emerged as an important psychological construct connecting culture to aesthetic motivation for cosmetic customization. This mediation by other-directedness is qualified by the fact that the portion of its variance accounting for self-promotion is statistically distinct from its contribution to aesthetic motivation for cosmetic customization. In other words, the relationship between other-directedness and aesthetic motivation for engaging in mobile phone's cosmetic customization is not about self-promotion but really about self-expression.

However, it is noteworthy that other-directedness was positively related to self-promotion, quite the opposite of what was hypothesized. Previous researchers argued that self-oriented impression management (i.e., self-promotion) was negatively correlated with the other-directedness subscale in self-monitoring (Montagliani & Giacalone, 1998). Unlike their findings, the current study is consistent with Snyder and Copeland's (1989) thesis, suggesting that high self-monitors (i.e., high in other-directedness) are more likely to adapt the image they present to others in ways that best serve their interests. In other words, if a person's other-directedness is high, she/he is more likely to engage in self-promotion strategy in order to obtain others' attention and be favorably perceived by them.

Social Identity Theory within Cultural Dynamics

This study proposed two paths using four psychological mediators that explain the relationship between culture and cosmetic mobile phone customization for aesthetic purposes: one via social identity and other-directedness and the other via value of self-expression and self-promotion. One of the notable findings of this study is that culture does not affect one's social identity. According to Hinkley et al. (2002), individualistic or collectivistic cultural backgrounds are believed to have different results on how individuals see themselves, including their identity. As we reviewed above, individuals in individualistic cultures are more likely to see themselves in terms of individual identity, whereas those in collectivistic cultures are more likely to see themselves in terms of group identities. On the other hand, some researchers have found that cultural differences do not greatly differ in accounting for one's identity, while the within-group differences such as the individuals' personality are a big portion for explaining this variance (Watkins, 2000). One possible alternative explanation might be a ceiling effect. In the current study, the average scores on the social identity scale in both countries were quite high with low

standard deviations (U.S.: $M = 5.61$, $SD = .81$ and Korea: $M = 5.63$, $SD = .73$). Even though personal identity questions were included for the sake of avoiding social desirability biases in answering the social identity items, this strategy may not have worked as well as planned. It is possible that social identity is fundamental to all social interactions regardless of society or culture. Globalization could also be the reason for the non-significant effects of culture on social identity. In the current globalized environment, individuals from different cultural backgrounds are able to behave, respond and interact quite easily. As Hinkley et al. (2002) mentioned, some researchers are concerned that the dominant theory about identity is more reflective of the Western conception of self. Therefore, questions still remain concerning the pan-cultural psychological explanations for social identity.

Sense of Me-ness

One interesting finding in the present study is the indirect effects from cosmetic customization on product attachment that was fully mediated by perceived reflection of self through the mobile phone. Consistent with Mugge et al. (2004), this thesis found that by cosmetically customizing for aesthetic purposes, individuals fulfill the need for reflecting one's identity through their mobile phones; therefore, they might perceive mobile phones as an extension of self. This perceived reflection of self, in turn, is positively associated with the degree of product attachment. Therefore, cosmetic customization for aesthetic purposes leads individuals to form an emotional bond and attachment to their mobile phones via their level of perceived reflection of self through the mobile phone. It also lends support to Sundar's (2008) agency model of customization which proposes that a sense of me-ness resulting from customization leads to positive attitudes toward customized content and/or product.

Given that our data showed no relationship between the duration of usage of their current mobile phones and users' emotional bond or attachment to the product, this study suggests length of ownership is not the key to product attachment. Instead, it is the ability of the device to foster a sense of me-ness. As long as they are able to fulfill their aesthetic motivation to customize, they perceive their mobile phones to be a good means of reflecting one's self, therefore making them more emotionally attached to their mobile phones.

Relationships among Cultural Psychology, Technological Affordances, and Psychological Outcomes

Furthermore, the indirect effects of culture on perceived reflection of self through the mobile phone and product attachment via the hypothesized psychological mediators such as other-directedness and value of self-expression were significant. In general, the entire model's configuration seems to be reasonable in accounting for the variance in one's emotional bond with the technology (i.e., the mobile phone) in terms of culture. Taken together, culture affects the psychological concepts that influence individuals' aesthetic motivations for engaging in cosmetic customization. In turn, cosmetic customization turns out to be a predictor of their psychological bond and/or attachment to that technology primarily by imbuing a sense of me-ness. The structure of the present survey-based study is quite different from the experimental study that Marathe (2010) conducted. While her study examined how technological affordances impact users' psychological constructs, the present thesis attempted to start with the intercultural psychological effects that underlie users' motivations for engaging technological affordances and what the results are in terms of psychological outcomes.

Gender Differences on Aesthetic Motivations for Engaging in Cosmetic Customization

It is worth pointing out that the gender differences were not a predictor for having either cosmetic customization features or aesthetic motivations for engaging in cosmetic customization. Some previous research argued that gender differences seem to be significant when it comes to general mobile phone usage, such as the amount of calling and texting (Geser, 2004; Lorente, 2002; Stern, 2004). Interestingly, the study conducted by Plant (2000) found that females tend to value their mobile phones as a means of expression and social communication, whereas males are prone to use them as symbols of status or even virility. The current study is consistent with Plant's (2000) findings by showing no gender differences in uses of--and motivations for--cosmetic customization features.

Practical Implications

The mass customization industry has provided users with simple cosmetic customization options (Marathe, 2010). The current study showed that regardless of cultural differences, individuals have strong emotional bonds and attachments to their mobile phones when their aesthetic motivation for cosmetic customization was fulfilled. Unlike a web portal or in a digital space, mobile phone's cosmetic customization features are certainly limited since they have to physically exist. The Smartphone's rapid diffusion and penetration has brought a big change to the mobile phone industry in terms of the invention of applications. As a result, users are prone to pay more attention to their phone's functional customization, such as widgets and applications, rather than their cosmetic customization. Even though the current study does not control for the type of mobile phone (i.e., feature phone vs. Smartphone), the findings suggest that no matter what kind of phone it is, a mobile phone's cosmetic customizations will generally still be meaningful in accounting for individuals' emotional bonds and attachment to their mobile

phones. The industry should therefore take seriously consumers' aesthetic motivation for engaging in cosmetic customization. Mobile phone makers should also encourage phone customization by providing users with a variety of customizable features, so they can imbue more of their self identity into their devices.

The current thesis was conducted to see if there were any effects of culture on users' cosmetic mobile phone customization, and the findings provide insight for multinational mobile phone companies. When designing phones from their manufactured stage to their customizable appearance features, user interface and user experience designers need to pay more attention to what consumers from different cultural backgrounds try to achieve through customization. For example, Apple Inc. released the iPhone 3rd Generation (3G) in 2008 without a slot on the side for attaching accessories. With a booming mobile phone accessory market, one of the leading accessory companies in Korea invented the hanging charms for iPhone 3G in a variety of colors and designs that users can assemble into their iPhone with simple devices such as screws. Given such a phenomenon, when a company in a collectivist culture designs the appearance of a mobile phone, they might need to more carefully consider the cosmetic features that enable users to express themselves through their mobile phones. When it comes to individualistic cultures, designers could design mobile phones not only for cosmetic attraction but also for functionality.

By understanding consumers' intercultural psychology, this study also aids the fields of international public relations and advertising by suggesting ways to promote their products appropriately in different countries. More specifically, the current study found that culture affects cosmetic customization for aesthetic purposes via other-directedness, leading ultimately to users' emotional attachment to the mobile phone. However, the value of self-expression negatively predicts other-directedness while being positively associated with self-promotion, with no direct

positive effect on aesthetic motivations for cosmetic customization. The findings suggest that other-directedness is higher in Eastern cultures, whereas value of self-expression seems higher in Western cultures. When it comes to international marketing or advertising, practitioners might need to promote their product by asserting others' views or perspectives in Eastern cultures and maximizing their appeals about the value of self-expression in Western cultures.

Limitations and Directions for Future Studies

The current study represents an initial exploration of the relationship between cultural differences and aesthetic motivations of cosmetic mobile phone customization and its psychological outcomes. As such, there are several limitations that qualify the generalization of the results. The first limitation stems from the fact that all of the scales were developed in English and had to be translated into Korean by two different bilingual graduate students. As numerous intercultural studies have done, the method of translation and backward translation was employed to maximize equivalence. Despite this effort, it remains a potential problem because it is hard to achieve perfect and strong translation invariance (Villagran & Lucke, 2005; Zhang, 2009). Also, as many survey-based psychology research studies do, the current study relied completely on self-reports. This study uses a quantitative approach to examine psychological constructs. However, quantitative studies are sometimes limited in capturing the participants' underlying feelings and emotions even if the measurements are well-established. Therefore, both qualitative and quantitative studies are necessary to provide a better understanding of the psychological variables in the study.

As mentioned above, this study did not distinguish between the types of mobile phones. Taking into account the recent patterns in Smartphone adoption, it would be interesting and worthy to study how Smartphone users' functional and/or cosmetic customizations are different

from those who use feature phones. Furthermore, Smartphone users' perceived reflection of self through the phone and product attachment by engaging in functional customization would be meaningful for future studies. In addition, the current study only examined intercultural differences in terms of cosmetic mobile phone customization. For future studies, different technology devices could be used for testing the theoretical model.

Another limitation for this study is the sample, which was made up of college students from both countries. Although college students are reasonable for testing mobile phone customization, since they are an appealing market segment for the mobile phone industry, it would be interesting to see examine the psychology underlying customization by older users as well as younger ones, such as junior high and high school students, in order to assess the external validity of the final model presented in this study.

CHAPTER 6. CONCLUSION

We are living in a globalized era, and it seems like the entire world has become one nation through the development of the Internet and related technologies. However, there is still a good deal of psychological difference between cultures that needs to be accounted for when examining our usage of communication technologies. The current thesis attempted to find differences in the degree to which cultural psychology affects individual users' psychological and behavioral aspects related to mobile phone customization. Through survey-based research, this study found that culture has an impact on individuals' other-directedness, which led individuals to engage in cosmetic customization for aesthetic purposes. Ultimately, aesthetic motivations for engaging in mobile phone customization were positively associated with product attachment, mediated by users' perceived reflection of one's self through the mobile phone. Increasingly, individual users are playing an important role as designers when it comes to customizing their own products. Beyond achieving the obvious purpose of tailoring one's own devices, such customization activity appears to be inherently gratifying as a vehicle for reflecting one's own self and thereby building a psychological bond with the technology.

REFERENCES

- Bachner-Melman, R., Zohar, A.H., Bacon-Shnoor, N., Elizur, Y., Nemanov, L., Gritsenko, I., *et al.* (2009). Link between vasopressin receptor AVPR1A promoter region microsatellites and measures of social behavior in humans. *Journal of Individual Differences*, 26(1), 2-10.
- Barrick, M. R., Parks, L., & Mount, M. K. (2005). Self-monitoring as a moderator of the relationships between personality traits and performance. *Personnel Psychology*, 58, 745-768.
- Belk, R. (1988). Possessions and the extended self. *Journal of Consumer Research*, 15, 139-168.
- Bender, M., & Ng, S. H. (2009). Dynamic biculturalism: Socially connected and individuated unique selves in a globalized world. *Social and Personality Psychology Compass*, 3, 199-210.
- Bentler, P. M. (1990). Comparative fit indexes in structural models. *Psychological Bulletin*, 107(2), 238-246.
- Bentley, R., & Dourish, P. (1995). Medium versus mechanism: Supporting collaboration through customization. In *Proceedings of the European Conference on Computer-Supported Cooperative Work ECSCW*. Stockholm, Sweden.
- Bolino, M. C., & Turnley, W. H. (1999). Measuring impression management in organizations: A scale development based on the Jones and Pittman taxonomy. *Organizational Research Methods*, 2, 187-206.

- Bolin, M., Webber, M., Rha, P., Wilson, T., & Miller, R. C. (2005). *Automation and customization of rendered web pages*. Paper presented at the 18th annual ACM symposium on User Interface Software and Technology, Seattle, WA, USA.
- Bozeman, D. P., & Kacmar, K. M. (1997). A cybernetic model of impression management processes in organizations. *Organizational Behavior and Human Decision Processes*, 69(1), 9-30.
- Briggs, S., Cheek, J., & Buss, A. (1980). An analysis of the self-monitoring scale. *Journal of Personality and Social Psychology*, 38(4), 679-686.
- Campbell, S. W. (2007). Perceptions of mobile phone use in public settings: A cross-cultural comparison. *International Journal of Communication*, 1, 738-757.
- Cheek, J. M., Smith, S., & Tropp, L. R. (2002). *Relational identity orientation: A fourth scale for the AIQ*. Paper presented at the annual convention of the Society for Personality and Social Psychology, Savannah, GA.
- Chipchase, J., Persson, P., Piippo, P., Aarras, M., & Yamamoto, T. (2005). Mobile essentials: Field study and concepting. In *Proceedings of the Conference on Designing for User Experience*. San Francisco, California.
- Chitturi, C., Raghunathan, R., & Mahajan, V. (2007). Delight by design: The role of hedonic versus utilitarian benefits. *Journal of Marketing*, 72(3), 48-63.
- Choi, I., & Nisbett, R. E. (1998). Situational salience and cultural differences in the correspondence bias and actor-observer bias. *Personality and Social Psychology Bulletin*, 24, 949-960.

- Conner, M., & Armitage, C. (1998). Extending the theory of planned behavior: A review and avenues for further research. *Journal of Applied Social Psychology, 28*, 1429-1464.
- Constanzo, M., & Archer, D. (1989). Interpreting the expressive behavior of others: The interpersonal perception task. *Journal of Nonverbal Behavior, 13*, 225-245.
- Cui, Y., Chipchase, J., & Ichikawa, F. (2007). A cross culture study on phone carrying and physical personalization. In N. Aykin (Ed.), *Usability and internationalization: HCI and culture* (Vol. 4559, pp. 483-492). Springer Berlin, Heidelberg.
- Day, D. V., Schleicher, D. J., Unckless, A. L., & Hiller, N. J. (2002). Self-monitoring personality at work: A meta-analysis. *Journal of Applied Psychology, 87*, 390-401.
- Eccles, J. S., & Wigfield, A. (1995). In the mind of the actor: The structure of adolescents' achievement task values and expectancy-related beliefs. *Personality and Social Psychology Bulletin, 21*(3), 215-225.
- Gabrenya, W. K., & Arkin, R. M. (1980). Self-monitoring scale: Factor structure and correlates. *Personality and Social Psychology Bulletin, 6*, 13-22.
- Gangestad, S., & Snyder, M. (1985). To carve nature at its joints: On the existence of discrete classes in personality. *Psychological Review, 92*, 317-349.
- Gilmore, J. H., & Pine, B. J. (1997). Four faces of mass customization. *Harvard Business Review, 1*, 91-101.
- Goffman, E. (1959). *The presentation of self in everyday Life*. New York, NY: Doubleday and Co.

- Graziano, W. G., & Bryant, W. H. (1998). Self-monitoring and the self-attribution of positive emotions. *Journal Personality and Social Psychology*, 74(1), 250-261.
- Gudykunst, W. (1989). Culture and communication in interpersonal relationships. In J. Andersen (Ed.), *Communication yearbook 12*. (pp. 315-354). Newbury Park, CA: Sage.
- Gudykunst, W., Yang, S., & Nishida, T. (1987). Cultural differences in self-consciousness and self-monitoring. *Communication Research*, 14, 7-34.
- Hall, E. T. (1959). *The Silent Language*. Greenwich, CT: Fawcett.
- Harris, M. J. (1989). Personality moderators of interpersonal expectancy effects: Replication of Harris and Rosenthal. *Journal of Research in Personality*, 23, 381-397.
- Hayes, A. F., Preacher, K. J., & Myers, T. A. (2011). Mediation and estimation of indirect effects in political communication research. In E. P. Bucy & R. L. Holbert (Eds.), *Sourcebook for political communication research: Methods, measures, and analytical techniques* (p. 434-465). New York: Routledge.
- Hinkley, J. W., Warch, H. W., & McInerney, D. M. (2002). In W. J. Lonner, D. L. Dinnel, S. A. Hayes, & D. N. Sattler (Ed.), *Online readings in psychology and culture*. Bellingham, WA: Center for Cross-Cultural Research.
- Hofstede, G. (1980). *Culture's consequences: International differences in work-related values*. Beverly Hills, CA: Sage.
- Hofstede, G. (1984). National cultures revisited. *Asia Pacific Journal of Management*, 2(1), 22-28.

- Hofstede, G. (2009). Business goals for a new world order: Beyond growth, greed and quarterly results? *Asia Pacific Business Review*, 15(4), 481-488.
- Hogg, M. A., & Abrams, D. (1988). *Social identifications: A social psychology of intergroup relations and group processes*. London: Routledge.
- Hu, L., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural equation modeling*, 6, 1-55.
- Hulme, M., & Peters, S. (2001). *Me, my phone, and I: The role of the mobile phone*. CHI 2001 Workshop: Mobile communications: Understanding users, adoption, and design, Seattle, WA.
- Ickes, W., Holloway, R., Stinson, L. L., & Hoodenpyle, T. G. (2006). Self-monitoring in social interaction: The centrality of self-affect. *Journal of Personality*, 74(3), 659-684.
- International Telecommunication Union. (2005). *The Internet of things*. Retrieved from http://www.itu.int/osg/spu/publications/internetofthings/InternetofThings_summary.pdf
- International Telecommunication Union. (2005). *The world in 2009: ICT facts and figures*. Retrieved from http://www.itu.int/ITU-D/ict/material/Telecom09_flyer.pdf
- Jones, E. E., & Pittman, T. S. (1982). Toward a general theory of strategic self-presentation. In J. Suls (Ed.), *Psychological perspectives on the self* (pp. 231-262). Hillsdale, NJ: Erlbaum.
- Jung, Y. N. (2010, June 7). The best-selling products in 2010. *The Asia Today*. Retrieved from <http://www.asiatoday.co.kr/news/view.asp?seq=365665>.
- Katz, J. E. (Ed.) (2003). *Machines that become us: The social context of personal communication technology*. New Brunswick, NJ: Transaction Publishers.

- Katz, J. E. (2006). Mobile communication and the transformation of daily life: The next phase of research on mobiles. *Knowledge, Technology, & Policy, 19*, 62-71.
- Katz, J. E., & Aakhus, A. E. (Eds.) (2002). *Perpetual contact: Mobile communication, private talk, public performance*. Cambridge: Cambridge University Press.
- Katz, J. E., & Sugiyama, S. (2006). Mobile phones as fashion statements: Evidence from student surveys in the US and Japan. *New Media & Society, 8*(2), 321-337.
- Kim, H. S. (2002). We talk, therefore we think? A cultural analysis of the effect of talking on thinking. *Journal of Personality and Social Psychology, 83*, 828-842.
- Kim, H. S., & Ko, D. (2007). Culture and self-expression. In C. Sedikides & S. Spencer (Eds.), *Frontiers of social psychology: The self* (pp. 325–342). New York: Psychology Press.
- Kim, H. S., & Markus, H. R. (2002). Freedom of speech and freedom of silence: An analysis of talking as a cultural practice. In R. Shweder, M. Minow, & H. R. Markus (Eds.), *Engaging cultural differences: The multicultural challenge in liberal democracies* (pp. 432-452). New York: Russell-Sage Foundation.
- Kim, H. S., & Sherman, D. K. (2007). Express yourself: Culture and the effect of self-expression on choice. *Journal of Personality and Social Psychology, 92*, 1-11.
- Kim, S. D. (2002). Korea: Personal meanings. In J. Katz (Eds.), *Machines that become us: The social context of communication technology* (pp. 63-79). New Brunswick, NJ: Transaction Publishers.
- Kline, R. B. (2005). *Principles and practices of structural equation modeling*. New York: Guilford.

- Kumru, A., & Thompson, R. A. (2003). Ego identity status and self-monitoring behavior in adolescence. *Journal of Adolescent Research, 18*, 481-495.
- Landis, R. S., Beal, D. J., & Tesluk, P. E. (2000). A comparison of approaches to forming composite measures in structural equation models. *Organizational Research Methods, 3*, 186–207
- Leary, M. R., & Baumeister, R. F. (2000). The nature and function of self-esteem: Sociometer theory. In M. P. Zanna (Ed.), *Advances in self-esteem experimental social psychology*, (pp. 1–62). San Diego: Academic Press.
- Leary, M. R., & Kowalski, R. M. (1990). Impression management: A literature review and two-component model. *Psychological Bulletin, 107*, 34-47.
- Leary, M. R., & Tangney, J. P. (2003). The self as an organizing construct in the behavioral and social sciences. In M. R. Leary & J. P. Tangney (Eds.), *Handbook of self and identity* (pp. 3-14). New York: Guilford.
- Little, T. D., Cunningham, W. A., Shahar, G., & Widaman, K. F. (2002). To parcel or not to parcel: Exploring the question, weighing the merits. *Structural Equation Modeling, 9*, 151–173.
- Lorente, S. (2002). Youth and mobile telephones: More than a fashion. Retrieved January 17, 2011, from <http://www.mtas.es/injuve/biblio/revistas/Pdfs/numero57ingles.pdf>
- Marathe, S. S. (2010). *Exploring user interactions with task-based and presentation-based UI customization: A psychological perspective*. (Doctoral dissertation, The Pennsylvania State University, 2010).

- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, 98, 224-253.
- Markus, H. R., Kitayama, S., & Heiman, R. J. (1996). Culture and basic psychological principles. In E. T. Higgins & A. W. Kruglanski (Eds.), *Social psychology: Handbook of basic principles* (pp. 857-913). New York: Guilford.
- Markus, H. R., Mullally, P. R., & Kitayama, S. (1997). Selfways: Diversity in modes of cultural participation. In U. Neisser, & D. Jopling (Eds.), *Conceptual self in context: Culture, experience, self-understanding* (pp. 13-61). Cambridge, England: Cambridge University Press.
- Montagliani, A., & Giacalone, R. A. (1998). Impression management and cross-cultural adaption. *The Journal of Social Psychology*, 138(5), 598-608.
- Morris, M. W., & Peng, K. (1994). Culture and cause: American and Chinese attributions for social and physical events. *Journal of Personality and Social Psychology*, 67, 949-971.
- Mugge, R., Schifferstein, H. N., & Schoormans, J. P. (2004). Personalizing product appearance: The effect on product attachment. In *Proceedings of the Fourth International Conference on Design and Emotion*. Ankara, Turkey.
- Nielsen, J. (1998). Personalization is over-rated. Retrieved September, 3, 2010, from <http://www.useit.com/alertbox/981004.html>
- NPD Group. (2008). NPD Group Reports on *mobile phone accessories market*. Retrieved April 9, 2011 from

http://www.npd.com/lps/PDF_SpecialReports/Mobile_Phone_Accessories_Fast_Check_Report.pdf

O’Cass, A. (2000a). An assessment of consumers product, purchase decision, advertising and consumption involvement in fashion clothing. *Journal of Economic Psychology*, 21, 545-576.

Peter, J., & Valkenburg, P. M. (2008). [Adolescents’ exposure to sexually explicit internet material, sexual uncertainty, and attitudes toward](#) uncommitted sexual exploration: Is there a link? *Communication Research*, 35, 569-601.

Plant, S. (2000). On the mobile: The effect of mobile telephones on social and individual life. Retrieved February 1, 2011, from http://www.motorola.com/mot/doc/0/234_MotDoc.pdf

Preacher, K. J., & Hayes, A. F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40, 879-891.

Prentice, D. A. (1987). Psychological correspondence of possessions, attitudes, and values. *Journal of Personality and Social Psychology*, 53, 993-1003.

Rao, A., Schmidt, S. M., & Murray, L. H. (1995). Upward impression management: Goals, influence strategies and consequences. *Human Relations*, 48(2), 147-167.

Rubin, A. M. (1993). Audience activity and media use. *Communication Monographs*. 60(1), 98-105.

Schlenker, B. R. (1980). *Impression management: The self-concept, social identity, and interpersonal relations*. Monterey, CA: Brooks/Cole Publishing.

- Snyder, M. (1974). Self-monitoring of expressive behavior. *Journal of Personality and Social Psychology*, 30, 526-537.
- Snyder, M. (1987). *Public appearances, private realities: The psychology of self-monitoring*. New York: Freeman.
- Snyder, M., & Copeland, J. (1989). Self monitoring processes in organizational settings. In R. A. Giacalone & P. Rosenfeld (Eds.), *Impression management in the organization* (pp. 7-20). Hillsdale, NJ: Lawrence Erlbaum.
- Stern, S. R. (2004). Expressions of identity online: Prominent features and gender differences in adolescents' World Wide Web home pages. *Journal of Broadcasting & Electronic Media*, 48(2), 218-243.
- Stevens, C. K., & Kristof, A. L. (1995). Making the right impression: A field study of applicant impression management during job interviews. *Journal of Applied Psychology*, 80, 587-606.
- Stuerzlinger, W., Chapuis, O., Phillips, D., & Roussel, N. (2006). User interface facades: Toward fully adaptable user interfaces. In *Proceedings of the 19th Annual ACM Symposium on User interface Software and Technology*. Montreux, Switzerland.
- Sundar, S. S. (2008). Self as source: Agency and customization in interactive media. In E. Konijn, S. Utz, M. Tanis, & S. Barnes (Eds.). *Mediated interpersonal communication* (pp. 58-74). New York: Routledge.
- Sundar, S. S., & Marathe, S. S. (2010). Personalization versus customization: The importance of agency, privacy, and power usage. *Human Communication Research*, 35, 296-322.

- Tajfel, H. (1981). *Human groups and social categories*. Cambridge: Cambridge University Press.
- Tedeschi, J. T., & Norman, N. (1985). Social power, self-presentation, and the self. In B. R. Schlenker (Ed.), *The self and social life* (pp. 293-322). New York: McGraw-Hill.
- Triandis, H. C. (1989). The self and social behavior in differing cultural contexts. *Psychological Review*, *96*, 506-520.
- Traiandis, H. C., Bontempo, R., Villareal, M. J., Asai, M., and Lucca, N. (1988). Individualism and collectivism: Cross-cultural perspectives on self-ingroup relationships. *Journal of Personality and Social Psychology*, *54*, 323-338.
- Turnley, W. H., & Bolino, M. C. (2001). Achieving desired images while avoiding undesired images: Exploring the role of self-monitoring in impression management. *Journal of Applied Psychology*, *86*(2), 351-360.
- Valenzuela, A., Dhar, R., & Zettelmeyer, F. (2009). Contingent response to self-customization procedures: Implications for decision satisfaction and choice. *Journal of Marketing Research* *46*(6), 754-763.
- Walsh, S. P., & White, K. M. (2007). Me, my mobile, and I: The role of self- and prototypical identity influences in the prediction of mobile phone behavior. *Journal of Applied Social Psychology*, *37*(10), 2405-2434.
- Watkins, D. (2000). The nature of self-conception: Findings of a cross-cultural research program. In R. Craven, & H. W. Marsh (Eds.). *Collected papers of the inaugural self-concept enhancement and learning facilitation*. Sydney, Australia: SELF Research Centre.
- Williams, R. (1983). *Culture and Society*. New York: Columbia University Press.

Zaidman, N., & Drory, A. (2001). Upward impression management in the work place: Cross cultural analysis. *International Journal of Intercultural Relations*, 25, 671-690.

APPENDIX A. STUDY QUESTIONNAIRE

<Identity – Personal & Social>

Please read each item carefully and consider how it applies to you by choosing a number from the scale from (1) = Not important to my sense of who I am to (7) = Extremely important to my sense of who I am.

Social Identity

1. My relationships with the people I feel close to
2. Being a good friend to others
3. Sharing significant experiences with my close friends
4. Connecting on an intimate level with another person
5. My feeling of connectedness with those I am close to
6. The ways in which other people react to what I say and do
7. My reputation, what others think of me
8. My social behavior, such as the way I act when meeting people
9. Having close bonds with other people
10. Developing caring relationships with others

Personal Identity

11. My personal values and moral standards
12. My dreams and imagination
13. My personal goals and hopes for the future
14. My emotions and feelings
15. My thoughts and ideas
16. The ways I deal with my fear and anxieties
17. My feeling of being a unique person, being distant from others
18. My self-knowledge, my ideas about what kind of person I really am
19. My personal self-evaluation, the private opinion I have of myself

Please tell us about your thought of each statement below. (Review and rate the following statements from 1 to 7, in which (1) = “Strongly disagree,” to (7) = “Strongly Agree”)

<Other-Directedness-Self Monitoring>

20. My behavior is usually an expression of my true inner feelings, attitudes, and beliefs (R)
21. At parties and social gatherings, I attempt to do or say things that others will like
22. In order to get along and be liked, I tend to be what people expect me to be rather than anything else
23. In different situations and with different people, I often act like a very different person
24. Even if I am not enjoying myself, I often pretend to be having a good time

- 25. I'm not always the person I appear to be
- 26. I would not change my opinions (or the way I do things) in order to please someone else or win their favor (R)
- 27. When I am uncertain how to act in a social situation, I look to the behavior of others for cues
- 28. I may deceive people by being friendly when I really dislike them

<Self-Promotion- Impression Management>

- 29. I try to make others aware of my talents or qualifications
- 30. I try to make others aware of my unique skills and abilities
- 31. I try to let others know that I am a valuable member of the group
- 32. I talk proudly about my past accomplishments

<Value of Self-expression>

- 33. People place too much value on the expression of ideas
- 34. I express my feelings publicly, regardless of what others say
- 35. I do not like to talk about my thoughts to others (R)
- 36. The freedom of speech is the most important right
- 37. I generally like talking about my thoughts whenever I can
- 38. I generally keep my opinions to myself because I do not wish to offend others who may disagree with me (R)
- 39. My thoughts are the most important thing about myself
- 40. Those who are close to me know my preferences and opinions
- 41. I know preferences and opinions of those who are close to me
- 42. Being able to make my own choice is important to me
- 43. My opinions and preferences tell who I really am

<Mobile Phone Cosmetic Customization for Aesthetic Purposes>

The following questions are about your use of mobile phone accessories. Please review and rate the statements from 1 to 7, in which (1) = “Strong disagree,” to (7) = “Strongly Agree.”

- 1. Charms
 - 44. Do you have charms on your mobile phone?
 - 45. Does your phone have a slot for mobile-phone charms?
 - 46. I have charms because they make my mobile phone look better
 - 47. I have charms because they are useful
 - 48. The reason why I have the charms is because of its color and/or design
 - 49. The reason why I have the charms is because they make my mobile phone more convenient to use.
 - 50. When I purchased the charms that I have on mobile my phone, the design, color, and/or shape were important factors

- 51. It is easy to purchase charms for mobile phone
 - 52. It costs a lot of money to purchase charms for mobile phone
2. Case/cover
- 53. Do you have a phone case/cover on your mobile phone?
 - 54. I have a phone case/cover because it makes my mobile phone look better
 - 55. I have a phone case/cover because it is useful
 - 56. The reason why I have a phone case/cover is because of its color and/or design
 - 57. The reason why I have a phone case/cover is because it makes my mobile phone more convenient to use.
 - 58. When I purchased the phone case/cover that I have on my mobile phone, the design, color, and/or shape were important factors
 - 59. It is easy to purchase phone case/cover for mobile phone
 - 60. It costs a lot of money to purchase phone case/cover for mobile phone
3. Bag/Purse
- 61. Do you have phone bag/purse for your mobile phone?
 - 62. I have a phone bag/purse because it makes my mobile phone look better
 - 63. I have a phone bag/purse because it is useful
 - 64. The reason why I have a phone bag/purse is because of its color and/or design
 - 65. The reason why I have a phone bag/purse is because it makes my mobile phone more convenient to use
 - 66. When I purchased the phone bag/purse that I have on my mobile phone, the design, color, and/or shape were important factors
 - 67. It is easy to purchase phone bag/purse for mobile phone
 - 68. It costs a lot of money to purchase phone bag/purse for mobile phone
4. Sticker
- 69. Do you have stickers on your mobile phone?
 - 70. Do you have a skin specifically designed to cover the entire mobile phone?
 - 71. I have a skin/sticker because it makes my mobile phone look better
 - 72. I have a skin/sticker because it is useful
 - 73. The reason why I have a skin/sticker is because of its color and/or design
 - 74. The reason why I have a skin/sticker is because it makes my mobile phone more convenient to use
 - 75. When I purchased the skin/sticker that I have on my mobile phone, the design, color, and/or shape was/were important factors
 - 76. It is easy to purchase skin/sticker for mobile phone
 - 77. It costs a lot of money to purchase skin/sticker for mobile phone
5. Ring tones
- 78. Do you have your own ring tones (e.g., downloaded or purchase) on your mobile phone?
 - 79. I have customized ring tones because they make my mobile phone sound better
 - 80. I have customized ring tones because they are useful
 - 81. The reason why I have customized ring tones is because they make me feel good

- 82. The reason why I have customized ring tones is because they make my mobile phone more convenient to use
 - 83. It is easy to purchase/download ring tones for mobile phone
 - 84. It costs a lot of money to purchase/download ring tones for mobile phone
6. Wallpaper/Background image
- 85. Do you have your own wallpapers/backgrounds (e.g., picture or downloaded image) on your mobile phone?
 - 86. I have wallpapers/backgrounds because they make my mobile phone look better
 - 87. I have wallpapers/backgrounds because they are useful
 - 88. The reason why I have wallpapers/backgrounds is because they make me feel good
 - 89. The reason why I have wallpapers/backgrounds is because they make my mobile phone more convenient to use
 - 90. It is easy to purchase/download wallpapers/backgrounds for mobile phone
 - 91. It costs a lot of money to purchase/download wallpapers/backgrounds for mobile phone

The following statements are about your perception toward mobile phone. Please review and rate the statements from 1 to 7, in which (1) = “Strong disagree,” to (7) = “Strongly Agree.”

<Product Attachment>

- 92. My mobile phone has no special meaning to me
- 93. My mobile phone is very dear to me
- 94. I have a bond with my mobile phone
- 95. I am very attached to my mobile phone

<Perceived Reflection of Self through mobile phone>

- 96. My mobile phone reflects who I am
- 97. Other people can tell what kind of person I am by looking at my mobile phone
- 98. My mobile phone suits me
- 99. My mobile phone says nothing about me as an individual

<Product Involvement>

Please provide some background information about yourself.

- 106. Do you have a Smartphone? (e.g., iPhone, BlackBerry, Android, & etc.)
- 107. How long have you been using your current mobile phone?
 - A. Less than 6 months
 - B. 6 months – 1 year
 - C. 1 year – 2 years

- D. More than 2 years
- 108. Your gender is
 - A. Female
 - B. Male
- 109. Your age is _____
- 110. What is your year at this university?
 - A. Freshman
 - B. Sophomore
 - C. Junior
 - D. Senior
 - E. Graduate student
- 111. What is your major?
 - A. Social Sciences (e.g., liberal arts, communications)
 - B. Sciences (e.g., engineering, biology)
 - C. Undeclared or undecided major
 - D. Other
- 112. What is your race
 - A. White/Caucasian
 - B. African American
 - C. Hispanic
 - D. Asian
 - E. Native American
 - F. Pacific Islander
 - G. Other

Thank you for completing this survey.
For maximum confidentiality, please close this window.

APPENDIX B. ITEM PARCELING

1. Social Identity

- 1) Behavioral
Sharing significant experiences with my close friends
My social behavior, such as the way I act when meeting people
Having close bonds with other people
- 2) Emotional
Connecting on an intimate level with another person
My feeling of connectedness with those I am close to
Developing caring relationships with others

2. Other-Directedness

- 1) Social Situation
At parties and social gatherings, I attempt to do or say things that others will like
In order to get along and be liked, I tend to be what people expect me to be rather than anything else
When I am uncertain how to act in a social situation, I look to the behavior of others for cues
- 2) Deceiving
In different situations and with different people, I often act like a very different person
Even if I am not enjoying myself, I often pretend to be having a good time
I'm not always the person I appear to be
I may deceive people by being friendly when I really dislike them

3. Value of Self-Expression

- 1) Opinion
Those who are close to me know my preferences and opinions on many issues
I know preferences and opinions of those who are close to me
Being able to make my own choice is important to me
My opinions and preferences tell who I really am
- 2) Free to Talk
I express my feelings publicly, regardless of what others say
The freedom of speech is the most important right
I generally like talking about my thoughts whenever I can
I generally keep my opinions to myself because I do not wish to offend others who may disagree with me (R)

4. Self-Promotion

1) Ability

I try to make others aware of my talents or qualifications

I try to make others aware of my unique skills and abilities

2) Value

I try to let others know that I am a valuable member of the group

I talk proudly about my past accomplishments

5. Product Attachment

1) Meaning

My mobile phone has no special meaning to me (R)

My mobile phone is very dear to me

2) Bond

I have a bond with my mobile phone

I am very attached to my mobile phone

6. Perceived Reflection of Self through the Mobile Phone

1) Reflection

My mobile phone reflects who I am

My mobile phone suits me

2) Fitness

Other people can tell what kind of person I am by looking at my mobile phone

My mobile phone says nothing about me as an individual (R)