A Thesis

entitled

How Does Intergroup Contact Predict Stereotypes in a Complex Social Reality?

A Cross-Cultural Study of Intergroup Contact, Stereotypes, and Group Status

by

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Contact between two different groups has been found to be negatively correlated with prejudice. Despite the fact that intergroup contact has been studied intensively for decades, research has mainly focused on the association between direct contact (i.e., straight and open contact between members of different groups) and prejudice, while very little research has examined the relations between direct contact and stereotyping. Furthermore, in addition to direct contact, Wright, Aron, McLaughlin-Volpe, and Ropp (1997) have proposed that extended contact (i.e., the knowledge that in-group member(s) has direct contact with out-group member(s)) is a separate predictor of improved intergroup attitudes. Finally, cross-cultural research on intergroup contact is limited. The present study investigated the association between intergroup contact, both direct and extended, and the three dimensions of stereotypes based on the EPA model, i.e., stereotype evaluation, stereotype potency, and stereotype accuracy (Jussim, McCauley, & Lee, 1995; Lee, 2011; Lee, McCauley, Jussim, 2013). The study was conducted in two different cultural settings (i.e., the United States and Indonesia), involving a majority and a minority group in each cultural setting (i.e, European Americans and Chinese Americans in the US, Javanese and Chinese Indonesians in Indonesia). Contrary to the
expectation, overall findings revealed that direct contact and extended contact had similar patterns of relationships with each of the dimension of the stereotypes, and in some cases, were moderated by culture and group status. Specifically, a three-way interaction effect between direct contact, culture, and group status as well as three-way interaction effect between extended contact, culture, and group status were found to significantly predict stereotype evaluation. Nevertheless, only a main effect of culture was found to significantly predict stereotype potency when direct contact was the main predictor and extended contact was controlled; whereas a three-way interaction effect between extended contact, culture, and group status was found to significantly predict stereotype potency. Finally, two-way interaction effects of group status and culture were found to significantly predict stereotype accuracy for both direct contact as well as extended contact. More specific findings and possible explanations are discussed.
For Ahmed. For your love and patience, for turning my bad days into the best ones, and for your faith on me.

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For my father. I hope you are looking down with a big smile on your face.
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Chapter 1: Introduction

In a world where diversity exists, relations between different groups is an inevitable consequence. Research on intergroup relations and the related social perceptions have become one of the central themes in social psychology since the Cold War era. Psychologists were intrigued to investigate the condition where members of a certain group were ready to play a heroic role on behalf of their beloved group, while at the same time being hostile to the out-group (see Allport, 1954/1979; Brewer, 2003; Sherif, 1958; Tajfel, 1970). One of the most influential research avenues in the area of intergroup relations within the field of social psychology is the Minimal Group Paradigm.

The Minimal Group Paradigm experiment provided evidence that even though individual interest was unavailable and previous out-group hostility was non-existing, out-group discrimination may occur as a generic form whenever intergroup categorization is applied in a particular situation (Tajfel, 1970). In other words, a mere awareness of the out-group existence is enough to trigger intergroup competition or out-group discrimination (Tajfel & Turner, 1979). In the situation where intergroup competition was available, Sherif (1958) suggested that out-group hostility occurred in parallel with the increase of in-group solidarity and cooperativeness.

Allport (1954/1979), on the contrary, has suggested that out-group hostility is not a requirement for the in-group belongingness. In agreement with Allport, Brewer (1999) suggested that in-group love is not always accompanied by out-group hate or rejection. Instead, evaluation towards out-group can be varied according to the situations being
encountered by the in-group members. This notion is evident in the two studies conducted by Lee and colleagues (Lee & Ottati, 2002; Lee, Ottati, & Hussain, 2001) in examining attitudes of Americans toward the California Proposition 187 Immigration Policy which was directed primarily to Mexican immigrants that tended to deprive the illegal immigrants’ welfare benefits, education, and all but emergency medical care. The studies revealed that even when prejudice was held constant, Hispanic American students showed more sympathy to the Mexican immigrant; while when the perceivers’ ethnicity was held constant, interpersonal prejudice existed among Anglo American students (Lee, Ottati, & Hussain, 2001). It was also evident that the Anglo-Americans showed greater support to the policy than the Hispanic Americans when Mexican was used as the ethnicity of the target, but less likely to do so when the targeted illegal immigrant was a Canadian (Lee & Ottati, 2002).

Even though the two paradigms clearly differ from each other, there is at least one certain conclusion. In the venue of intergroup relations, individuals would apply a strategy in order to categorize social groups into in-group, i.e. a category in which an individual belongs to, and out-group, i.e. a category in which an individual does not belong to (Brewer, 2003). Furthermore, Brewer (1999; 2003; 2007) suggested that what matters most in the context of group identification is the fulfillment of the need of inclusion toward one’s group and the need of differentiation from other groups. Hence, in any context of intergroup relations, categorization will most likely take place.

Consequences of social categorization are varied. At the positive end, it can be in the form of model minority stereotypes (Maddux, Galinsky, Cuddy, & Polifroni, 2008) and the endorsement of positive traits to the Asian Americans (Lee, Ottati, Lin, & Chan,
At the other end of the extreme, however, it can be manifested in the form of hate crimes (Lee, Vue, Seklecki, & Ma, 2007), the act of terror (Lee, Takaku, Ottati, & Yan, 2004), or negative attitudes toward particular groups which lead to long-term discriminatory behavior (Pettigrew, Fredrickson, Knobel, Glazer, & Ueda, 1982), and the feelings of being threatened by the other groups (Stephan & Stephan, 2000). Prejudice toward other groups can also serve as a predictor of attitudes toward immigration policy that may deprive a particular immigrant group (Lee & Ottati, 2002; Lee, Ottati, & Hussain, 2001). In general, it has been noted that conflict between groups remains a global challenge (Lee, McCauley, Moghaddam, & Worchel, 2004).

Since the publication of *The Nature of Prejudice* by Gordon W. Allport in 1954, many researchers have conducted studies in examining contact hypothesis. It has been suggested that contact between groups is actually reducing prejudice (Pettigrew & Tropp, 2006), but very few studies have really looked at the association between intergroup contact and stereotypes (Kenworthy, Turner, Hewstone, & Voci, 2005). Moreover, psychological studies have been conducted mainly with particular groups of participants such as college students in Western cultures (Arnett, 2008; Berry, 2013; Henrich, Heine, & Norenzayan, 2010), thus making it difficult to be implemented in different cultural contexts (Kim, Yang, & Hwang, 2006). Hence, it is suggested that studies on intergroup relations should expand to various cultural settings (Turner, Hewstone, Voci, & Vonofakou, 2008).

Furthermore, intergroup relations is not a simple relationship between two or more groups. Instead, it is complex and complicated. Various factors can affect the way a group looks at another, such as the role of power. Majorities may perceive intergroup
relations differently from the way minorities see the relationship (Dovidio, Gaertner, & Saguy, 2007; Malloy, Ristikari, Berrios-Candelaria, Lewis, & Agatstein, 2011). Moreover, perception toward other groups may also be influenced by socio-political relationship between the groups throughout the course of history (Kashima, et al., 2003).

Therefore, the present study aimed to examine the association of intergroup contact and stereotypes between majority and minority groups at two different cultural settings, i.e. the United States and Indonesia. The underlying reasons for selecting these two different cultural settings will be discussed in a later section.
Chapter 2: Theoretical Framework

Intergroup Contact Effect: Direct & Extended Contact

Despite debates on the intergroup contact effects (Bramel, 2004; see Duckitt, 1992), support for the intergroup contact to reduce prejudice had been found through a thorough meta-analytical study conducted by Pettigrew and Tropp (2006). Even without the availability of equal status, active efforts, cooperation, and support of authorities (Allport, 1954/1979), contact had medium effect size with lower prejudice, even though the effect sizes were not as great as when the optimal conditions were available (Pettigrew & Tropp, 2006).

Nevertheless, direct contact between groups may not always be feasible. In fact, two very prejudiced groups would likely avoid the idea of contact beforehand (Pettigrew, 1998; Staub, 2013). In addition, in order to have a successful impact, contact should also bring opportunity for the group members to build friendship (Pettigrew, 1998). Nevertheless, cross-group friendship was found to be rarer in older age (Aboud, Mendelson, & Purdy, 2003). Direct intergroup contact also works differently for majority and minority groups, i.e. direct contact effect was stronger for majorities than for minorities (Tropp & Pettigrew, 2005b). Furthermore, instead of leading to positive interaction between groups, direct contact between groups of unequal status could facilitate prejudice which leads to the psychological legitimation of the oppressive group such as in the case of apartheid policy implementation (Duckitt, 1992).
Hence, another type of intergroup contact had been proposed. Wright, et al. (1997) suggested that extended contact effect (i.e., the mere knowledge that other in-group member(s) has out-group friends) had positive effect in improving intergroup relations. The extended contact is expected to influence attitudes toward out-groups through the three underlying mechanisms: (1) the friendship between in-group and out-group members provides a positive in-group exemplar for the in-group observers, (2) the out-group member who is involved in a friendship with an in-group member also acts as a positive exemplar that disconfirms negative expectations about out-group, and (3) the in-group member observing the friendship would develop inclusion in the self toward the out-group members (Wright, et al., 1997).

Many studies have been conducted to examine the extended contact hypothesis ever since, both in American settings as well as in European settings, with adult participants as well as children participants (Cameron, Rutland, Hossain, & Petley, 2011; Dovidio, et al., 2011; Eller, Abrams, & Gómez, 2012; Eller, Abrams, & Zimmermann, 2011; Gómez, Tropp, & Fernandez, 2011; Sharp, Voci, & Hewstone, 2011; Tausch, Hewstone, Schmid, Hughes, & Cairns, 2011; Turner, Hewstone, Voci, & Vonofakou, 2008). The extended contact has also been found to have strong association with attitude improvement toward out-group for both majority and minority groups (Gómez, et al., 2011).

In terms of relationship between direct contact and extended contact, previous studies have shown a positive correlation between direct contact and extended contact (Eller, et al., 2012; Feddes, Noack, & Rutland, 2009; Gómez, et al., 2011). In other words, those who have more direct contact also have more extended contact with the
other group. Nonetheless, patterns of the relationship between direct and extended contact were somewhat obscure when group status is taken into consideration. Eller, et al. (2012) found a strong positive relationship between direct and extended contact when members of a majority group were asked to evaluate a minority group, but a non-significant relationship for opposite situation. Feddes, et al. (2009), on the contrary, found a moderate relationship between direct and extended contact effect for both majority Germans and minority Turkish in Germany. Similarly, Gómez, et al. (2011) found a positive relationship between the two types of intergroup contact for both majority Spaniards and minority immigrants in Spain, but only when quantity of direct contact was assessed; while the positive relationship was only found among immigrants when quality of contact was evaluated. An interaction effect of direct and extended contact in predicting lower prejudice was also found. Specifically, the extended contact effect was associated with decreased affective prejudice only when the opportunity of direct contact was low (Cameron, 2011; Eller, et al., 2012).

Taking into account the advantages of both direct contact and extended contact for improving intergroup relations, along with the limitations and potential relationship of the two types of contact, it is important that both types of intergroup contact should not be studied separately. Therefore, an examination of both direct contact and extended contact effect on intergroup relations should be conducted in order to see when and how the two concepts work in different cultural settings with groups of relatively different status.
Stereotypes, EPA Model of Stereotypes and Intergroup Contact

Even though the idea of contact effect has been around for decades, measurements of stereotypes as a dependent variable in relation to the contact were limited (Kenworthy, et al., 2005), though not entirely unavailable (see Lee, Ottati, Lin, & Chan, 2014; Pettigrew & Tropp, 2011; Tropp & Pettigrew, 2005a). Stereotypes have been defined as beliefs about attributes associated with group membership (Judd & Park, 2005; Jussim, 2012; Jussim, et al., 1995; Lee, 2011; Lee, et al., 2013; Ottati & Lee, 1995). Stereotyping involves ascribing characteristics to different social groups (Lee, 2011), which may be positive or negative and accurate or inaccurate (Jussim, 2012; Lee, et al., 1995). Lee, et al. (2013) suggested that stereotyping consists of essence (i.e., the categories) and entativity (i.e., the degree of similarity among individuals).

Much of the early studies on stereotypes focused on the bias aspect of the stereotypes (Judd & Park, 1993; Jussim, 2012). As Katz and Braly (1993) suggested, stereotype is a “group fallacy attitude toward place of birth and skin color” (Katz & Braly, 1933). Therefore, stereotype was defined as an erroneous belief.

Stereotypes have been seen as strongly and automatically associated with prejudice (Devine, 1989), and oftenly seen as exaggerating and more negative than positive (Forsyth, 2006). On the contrary, evidence on stereotype accuracy is prevalent, supporting the idea of the kernel of truth hypothesis of stereotypes (Judd & Park, 2005; Jussim, 2012; Lee, 1994; Lee, et al., 2013; Ottati & Lee, 1995). For instance, based on the objective judgments, both Chinese and American participants accurately perceived that Americans were more heterogenous (Lee & Ottati, 1993), and Chinese participants accurately perceived that Americans were more sport loving and religious than Chinese
In fact, literature on stereotype accuracy has shown that on average, people are about 85-90% of the time accurate in utilizing cultural stereotypes and about 70-75% accurate about personal stereotypes (Lee, et al., 2013).

Nevertheless, stereotypes should not be seen only from one particular side of a dimension. Both inaccurate and accurate stereotypes are possible (Judd & Park, 2005; Jussim, et al., 1995), which relate to the extent to which individuating information about a member of a particular group is available to a perceiver (Lee, et al., 2013). In addition to the stereotype accuracy, Lee and colleagues added two other dimensions, i.e. stereotype evaluation and stereotype potency as the three dimensions underlying the EPA Model of stereotypes in order to explain stereotypes (Jussim, et al., 1995; Lee, 2011; Lee, et al., 2013). The stereotype evaluation and stereotype potency dimensions have also been discussed elsewhere as related to the warmth and competence aspects of the stereotype content model (see Kervyn, Fiske & Yzerbyt, 2013).

According to the EPA model of stereotypes, evaluation dimension falls between negative and positive, potency refers to examination of the degree to which knowledge or information of the target person is easily retrieved in making the judgment, and accuracy explains that stereotypes can be either accurate or inaccurate (Lee, 2011; Lee, et al., 2013). In order to get a comprehensive picture on stereotypes, the present study will use EPA Model of stereotypes. Below is a figure of the cubic EPA model of stereotypes.
With regards to the relationship between intergroup contact and endorsement of stereotypes, Tropp and Pettigrew (2005a) found that the affective indicator of prejudice associated more strongly with intergroup contact than when the cognitive indicator of prejudice, such as stereotypes, were used. In addressing this issue, Tropp and Pettigrew (2005a) suggested that the affective and cognitive dimensions of prejudice should not be used interchangeably. Rather, both should be seen as two distinctive dimensions. Indeed, as discussed previously, stereotypes cannot be examined merely from one dimension. It is possible that the small effect size of relationship between contact and stereotypes might be due to the treatment of stereotypes as a unit, as merely an endorsement of particular traits to a specific group, without considering the complexity of stereotypes.

For instance, one may endorse a positive stereotype (evaluation) related to model minority towards Asian Americans, yet it may or may not be accurate (accuracy) considering the variability within Asian American ethnicity. At the same time, one may or may not endorse this stereotype when in contact with an Asian American individual, depending on how much knowledge he/she possesses about Asian Americans. Perhaps, he/she is not familiar with model minority stereotypes that he/she endorses other
stereotypes toward the Asian American individual. Therefore, assessing stereotype from only one dimension may not capture the real dynamic of stereotypic perception.

It has been argued in previous sections that intergroup contact is correlated with lower prejudice toward an out-group. In line with the findings on intergroup contact and prejudice, Tropp and Pettigrew (2005a) actually found that stereotypes did correlate with cross-group friendship, but only when quantity was assessed and not the quality, though with smaller effect size compared to when affective prejudice indicators were used in the studies. Similarly, Lee, et al. (2014) found that while increased frequency of contact was associated with lower prejudice or negative stereotyping, increased quality of contact was found to be associated with higher negative stereotyping. In this case, the authors argued that it may be the result of “moral licensing” effect, where individuals feel more free to express negative feelings toward other social groups as they had performed non-prejudicial behavior in the past (Lee, et al., 2014). Again, the contact effect examined in this previous study was only direct contact. Therefore, examining the relationship between both direct contact and extended contact with stereotypes will be beneficial in order to understand how intergroup contact actually relates to stereotypes.

Stereotype potency, on the other hand, relates to the activation of the stereotypes (Lee, 2011; Lee, et al., 2013), which in turn relates to the knowledge that one has about the out-group. In terms of the relationship between intergroup contact and knowledge about an out-group, Allport (1954/1979) once argued that it is the learning about the other group that is enhanced by contact, which in turn will reduce prejudice. Indeed, a recent meta-analytic study found knowledge as a significant mediator variable between contact and prejudice, with a medium effect size of mean correlation between contact and
knowledge, though with a non-significant mean correlation between knowledge and prejudice (Pettigrew & Tropp, 2008). This finding implies that intergroup contact did correlate with knowledge enhancement about out-groups, though it is not the only factor that influences prejudice (Pettigrew, 1998). In fact, contact between children of different ethnicities did account for the ability to recognize faces of children from other ethnic groups (Gross, 2014). Furthermore, Eller, et al. (2012) found an interaction effect between direct and extended contact in predicting engagement with the out-group culture. Findings from these studies imply that intergroup contact does indeed correlate with enhanced knowledge about the out-group. Therefore, it is reasonable to expect that intergroup contact may increase stereotype potency as assessed by knowledge about out-group.

As per our knowledge, very few studies have been conducted to examine the relationship between intergroup contact and stereotype accuracy. Depending on the social context, contact may enhance or diminish accuracy. For instance, contact may encourage a perceiver to pay more attention to the out-group member’s individuating information rather than the general stereotype about his/her group (Lee, et al., 2013), thus the perceiver may be more accurate in judging the out-group member as an individual. On the other hand, if the out-group member is seen as typical of his/her group, contact may, in fact, facilitate a perceiver to endorse a general stereotype related to the out-group (Wilder, 1984). Nonetheless, contact was in fact found to enhance stereotype accuracy as it was evident by the fact that with the increase of contact, consensus between European Americans and non-Asian Minority-Americans on stereotypes about Asian Americans was observed (Lee, et al., 2014). Due to a relative ambiguity of the findings that may be
observed with regards to relationship between intergroup contact and stereotype accuracy, further examination of this issue is important and should be conducted.

**Intergroup Contact, Stereotypes, and Group Status**

One of the most important factors that guarantee the success of intergroup contact is the prevalence of equal status between groups (Allport, 1954/1979; Duckitt, 1992; Pettigrew & Tropp, 2006). Nevertheless, inequality exists in the real world. Social stratification, be it in terms of numbers or in terms of power, implies to the positioning of different groups in a particular society. A higher level of status usually carries more power which relates to social respect, recognition, importance, and prestige (Fiske, 2010). Therefore, it is suggested that the unequal status between groups will influence the effect of intergroup contact towards intergroup perception, which in this case is intergroup stereotypes.

Saguy, Dovidio, and Pratto (2008) found that content of contact between groups was moderated by status. The high-status groups preferred to talk about commonalities, while the low-status groups preferred to talk about differences with motivation to change the status quo. This differential in preference was again moderated by perceived status stability and status legitimacy. The high-status groups were more willing to talk about differences when they perceived their status as illegitimate but stable, whereas the low-status groups preferred more to talk about differences when they perceive their status as illegitimate and unstable (Saguy & Dovidio, 2013).

Tropp and Pettigrew (2005b) concluded that the contact effect on prejudice reduction was stronger for majority groups than for minority groups. In line with this
finding, Dovidio & Gaertner (2010) have also suggested that contact between groups will be less satisfying for the low status group members than for the high status group members. However, with extended contact, the effects on attitudes and intergroup expectancies were equally strong for both majority and minority groups (Gómez, et al. 2011).

In terms of social perception, Ostrom, Carpenter, Sedikides, and Li (1993) proposed the “Differential Processing Hypothesis”, which implies that every person will apply different strategies in categorization, based on the circumstances that the person experiences. Based on this hypothesis, Dovidio, Gaertner, and Saguy (2007) suggested that minority and majority group members apply different perspectives in perceiving intergroup relations. Moreover, members of different group status have different basic needs when it comes to intergroup relations, i.e. members of low-status groups have a need for empowerment, while members of high-status groups have needs for acceptance and moral validation (see Dovidio & Gaertner, 2010).

In the context of intergroup relations, elevated power is associated with automatization of social cognition; whereas reduced power is associated with controlled social cognition (Keltner, Gruenfeld, & Anderson, 2003). Indeed, Malloy, et al. (2011) found that high status in-group members processed categorical information and paid less attention to unique features of the low status out-group; whereas those with low status attended to the unique, defining features of higher status out-groups. Furthermore, unequal relations between groups also brings different emotional reactions to members of higher status groups and lower status groups. For instance, members of higher status groups may experience sympathy, guilt, or pride over their privileged status, whereas
members of the lower status groups may experience feelings of trust, respect, and admiration or feelings of envy, jealousy, or even fear, depending on the legitimacy of the social hierarchy within the society (Yzerbyt & Demoulin, 2010).

In fact, members of high-status groups tend to show more bias than members of low-power groups (see Hewstone, Rubin, & Willis, 2002; Ryan, 2002). Furthermore, Ryan (1996) found that while Black Americans were equally accurate in their judgments toward in-group and out-group, White Americans were less accurate in their judgments toward out-group than in-group.

Drawn upon evidence that group status may moderate the effect of contact on intergroup relations and social perception, it is important that members of majority and minority groups should be included in the present study. In this study, difference in group size within the society will be used for the purpose of selecting majority and minority groups in each cultural setting. Therefore, the majority group in the United States (US) will be European American and the minority group in this country will be the Chinese American. On the Indonesian side, the majority group will be Javanese and the minority group will be Chinese Indonesian.

The Cultural Settings

Despite the fact that psychology as a science has been established since the late 19th century, little research has been documented with participants outside of the US and European countries. Henrich, et al. (2010) argued that the majority of studies in psychology were conducted with ‘WEIRD’ (western, educated, industrialized, rich, and
democratic) participants who only make up 12% of the world population. In the 1990s, scholars from Asian and African countries who received their training in Western countries had also raised concerns regarding the universalities of Western-developed psychological theories (Kim, Yang, & Hwang, 2006). In addition, based on a thorough analysis of APA journals between 2003 and 2007, Arnett (2008) has noted that psychological studies have covered only 5 to 12 percent of the world population who are basically English speaking, and have neglected the rest.

This cross-cultural approach is important especially when considering that people from different cultural backgrounds would have different self-construal (Markus & Kitayama, 1991) and self-experience (Lee, McCauley, & Draguns, 1999). In fact, Berry (2013) suggested that by gathering data from various cultural settings, it will enable us to create a global psychology, which explains the universals of human beings through finding the similarities between specificities. Therefore, a broad understanding of human mind and behavior, ranging from human development to clinical psychology, from peer influences to marital relations, can be obtained, which explains the underlying psychological functioning not only in terms of a generic form, but also one that celebrates diversity (Arnett, 2008).

Indeed, studies have shown different patterns of stereotyping across settings (Williams & Spencer-Rodgers, 2010). For instance, as Chinese participants would view social groups more as a pure entity, they used stereotypes more readily and attributed the characteristics more into dispositional factors; however, Chinese participants were not more prejudiced than the Americans (Spencer-Rodgers, Williams, Hamilton, & Peng, 2007). In addition, more consensus on the affective meanings of stereotyped social
groups was found within cultures, but less across cultures; and Japanese participants used stereotypes in more contextualized ways than their US and German counterparts (Schroder, Rogers, Ike, Mell, & Scholl, 2013).

People in a relatively more collectivistic culture may use stereotypes as a normal categorization strategy, but at the same time, it is readily altered (Williams & Spencer-Rodgers, 2010) as the self is embedded in a larger social network (Turner, et al., 2008). In addition to group orientation, perceptions of potential competition and past conflicts between two groups were also found to affect the autostereotypes and heterostereotypes (Kashima, et al., 2003). Therefore, in the context of extended contact, this situation might result to more lower levels of prejudice (Turner, et al., 2008).

In the present study, the association between two types of intergroup contact (i.e., direct contact and extended contact) will be examined in two different cultural settings (i.e., the American and Indonesian cultural settings). The Americans and Indonesians allegedly implement different cultural orientation. As a Western nation, Americans tend to have independent self-construal, i.e., the tendency to seek for independence from others by attending to the self and expressing their unique inner abilities. In contrast, as a part of the Eastern nations, Indonesians may have an interdependent self-construal, where the emphasis of the self is on connectedness with others (Markus & Kitayama, 1991). American participants also scored high in the self-reliance with the hedonism scale which reflects an individualistic society, while Indonesian scored low (Triandis, Bontempo, & Villareal, 1988). In terms of human development index, the United States is classified as one of the countries with very high index, while Indonesia had a medium human development index in 2013 (United Nations Development Programme, 2014), which
relates to different opportunities of human improvements affecting various psychological domains including social relations (Arnett, 2008).

Even though both countries are highly diverse, it can be said that most of Indonesians belong to one racial group, while Americans belong to different racial groups which can be traced back from the immigration history. Furthermore, it is also important to understand the historical background that affects the relations between majority and the selected minority ethnic group in each country.

With regards to economic and political status, Chinese American, which falls under the Asian American umbrella, as the minority group were seen as less powerful in both economic and political status in comparison to their European American counterparts due to the immigration history of this particular ethnic group in the US (Brown & Pannell, 2000). Nevertheless, through the course of history, Asian Americans’ quality of life have now increased dramatically in terms of education and income, in a way that surpassed their European American counterparts (Pew Research Center, 2013).

In terms of population growth, Asian American population has grown four times faster than the total US population (United States Census Bureau, March 2012). Chinese Americans, in particular, perhaps will be one of the biggest number among the Asian population in US in the near future as approximately 19% of the foreign born Asian population were born in China while the rest were from different countries in Asia (United States Census Bureau, October 2012). Therefore, it is reasonable to include Chinese Americans as participants for the minority group in the United States.
In Indonesia, the minority Chinese Indonesians have also had a history of struggles within the country. Nonetheless, the Chinese Indonesians have been relatively more powerful in economic status (see Lasserre, 1993), as many of them hold the keys of important businesses in the country, even though they were relatively less powerful in political positioning than the majority Javanese (Da Silva, 2010).

Despite differences between the two countries, both are similar in terms of their large population, as the US comes up third and Indonesia fourth as the world’s most populated countries. Indonesia and the US are regarded as multicultural nations, with diverse ethnicities and religious beliefs. For instance, Indonesians belong to around 1,340 ethnic groups and speak approximately 2,500 regional languages as their daily means of communication (Badan Pusat Statistik, 2011). Similarly, the US consists of at least five different broad race groups as classified by the US Census Bureau, with each of the groups consisting of more than five ethnic or national groups (United States Census Bureau, March 2011), who also speak various languages other than English (United States Census Bureau, October 2010).

Nonetheless, given the differences between the two nations, it is expected to see a different pattern of relationship between direct contact and extended contact with stereotype evaluation, potency, and accuracy across cultural settings. As very little cross-cultural research involving the US and Indonesia has been documented around the topic of contact and stereotype, it is believed that the current study will be a useful addition that will allow scholars in the area of social science in general to better understand about human behavior across the globe.
The Present Study: Summary, Objectives, and Hypotheses

Based on the empirical literature discussed above, there are several important points that need to be highlighted in regards to the relationship between intergroup contact and stereotypes, and two other factors that may influence the strength and direction of the relationship, i.e. culture and group status. First, previous studies have found that intergroup contact improved intergroup relations in several ways, such as reducing prejudice and reducing intergroup anxiety (see Pettigrew & Tropp, 2006). It is suggested that both direct contact and extended contact improved intergroup relations, even though extended contact effect was stronger when direct contact is low (Cameron, 2011; Eller, et al., 2012). However, given that extended contact has been shown to have a positive relationship with the improvement of intergroup attitudes and that there is a possibility that direct and extended contact may be highly correlated, it is important to examine both types of contact together, by controlling each other’s effect in predicting stereotypes.

Second, it is important to note that the effect of intergroup contact on intergroup relations is influenced by group status, be it in terms of power or numbers, or both. Specifically, direct intergroup contact effect was stronger for the majority group than for the minority (Tropp & Pettigrew, 2005b). Therefore, interaction effect between each type of contact and the group status will be examined in predicting stereotypes.

Third, it has also been suggested that cultural background influences social interaction and social perception (e.g., Arnett, 2008; Berry, 2013; Henrich, Heine, & Norenzayan, 2010; Kim, Yang, & Hwang, 2006; Spencer-Rodgers, et al., 2007). Therefore, in order to explore how the relationship between intergroup contact and
stereotypes differ in two cultures, a three-way interaction effect between each type of contact, group status, and culture, will also be evaluated in predicting stereotypes.

As there are three dependent variables to be examined in the current study, i.e., stereotype evaluation, stereotype potency, and stereotype accuracy, it is also important to look at the expected relationship between each type of contact, group status, and culture with each of the dependent variables. First, it has been discussed previously that direct contact may provide enhancement toward positive degree of stereotype endorsement (Tropp & Pettigrew, 2005a). By considering the different effect of group status toward the relationship between contact and prejudice (Gómez, et al., 2011; Tropp & Pettigrew, 2005b), it is expected that group status will also moderate the relationship between contact and stereotype evaluation. Specifically, since it has been suggested that direct contact has stronger effect in improving intergroup relations for the majority than the minority groups (Tropp & Pettigrew, 2005b), and that extended contact effects were equally strong for both majority and minority groups (Gómez, et al., 2011), it is expected that the present study would also show similar pattern.

Nevertheless, cross-cultural studies have indicated that individuals from collectivistic culture had more tendency to alter out-group stereotype than individuals from individualistic culture (Williams & Spencer-Rodgers, 2010), which can be concluded that there might be differences in terms of expressing stereotype and not in terms of the amount of knowledge that individuals from both cultures have. More specifically, the association between direct contact and stereotype evaluation will be stronger for the majority than minority group in United States; whereas in Indonesia, it is expected that there will be no difference between majority and minority group in terms of
the relationship between direct contact and stereotype evaluation. On the contrary, no
difference is expected to be observed in terms of relationship between extended contact
and stereotype evaluation between majority and minority groups across cultures.
Therefore, it is hypothesized that a three-way interaction between direct contact, group
status, and cultures will be observed in predicting stereotype evaluation; and a main
effect of extended contact will be observed in predicting stereotype evaluation.

Second, as contact has been shown as correlated with enhanced knowledge about
out-group (Eller, et al., 2012; Gross, 2014; Pettigrew, 1998; Pettigrew & Tropp, 2008), it
is expected that both types of contact would enhance the stereotype potency. However,
since majority group members might have less interaction with minority group members
than the other way around, increased in both direct and extended contact may be
associated with increased stereotype potency for majority than minority group. In terms
of cultural difference, contrary to the stereotype evaluation, different culture is not
expected to play important role in enhancing stereotype potency, as previous cross-
cultural studies have indicated that the difference between individuals from collectivistic
and individuals cultures lie on the stereotype expression (Spencer-Rodgers, et al., 2007;
Williams & Spencer-Rodgers, 2010). Therefore, in this case, two-way interaction effects
between each type of contact and group status are expected to be observed in predicting
stereotype potency.

Third, as discussed in previous section, the relations between contact and
stereotype accuracy were less clear. Contact was found to either enhance or diminish
stereotype accuracy (see Lee, et al., 2013; Wilder, 1984). However, another study on
stereotype accuracy and group status found that minority group members were equally
accurate in perceiving both in-group and out-group, whereas majority group members were less accurate in perceiving out-group than in-group (Ryan, 1996). Based on this argument, it is expected that the relationship between contact and stereotype accuracy will be stronger for majority than minority groups. Nevertheless, it is important to be noted that previous studies on contact and stereotype accuracy have only been investigating direct contact instead of extended contact. Therefore, differences between group statuses will occur only when direct contact is the main predictor. Considering the advantageous of extended contact over direct contact, it is hypothesized that no difference between majority and minority groups will be observed in terms of relationship between extended contact and stereotype accuracy.

In terms of culture, however, the expected differences between the two cultures were less clear-cut. If stereotype accuracy is more associated with knowledge, then it is expected that no difference between cultures would be observed. Nonetheless, if stereotype accuracy is linked more to expression, then it is expected that differences across cultures would occur. Therefore, two competing hypotheses in this case were constructed. If stereotype accuracy is associated more to knowledge than expression, then a two-way interaction effect of direct contact and group status and a main effect of extended contact are expected to be observed in predicting stereotype accuracy across cultures; whereas if stereotype accuracy is associated more to expression than knowledge, then a three-way interaction effect of direct contact, group status, and culture and a two-way interaction effect of extended contact and culture are expected to occur in predicting stereotype accuracy.

Overall, the objectives of the present study are:
1. To examine the relationship of two forms of intergroup contact, i.e. direct and extended contact, and stereotype evaluation, potency, and accuracy.

2. To examine the moderating effect of group status on relationship between intergroup contact toward stereotype evaluation, potency, and accuracy.

3. To examine the role of culture in the course on relationship between intergroup contact and stereotype evaluation, potency, and accuracy between groups of different status.

Finally, the hypotheses of the present study are as following:

**H1a – Direct Contact and Stereotype Evaluation hypothesis:** More direct contact will be associated with more positive out-group evaluation for both majority and minority in US and Indonesia, but the relationship will be strongest for the majority in the US.

**H1b – Extended Contact and Stereotype Evaluation hypothesis:** More extended contact will be associated with more positive out-group evaluation regardless of group status and culture.

**H2a – Direct Contact and Stereotype Potency hypothesis:** More direct contact will be associated with more out-group knowledge for both majority and minority in US and Indonesia, but the relationship will be stronger for the majority than for minority group in both cultures.

**H2b – Extended Contact and Stereotype Potency hypothesis:** More extended contact will be associated with more out-group knowledge for both majority and minority in US and Indonesia, but the relationship will be stronger for the majority than for minority group in both cultures.
H3a-1 – Direct Contact and Stereotype Accuracy-Knowledge hypothesis: More direct contact will be associated with more accurate out-group perception for both majority and minority in US and Indonesia, but the relationship will be stronger for the majority than for minority group in both cultures.

H3a-2 – Direct Contact and Stereotype Accuracy-Expression hypothesis: More direct contact will be associated with more accurate out-group perception for both majority and minority in US and Indonesia, but the relationship will be strongest for the majority in the US.

H3b-1 – Extended Contact and Stereotype Accuracy-Knowledge hypothesis:

More extended contact will be associated with more accurate out-group perception regardless of group status and culture.

H3b-2 – Extended Contact and Stereotype Accuracy-Expression hypothesis:

More extended contact will be associated with more accurate out-group perception regardless of group status in US and Indonesia, but the relationship will be stronger for both groups in US than in Indonesia.
Chapter 3: Methods

Participants and Design

A total of 166 Americans and 151 Indonesians participated in this study. All American participants participated through an Amazon Mechanical Turk online survey in exchange for a monetary reward that ranges from 25 to 50 cents. In order to ensure the group membership of participants, all American participants had to answer two screening questions at the beginning of the survey, i.e., “What is your ethnicity?” and “Are you American citizen or have been resided in the United States of America for at least 5 years?”, and four screening questions at the end of the survey, i.e., “Your ethnicity…”, “To which sub ethnic group do you belong to? (If selecting Asian American in previous question)”, “Were you born in the United States?”, and “If NO, when did you come to the United States?”. Participants who were not American citizen or have not resided in the US for at least 5 years, those who were inconsistent in responding to the questions about ethnicity or biracial, those who copied the essay responses from external website and/or provided the same responses for all items in at least one of the measures were not included in the analysis. Therefore, only data from 119 American participants ($M_{\text{age}} = 34.29, SD = 10.33$) which consisted of 75 European Americans and 44 Chinese Americans were included in further analysis. Of all the American participants included in the analysis, 58% were male participants.

In Indonesia, data were collected through a paper and pencil survey for an exchange of a souvenir that costs about 50 cents. The data were collected on and off
campus in the city of Yogyakarta where majority of the population are Javanese. The data screening procedure was similar to the one in the US, with some adjustments to fit in with the paper and pencil form. In this case, participants who left the ethnicity information blank or selected both of the ethnic groups, those who completed less than 50% in at least one of the measures, and those who left the essay responses blank were not included in the analysis. Eventually, data from a total of 133 Indonesian participants \((M_{\text{age}} = 25.13, \text{SD} = 9.52)\) consisted of 61 Javanese and 72 Chinese Indonesians were included in the further analysis, with 46% of the participants were male.

In terms of educational background, 41.2% of the American participants had graduate degree, 32.8% had undergraduate degree, while others had some college degree, high school degree, less than high school degree, and other types of educational degree. In Indonesia, most of the participants (72.7%) selected high school degree as the highest educational background and 22.7% had undergraduate degree, while the rest of the participants had less than high school degree, some college, and graduate degree. In the US, most of the participants grew up in big cities (44.5%) and small towns (42.0%), while only 9.2% of participants grew up in villages. In contrast, Indonesian participants were more diverse in terms of places of growing up, with 38.3% grew up in small towns, 30.8% grew up in villages, and 27.8% grew up in big cities.

The study was correlational with four predictor variables, i.e., (1) direct contact, (2) extended contact, (3) group status (majority and minority), and (4) culture (US and Indonesia), and three dependent variables, i.e., (1) stereotype evaluation, (2) stereotype potency, and (3) stereotype accuracy. In terms of group status in each cultural setting, European American was selected as majority group and Chinese American was selected
as minority group in the US; whereas Javanese was selected as majority group and Chinese Indonesian was selected as minority group in Indonesia. As described in the previous section, group status was selected mainly based on the group size.

Table 1. Demographic information of participants across cultures

<table>
<thead>
<tr>
<th></th>
<th>US</th>
<th></th>
<th>Indonesia</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N (%)</td>
<td></td>
<td>N (%)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>European Americans</td>
<td>Chinese Americans</td>
<td>Total</td>
<td>Javanese</td>
</tr>
<tr>
<td><strong>Gender</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>41 (34.5)</td>
<td>28 (23.5)</td>
<td>69 (58.0)</td>
<td>32 (25.8)</td>
</tr>
<tr>
<td>Female</td>
<td>34 (28.6)</td>
<td>16 (13.4)</td>
<td>50 (42.0)</td>
<td>24 (19.4)</td>
</tr>
<tr>
<td><strong>Educational</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>background</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Less than high school</td>
<td>1 (0.8)</td>
<td>0 (0.0)</td>
<td>1 (0.8)</td>
<td>1 (0.8)</td>
</tr>
<tr>
<td>High school</td>
<td>12 (10.1)</td>
<td>2 (1.7)</td>
<td>14 (11.8)</td>
<td>38 (28.8)</td>
</tr>
<tr>
<td>Some college</td>
<td>10 (8.4)</td>
<td>5 (4.2)</td>
<td>15 (12.6)</td>
<td>3 (2.3)</td>
</tr>
<tr>
<td>Undergraduate degree</td>
<td>25 (21.0)</td>
<td>14 (11.8)</td>
<td>39 (28.8)</td>
<td>18 (13.6)</td>
</tr>
<tr>
<td>Graduate degree</td>
<td>26 (21.8)</td>
<td>23 (19.3)</td>
<td>49 (41.2)</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>Others</td>
<td>1 (0.8)</td>
<td>0 (0.0)</td>
<td>1 (0.8)</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td><strong>Place of</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>growing up</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Village</td>
<td>7 (5.9)</td>
<td>4 (3.4)</td>
<td>11 (9.2)</td>
<td>37 (27.8)</td>
</tr>
<tr>
<td>Small town</td>
<td>35 (29.4)</td>
<td>15 (12.6)</td>
<td>50 (42.0)</td>
<td>18 (13.5)</td>
</tr>
<tr>
<td>Big city</td>
<td>29 (24.4)</td>
<td>24 (20.2)</td>
<td>53 (44.5)</td>
<td>5 (3.8)</td>
</tr>
<tr>
<td>Others</td>
<td>4 (3.4)</td>
<td>1 (0.8)</td>
<td>5 (4.2)</td>
<td>1 (0.8)</td>
</tr>
</tbody>
</table>

**Analytical Strategy**

Two sets of multiple linear regression analyses were carried out in order to examine the study hypotheses for each of the dependent variable. The first set was employed to test the direct contact hypothesis by controlling extended contact variable, and the other set was performed to test extended contact hypothesis by controlling direct contact variable. In terms of coding for the two dichotomous predictor variables in all of
the analyses, US was coded 0 and Indonesia was coded 1; whereas majority group was coded 0 and minority group was coded 1.

**Measures**

*Stereotype Potency.* Stereotype potency refers to what extent a person can easily activate stereotypes that they have about other people (Lee, McCauley, & Jussim, 2013). Thus, it is related to how much knowledge a person has about the out-group. Knowledge about an out-group can be in the form of objective as well as subjective knowledge. Hence, the more knowledge a person can recall about an out-group, the more active the stereotype potency.

In this study, participants were asked to write a short essay about other groups following the instruction: “Please write anything that you know about Chinese American/European American [Chinese Indonesian/Javanese]”. Number of ideas was used as a measure of stereotype potency, i.e., more ideas indicate more stereotype potency. In this case, participants’ responses in each country were coded by two raters (one rater from each group). The correlations between the two raters was $r = .86, p < .001$ in the US and $r = .97, p < .001$ in Indonesia. Given that codings from the two raters in each setting were highly correlated, the scores from two raters were aggregated (the scale ranges from zero which refers to no relevant idea to nineteen), which resulted in the composite score of stereotype potency of each participant.

*Stereotype Accuracy.* The stereotype accuracy score was obtained by correlating the aggregated actual score from all of the targeted out-group members with the individual responses on their perceptions toward the out-group to obtain a sensitivity
correlation score as described by Ryan (2002). Two Group Traits scales were used to measure stereotype accuracy, with participants in each country receiving a different scale. Each scale consisted of twelve stereotypical traits for European Americans and Chinese Americans as well as for Javanese and Chinese Indonesians which were acquired from previous studies in the US (Madon, et al., 2001) and Indonesia (Pertiwi, 2012). Each of the scales contained three positive and stereotypical traits of out-group, three negative and stereotypical traits of out-group, three positive and counterstereotypical traits of out-group, and three negative and counterstereotypical traits of out-group (see appendix C for the list of stereotypes). In completing the scale, participants were asked to evaluate to what extent that each trait best describes themselves and the other group on a seven-point scale (1=least true, 7=most true).

In order to measure stereotype accuracy, the valence of the traits were not taken into consideration. Instead, scores on stereotypical and counterstereotypical of the out-group were evaluated. Individual stereotype accuracy score was obtained by correlating participants’ scores as perceivers (with reverse scoring on the counterstereotypical items) with the actual scores as perceived by the target themselves.

For instance, in measuring the stereotype accuracy of a European American person toward Chinese Americans, he was asked to rate Chinese Americans on twelve traits, with six Chinese American stereotypical traits (which at the same time were European American counterstereotypical traits) and six Chinese American counterstereotypical traits (which at the same time were European American stereotypical traits). At the same time, all Chinese American participants also completed the same scale measuring their perceptions about themselves. The average score that were obtained
from all Chinese American participants for each trait when they evaluate themselves was then treated as the actual score for each trait. The actual score obtained from this procedure was later correlated with each of the European American score in order to obtain the individual stereotype accuracy score. Therefore, the stereotype accuracy score would range from -1 to +1, with higher score indicates more accurate stereotypes. The same method was also be applied for the Chinese Americans in perceiving European Americans, Javanese in perceiving Chinese Indonesians, and Chinese Indonesians in perceiving Javanese (see Appendix D for more information on how to calculate sensitivity correlation as described by Ryan, 2002).

**Stereotype Evaluation.** Lee, et al. (2013) suggested that stereotype evaluation represents valence, which can range from positive to negative. In order to measure stereotype evaluation, participants were asked to rate people from the other group in general by utilizing *out-group feeling thermometer* that was used in previous studies (e.g., Turner et al., 2008). Participants read the following instructions:

Below you will see something that looks like a thermometer. We would like you to use the thermometer to indicate your overall attitude towards Chinese Americans/European Americans [Chinese Indonesians/Javanese]. If you have a favorable attitude towards Chinese Americans/European Americans [Chinese Indonesians/Javanese], you would give them a score somewhere between 50° and 100°, depending on how favorable you are toward them. If you have an unfavorable attitude towards Chinese Americans/European Americans [Chinese Indonesians/Javanese], you would give them a score somewhere between 0° and 50°, depending on how unfavorable you are toward them. The degree labels will
help you to locate the group on the thermometer. However, you are not restricted to the numbers indicated -- feel free to use any number between 0° and 100°.

Please be honest.

**Contact Questionnaire.** The contact questionnaire was adapted from previous studies. For direct contact, two items were adapted from Turner, et al. (2008) and two items were adapted from Eller, et al. (2012) which were collapsed into a scale of direct contact ($\alpha = .91$); whereas five items were adapted from Turner, et al. (2008) to measure extended contact ($\alpha = .91$). To measure the direct contact, participants were asked: “How many friends do you have who are Chinese American/European American [Chinese Indonesians/Javanese]?” (1=none, 2=one, 3=two to five, 4=five to ten, 5=over ten); “How often do you spend time with Chinese American(s)/European American(s) [Chinese Indonesian(s)/Javanese]?”; “How often do you have informal conversation with Chinese American(s)/European American(s) [Chinese Indonesian(s)/Javanese]?”; “How often do you visit any Chinese American/European American [Chinese Indonesian/Javanese]’s home?” (1=never, 2=occasionally, 3=sometimes, 4=quite a lot, 5=all the time). Extended contact was measured through five items: “How many European American/Chinese American [Javanese/Chinese Indonesian] people do you know who have friends who are Chinese American/European American [Chinese Indonesian/Javanese]?” (1=none, 2=a few, 3=about half, 4=more than half, 5=most), “How many of your European American/Chinese American [Javanese/Chinese Indonesian] neighbors do you think have friends who are Chinese American/European American [Chinese Indonesian/Javanese]?”, “How many of your European American/Chinese American [Javanese/Chinese Indonesian] friends have friends who are Chinese American/European American
“How many of your very best European American/Chinese American friends have friends who are Chinese American/European American?” and “How many members of your family (including parents, brothers and sisters, cousins, etc.) have friends who are Chinese American/European American?” (1=none, 2=one, 3=two to five, 4=five to ten, 5=over ten).

In addition to the direct contact and extended contact scales, a social media contact scale was also constructed as an additional measure of contact considering the possibility of intergroup contact through the social media. This additional measure was exploratory. Participants who identified that they possessed at least a social media account completed a social media contact scale which consisted of two items ($r = .62$), i.e., “How many friends do you have in your social media account(s) who are Chinese Americans/European Americans?” (1=none, 2=one, 3=two to five, 4=five to ten, 5=over ten) and “How often do you have conversation (online chat) with your Chinese American/European American friend(s) through your social media account(s)?” (1=never, 2=occasionally, 3=sometimes, 4=quite a lot, 5=all the time).

**General Opinion.** Since the socio-political background of the majority and minority ethnic groups in both countries were expected to influence the relationship pattern between the two groups, it was essential to examine how the majority and minority groups within culture evaluate each other in terms of political and economic power within the country. Thus, additional items were included to determine if the anticipated political and economic power structures were as anticipated. To examine this,
participants were also asked to answer the following two questions: “In general, how powerful do you think the Chinese Americans/European Americans [Chinese Indonesians/Javanese] comparing to the European Americans/Chinese Americans [Javanese/Chinese Indonesians] are in terms of political positioning in United States [Indonesia]?” and “In general, how powerful do you think the Chinese Americans/European Americans [Chinese Indonesians/Javanese] comparing to the European Americans/Chinese Americans [Javanese/Chinese Indonesia] are in terms of economic status in United States [Indonesia]?” (1=least powerful, 2=less powerful, 3=little powerful, 4=average, 5=much powerful, 6=more powerful, 7=most powerful). Higher score in these two items indicated that participant perceived the out-group as more powerful than their own group in terms of political and economic standing within the society.

In addition, following Allport’s (1954/1979) contention that intergroup contact can be effective if only the two groups were equal in terms of status, showing active efforts and cooperation, and were supported by authorities, two scales were constructed to explore the perception towards government support and perception towards the general relations between the two groups. In this section, participants answered all questions on the scale of 1 (not at all) to 7 (very much). The perception towards government support scale consisted of two items ($r = .56$), i.e., “In general, how active do you think the US [Indonesian] government in making efforts to maintain harmonious relationship between the majority and minority group in the country?” and “In general, how serious do you think the US [Indonesian] government in making efforts to maintain harmonious relationship between the majority and minority group in the country?”. The perception
towards general intergroup relations scale also consisted of two items\(^1\) \((r = .55)\), “In
general, how close do you think the relationship between the European American and
Chinese American [Javanese and Chinese Indonesian] in the US [Indonesia] at the
present time?” and “In general, how harmonious do you think the relationship between
the European American and Chinese American [Javanese and Chinese Indonesian] in the
US [Indonesia]?”.

**Subjective SES.** Participants answered a question about the subjective socio-
economic status, with the following instruction:

Think of these numbers as representing where people stand in our society. At the
top are the people who are the best off, those who have the most money, most
education, and best jobs. At the bottom are the people who are the worst off, those
who have the least money, least education, and worst jobs or no job. Please
click on the number that bests represents where you think you stand.

In answering this question, participants were asked to select a number from one to ten
that represents their socio-economic status compared to the society where number one
represents the highest status and number ten represents the lowest status.\(^2\)

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\(^1\) Originally, the scale consisted of three items, but one item was dropped after reliability analysis. The item
was “In general, how much conflict do you think occur between the European American and Chinese
American [the Javanese and Chinese Indonesian] in the US [Indonesia] at the present time, in a scale of 1
to 7?”.

\(^2\) Several other exploratory measures are not described in this section but were administered in the study.
These included: (1) relevance, depth, and number of words coding for stereotype potency measure, (2) an
objective measure of stereotype accuracy, and (3) a religiosity item.
Procedure

All American participants participated through Amazon Mechanical Turk online survey which operated through the PsychData website. Before proceeded to the survey, all participants had to answer two screening questions at the beginning of the survey as described in a previous section. Only those who met the qualifications were able to proceed to the whole survey.

Indonesian participants, on the other hand, received packets of the translated version of the survey. The original survey was translated by two Indonesian native speaker research assistants, was then back translated by another two bilingual speakers to English, and was proofread by another bilingual speaker. Indonesian participants were approached by two research assistants on and off campus and completed the survey in the form of paper and pencil. The two research assistants were trained by the researcher through online correspondence and thorough discussions in order to ensure the quality of data collection.

Despite difference in the form of data collection, all participants in both cultural settings completed the survey in the same order. All participants who participated through the online survey as well as the paper and pencil survey read an informed consent in the first page of the survey and only proceeded to the survey if they agreed to participate. Each participant only completed a packet of survey that was prepared for the particular group he/she belongs to.

Subsequently, participants were asked to write an essay about the targetted out-group (stereotype potency measure). After completing this task, participants were asked
to complete a packet of questionnaires in the following order: (1) Group Traits scale, (2) Out-group feeling thermometer, (3) Contact questionnaire, and (4) General opinion questionnaire, and (5) Subjective SES.

After completing all the questionnaires, participants were asked to complete a set of demographical information questionnaire. For American participants, they were also asked another set of screening questions to ensure the group membership by the end of the survey. Finally, participants read a debriefing statement in the last page of the survey, and thanked for their participation.
Chapter 4: Results

Assessing Anticipated Group Differences Across Culture

As discussed in an earlier section, the patterns of relationships and differences between the majority and minority groups in each cultural setting were unique to their own. European Americans have always been powerful in terms of political standing and economic standing as the majority group in comparison to any minority groups within US society. Nevertheless, it is evident that the country has witnessed an upsurge in Asian Americans’ quality of life, including Chinese Americans, in a way that surpassed the European Americans (Pew Research Center, 2013). Therefore, it was reasonable to anticipate that even though European Americans may still be viewed as politically more powerful than Chinese Americans, a significant difference in the perception of economic standing between the two groups may not be observed.

Notwithstanding, Chinese Indonesians have always been regarded as economically more powerful despite the small population in comparison to their Javanese counterparts who, in terms of number, are deemed as the majority group. However, the Javanese still hold the main keys to political power. Therefore, it was expected that the Javanese would be perceived as politically more powerful than Chinese Indonesians, whilst an opposite pattern would be observed for the perception towards out-group economic standing.

In order to verify the expectations, participants were asked to compare the political and economic standing of the out-group with the in-group within the society.
Higher scores in these items indicated that participants perceived the out-group as more powerful than the in-group in terms of political and economic standing within the society.

An independent sample t-test was performed to compare responses from each group status based on the culture. In the US, a significant difference was found between the majority and the minority group members in perceiving the out-group political standing, \( t(117) = -5.69, p < .001 \), but not in perceiving the out-group economic standing, \( t(117) = -1.79, p > .05 \). Specifically, Chinese Americans were more likely to perceive European Americans as politically more powerful than their own group (\( M = 4.80, SD = 1.29 \)) than the opposite (\( M = 3.40, SD = 1.29 \)).

On the other hand, significant differences were found between the majority and the minority group members in perceiving both out-group political standing, \( t(131) = -10.14, p < .001 \), and out-group economic standing, \( t(131) = 3.63, p < .001 \) in Indonesia. Specifically, Chinese Indonesians were more likely to perceive Javanese as politically more powerful than their own group (\( M = 5.58, SD = 1.46 \)) than the other way round (\( M = 3.05, SD = 1.20 \)). In terms of perception towards out-group economic standing, an opposite pattern was observed. The Chinese Indonesians were less likely to perceive Javanese as economically more powerful than their own group (\( M = 3.57, SD = 1.47 \)) than the reverse (\( M = 4.57, SD = 1.72 \)). Figure 2 also illustrates the pattern of differences between group statuses across cultures.

Consistent with the assumptions described in the literature review, these findings signified the different pattern of power relationships between majority and minority groups across cultural settings, conveying that majority group is not necessarily possessing absolute power in every society. Instead, the unique socio-political and
historical backgrounds between the two groups may matters more than the mere number
of the population that determine majority and minority status. As projected, Chinese
Americans perceived European Americans as politically more powerful. Yet, presumably
due to Asian American income increases, difference in perception towards out-group
economic standing was not established. In Indonesia, a different pattern also occurred as
predicted. Specifically, Chinese Indonesians were viewed as economically more powerful
than the majority Javanese, whilst the opposite was true in terms of political power.

![Graph](image)

Figure 2. Perception towards out-group political and economic standing based on group
status and cultural settings.

Correlations Between Contact and Stereotypes

Pearson product-moment correlations were performed in order to assess the
pattern of relationships between each of the predictor variables and all three dependent
variables. Table 3 shows the results of Pearson product-moment correlations for all
participants regardless of culture. As expected, direct contact and extended contact were
found to be highly correlated, $r = .76, p < .001$. Therefore, the subsequent regression
analyses for the main two predictors (i.e., direct contact and extended contact), were conducted by controlling each other.

Table 2. Descriptive statistics of continuous independent variables, dependent variables, and other variables across group status and cultures

<table>
<thead>
<tr>
<th>Continuous Independent Variable</th>
<th>US M (SD)</th>
<th>Indonesia M (SD)</th>
<th>ALL M (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Contact</td>
<td>2.09 (.91)</td>
<td>3.31 (.82)</td>
<td>2.16 (.87)</td>
</tr>
<tr>
<td>Extended Contact</td>
<td>2.34 (.90)</td>
<td>3.32 (.69)</td>
<td>2.26 (.86)</td>
</tr>
<tr>
<td>Dependent Variables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stereotype Evaluation</td>
<td>68.80 (22.99)</td>
<td>64.07 (23.44)</td>
<td>52.71 (22.80)</td>
</tr>
<tr>
<td>Stereotype Potency</td>
<td>3.80 (2.58)</td>
<td>3.38 (2.39)</td>
<td>5.52 (3.44)</td>
</tr>
<tr>
<td>Stereotype Accuracy</td>
<td>.16 (.23)</td>
<td>-.04 (.26)</td>
<td>-.18 (.25)</td>
</tr>
<tr>
<td>Other Variables</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social Media Contact</td>
<td>1.91 (1.38)</td>
<td>2.60 (1.75)</td>
<td>2.24 (1.15)</td>
</tr>
<tr>
<td>Out-group Politics</td>
<td>3.40 (1.29)</td>
<td>4.80 (1.29)</td>
<td>3.05 (1.41)</td>
</tr>
<tr>
<td>Out-group Economics</td>
<td>3.95 (1.20)</td>
<td>4.36 (1.28)</td>
<td>4.57 (1.72)</td>
</tr>
<tr>
<td>Government Supports</td>
<td>3.79 (1.02)</td>
<td>3.72 (1.25)</td>
<td>3.81 (.89)</td>
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<tr>
<td>General Intergroup Relations</td>
<td>4.21 (1.02)</td>
<td>4.43 (.96)</td>
<td>3.86 (1.14)</td>
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<tr>
<td>Subjective SES</td>
<td>5.75 (1.77)</td>
<td>4.89 (1.67)</td>
<td>5.40 (1.42)</td>
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Table 3. Correlations between predictors and dependent variables

<table>
<thead>
<tr>
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<th>1</th>
<th>2</th>
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<th>4</th>
<th>5</th>
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<th>7</th>
<th>8</th>
<th>9</th>
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</thead>
<tbody>
<tr>
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<td></td>
<td>.76***</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
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</tr>
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<td></td>
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<td>.61***</td>
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<td>3 Group Status</td>
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<td>.28***</td>
<td>.18**</td>
<td>.17**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Culture</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.19**</td>
<td>.18**</td>
<td>.10</td>
<td>-.13*</td>
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<td>5 Stereotype</td>
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</tr>
<tr>
<td>6 Stereotype Potency</td>
<td>.04</td>
<td>.05</td>
<td>-.03</td>
<td>.26***</td>
<td>-.04</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7 Stereotype</td>
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<td>.05</td>
<td>.07</td>
<td>-.20**</td>
<td>.29***</td>
<td>-.09</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accuracy</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8 Out-group Politics</td>
<td>.58***</td>
<td>.51***</td>
<td>.59***</td>
<td>.15*</td>
<td>.08</td>
<td>.05</td>
<td>.81</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 Out-group</td>
<td>.01</td>
<td>.05</td>
<td>-.12</td>
<td>-.02</td>
<td>.06</td>
<td>.14*</td>
<td>-.08</td>
<td>.09</td>
<td></td>
</tr>
<tr>
<td>Economics</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. * = p < .05, ** = p < .01, *** = p < .001.
Both direct contact and extended contact were also highly correlated with group status (majority was coded 0 and minority was coded 1), \( r = .70, p < .001 \) and \( r = .61, p < .001 \), respectively. These findings indicate that minority group members had more direct contact and extended contact with majority group members than the other way round. In terms of culture, both direct contact and extended contact were also positively correlated with culture (US was coded 0 and Indonesia was coded 1), \( r = .28, p < .001 \) and \( r = .18, p < .01 \), respectively, indicating that the Indonesians had more direct contact and extended contact with out-group members than did American participants.

The results presented in Table 3 also show correlations between the predictors and dependent variables. Both direct contact and extended contact were significantly correlated with stereotype evaluation (\( r = .19, p < .01 \) and \( r = .34, p < .01 \)), but not with either stereotype potency (\( r = .04, p > .05 \) and \( r = .05, p > .05 \)) or stereotype accuracy (\( r = .03, p > .05 \) and \( r = .05, p > .05 \)). Group status was not significantly correlated with any of the dependent variables, whereas culture was significantly correlated with each of the three dependent variables (i.e., stereotype evaluation, \( r = -.13, p < .05 \), stereotype potency, \( r = .26, p < .001 \), and stereotype accuracy, \( r = -.20, p < .01 \)), indicating that Americans had more positive out-group evaluation but less out-group knowledge and less accurate out-group perception than the Indonesian participants. In terms of relationship between the three dependent variables, only stereotype evaluation was found to be significantly correlated with stereotype accuracy, \( r = .29, p < .001 \), which means that more positive out-group evaluation was associated with more accurate out-group perception.
Correlational analyses were also performed in order to assess the relationship between predictors and dependent variables with the perception towards out-group political and economic standing which can be considered as the subjective perception on group status. As shown in Table 3, only the perception towards out-group political standing was highly correlated with direct contact \((r = .58, p < .001)\) and extended contact \((r = .51, p < .001)\). These results indicated that those who perceived out-group as politically more powerful than the in-group tended to have more direct and extended contact. In terms of correlation between these two subjective perceptions on group status with the dependent variable, perception towards out-group economic standing was correlated with stereotype potency \((r = .14, p < .05)\), indicating that those who perceived out-group as economically more powerful than the in-group provided more ideas about out-group stereotype.

A Pearson product-moment correlation was also employed to assess correlations between predictors and dependent variables based on the cultural setting and the results are presented in Table 4. Similar to the overall results, direct contact was found to be highly correlated with extended contact in the US \((r = .73, p < .001)\) as well as in Indonesia \((r = .77, p < .001)\). Both direct contact and extended contact were also found to be significantly correlated with group status both in the US \((r = .56, p < .001 \text{ and } r = .48, p < .001)\) and Indonesia \((r = .79, p < .001 \text{ and } r = .68, p < .001)\), indicating that minority group members had more direct contact and extended contact with majority group members than the opposite across cultures.

Regarding the relationship between both types of contact with dependent variables, however, a completely different profile of each country was noted. In the US,
direct contact and extended contact were only found to be negatively correlated with stereotype accuracy ($r = -.34, p < .01$ and $r = -.29, p < .01$), indicating that more direct contact and extended contact were actually associated with less accurate out-group perception in this cultural setting. In contrast, both direct contact and extended contact were positively correlated with stereotype evaluation ($r = .50, p < .01$ and $r = .41, p < .01$) and stereotype accuracy ($r = .37, p < .001$ and $r = .32, p < .001$) in Indonesia, indicating that more direct contact and extended contact were associated with more positive out-group evaluation and more accurate out-group perception in this cultural setting. Direct contact and extended contact were not correlated with stereotype potency in both cultural settings.

Similarly, in terms of the relationship between the three dependent variables, the patterns differ across cultures. In the US, none of the dependent variables were correlated with each other. On the contrary, in Indonesia, stereotype accuracy was correlated with stereotype evaluation ($r = .37, p < .01$), implying that more accurate out-group perception were associated with more positive out-group evaluation.

Table 4. Culture-wise correlations between predictors and dependent variables

<table>
<thead>
<tr>
<th></th>
<th>US / Indonesia</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Direct contact</td>
<td>.77***</td>
</tr>
<tr>
<td>Extended Contact</td>
<td>.73***</td>
</tr>
<tr>
<td>Group Status</td>
<td>.56***</td>
</tr>
<tr>
<td>Stereotype Evaluation</td>
<td>-.03</td>
</tr>
<tr>
<td>Stereotype Potency</td>
<td>-.07</td>
</tr>
<tr>
<td>Stereotype Accuracy</td>
<td>-.34**</td>
</tr>
<tr>
<td>Out-group Politics</td>
<td>.50***</td>
</tr>
<tr>
<td>Out-group Economics</td>
<td>.29***</td>
</tr>
</tbody>
</table>

Note. * = $p < .05$, ** = $p < .01$, *** = $p < .001$. 
Correlations between Contact and Other Variables

As discussed in the literature review, it has been suggested that the intergroup contact effect in reducing prejudice was stronger under the circumstances when the statuses of the two groups were equal, when members of the two groups showed active effort and cooperation, and when support of authorities was available (Allport, 1954/1979; Pettigrew & Tropp, 2006). In the present study, it is apparent that there is unequal status between the two groups in each cultural setting. Nonetheless, the availability of the other criteria was unclear. Therefore, additional analyses were performed in order to understand the situational backgrounds that might affect the strength of intergroup contact between the groups in each cultural setting. For this purpose, participants were asked to complete additional measures which include scales of perception towards government support, perception towards relations between the two groups in general, and an item that asked participants’ subjective socio-economic status. A Pearson product-moment correlation analysis was then carried out to assess the relationship between the two types of contact with those variables that were believed to be related to the effectiveness of intergroup contact.

Results from overall participants showed that both direct contact and extended contact were significantly correlated with contact through social media, \( r = .65, p < .001 \) and \( r = .60, p < .001 \), respectively. As presented in Table 5, both direct contact and extended contact were correlated with subjective socio-economic status \( (r = -.35, p < .001 \) and \( r = -.28, p < .001 \)), signifying that participants who had more direct contact and extended contact with out-group members tended to view their socio-economic standing higher than society in general. Direct contact was not correlated with either government
support \((r = -0.06, p > 0.05)\) or general relationship between groups as perceived by participants \((r = 0.09, p > 0.05)\); whereas extended contact was correlated with general intergroup relationship \((r = 0.16, p < 0.05)\), but not with the government supports \((r = -0.08, p > 0.05)\).

Table 5. Correlations between direct and extended contact and other variables

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Direct contact</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Extended Contact</td>
<td>.76***</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 Social Media Contact</td>
<td>.65***</td>
<td>.60***</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 Government Support</td>
<td>-0.06</td>
<td>-0.08</td>
<td>-0.08</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 General Intergroup Relations</td>
<td>.09</td>
<td>.16*</td>
<td>.07</td>
<td>.43**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 Subjective SES</td>
<td>-0.35***</td>
<td>-0.28***</td>
<td>-0.26***</td>
<td>.13*</td>
<td>.06</td>
<td></td>
</tr>
</tbody>
</table>

Note: * = \(p < 0.05\), ** = \(p < 0.01\), *** = \(p < 0.001\).

When the data were split on the basis of culture, a similar finding was observed in terms of relationship between direct contact and extended contact with contact through social media both in the US \((r = 0.35, p < 0.001\) and \(r = 0.38, p < 0.001\)) and Indonesia \((r = 0.87, p < 0.001\) and \(r = 0.78, p < 0.001\)). Both direct contact and extended contact were correlated with subjective SES across cultures \((r = -0.33, p < 0.001\) and \(r = -0.33, p < 0.001\) in US; \(r = -0.32, p < 0.001\) and \(r = -0.21, p < 0.05\) in Indonesia), showing that participants who had more direct and extended contact with out-group members viewed their socio-economic standing higher than society in general in each cultural setting.

Notwithstanding, both direct contact and extended contact were correlated with general intergroup relations between the two groups only in Indonesia \((r = 0.19, p < 0.05\) and \(r = 0.26, p < 0.01\)).
Table 6. Culture-wise correlations between predictors and dependent variables

<table>
<thead>
<tr>
<th></th>
<th>US</th>
<th>Indonesia</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Direct contact</td>
<td>.77***</td>
<td>.87*** - .05</td>
</tr>
<tr>
<td>2 Extended Contact</td>
<td>.73***</td>
<td>.78*** - .05</td>
</tr>
<tr>
<td>3 Social Media Contact</td>
<td>.35***</td>
<td>.38*** - .00</td>
</tr>
<tr>
<td>4 Government Support</td>
<td>-.04</td>
<td>-.10 - .12</td>
</tr>
<tr>
<td>5 General Intergroup Relations</td>
<td>.03</td>
<td>.05 - .02</td>
</tr>
<tr>
<td>6 Subjective SES</td>
<td>-.33***</td>
<td>-.35*** - .18</td>
</tr>
</tbody>
</table>

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

Contact and Stereotype Evaluation: Testing H1a and H1b

It was posited that more direct contact would be associated with more positive out-group evaluation for both majority and minority groups in the US and Indonesia, but the relationship would be strongest for the majority group in the US than any other groups. Therefore, a significant three-way interaction between direct contact, group status, and culture in predicting stereotype evaluation was anticipated. A hierarchical multiple regression analysis was performed with stereotype evaluation as the dependent variable, and direct contact, group status, and culture as the independent variables by controlling the effect of extended contact. All of the three independent variables along with extended contact as the controlled variable were first entered into the equation, followed by two-way interaction terms between independent variables, then three-way interaction term in the final equation. The final equation was found to be the best fitting model (R = .45, R² = .20, F(8, 236) = 7.49, p < .001). The three-way interaction term was found to significantly improve the model, R² change = .06, F = 16.45, p < .001. As shown in Table 7, a significant three-way interaction effect of direct contact, group status, and culture was found, β = -.79, t = -4.06, p < .001.
### Table 7. Hierarchical regression Model 1: Testing direct contact with stereotype evaluation as dependent variable by controlling extended contact

<table>
<thead>
<tr>
<th>Predictor Variables</th>
<th>DV: Stereotype Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Step 1</td>
</tr>
<tr>
<td></td>
<td>B</td>
</tr>
<tr>
<td>Direct contact (centered)</td>
<td>5.12</td>
</tr>
<tr>
<td>Extended contact (centered)</td>
<td>1.72</td>
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<tr>
<td>Group status</td>
<td>-4.40</td>
</tr>
<tr>
<td>Culture</td>
<td>-9.53</td>
</tr>
<tr>
<td>Direct X Status</td>
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</tr>
<tr>
<td>Direct X Culture</td>
<td>9.72</td>
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<tr>
<td>Status X Culture</td>
<td>-1.19</td>
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<tr>
<td>Direct X Status X Culture</td>
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</tr>
<tr>
<td>R²</td>
<td>.08</td>
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<tr>
<td>F for Change in R²</td>
<td>5.50***</td>
</tr>
</tbody>
</table>

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

Figure 3 illustrates the patterns of relationships between direct contact, group status, and culture in predicting stereotype evaluation. It is apparent from the figure that more direct contact was associated with more positive out-group evaluation, apart from European Americans, who exhibited a completely contrasting pattern of relationship.

Subsequent simple slope analyses were performed in order to examine the specific relationship between direct contact and stereotype evaluation in each group (Aiken & West, 1991). Results of these analyses showed a significant positive correlation between direct contact and stereotype evaluation for Chinese Americans (β = .51, t = 2.51, p < .05) and Javanese (β = .79, t = 4.45, p < .001), but neither for European Americans (β = -.23, t = -1.40, p=.16) nor for Chinese Indonesians (β = .16, t = .75, p = .45).
Concerning the extended contact, it was predicted that individuals who had more extended contact would also provide more positive out-group evaluation regardless of group status and culture. Therefore, only a main effect of extended contact was expected. Nevertheless, as seen in Table 8, the main effect of extended contact was not significant. Instead, the three-way interaction effect of extended contact, group status, and culture was significant in predicting stereotype evaluation, $\beta = -.47$, $t = -2.33$, $p < .05$. The final equation model which includes three-way interaction term was also found to be a good fitting model ($R = .38$, $R^2 = .15$, $F(8, 236) = 5.10$, $p < .001$), with addition of three-way interaction term into the equation was found to significantly improved the model, $R^2$ change = .02, $F = 5.43$, $p < .01$. In this case, therefore, hypothesis H1b was not supported.
Table 8. Hierarchical regression Model 2: Testing extended contact with stereotype evaluation as dependent variable by controlling direct contact

<table>
<thead>
<tr>
<th>Predictor Variables</th>
<th>DV: Stereotype Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Step 1</td>
</tr>
<tr>
<td></td>
<td>B</td>
</tr>
<tr>
<td>Direct contact (centered)</td>
<td>5.12</td>
</tr>
<tr>
<td>Extended contact (centered)</td>
<td>1.72</td>
</tr>
<tr>
<td>Group status</td>
<td>-4.40</td>
</tr>
<tr>
<td>Culture</td>
<td>-9.53</td>
</tr>
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<td>Extended X Status</td>
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<tr>
<td>R²</td>
<td>.08</td>
</tr>
<tr>
<td>F for Change in R²</td>
<td>5.50***</td>
</tr>
</tbody>
</table>

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

Furthermore, different patterns of relationships between extended contact and each group in each cultural setting were noted and are presented in Figure 4. Subsequent simple slope analyses later found no significant correlation between extended contact and stereotype evaluation for all groups (European Americans, $\beta = -.08, t = -.50, p = .62$; Chinese Americans, $\beta = .28, t = 1.22, p = .23$; Javanese, $\beta = .32, t = 1.62, p = .11$; Chinese Indonesians, $\beta = -.00, t = -.03, p = .98$).
Figure 4. Three-way interaction effect of extended contact, group status, and culture in predicting stereotype evaluation.

Contact and Stereotype Potency: Testing H2a and H2b Hypotheses

More direct contact was projected to be associated with more out-group knowledge for both majority and minority groups in the US and Indonesia, but the relationship would be stronger for the majority than for the minority groups in both cultural settings. Therefore, a significant two-way interaction between direct contact and group status in predicting stereotype potency was anticipated. Still, Table 9 shows that all of the interaction terms did not significantly improve the model and, thus, the first model was found to be the best fitting model, $R = .28$, $R^2 = .08$, $F(4,247) = 5.26$, $p < .001$. Overall, only main effect of culture was significant in predicting stereotype potency, $\beta = .27$, $t = 4.26$, $p < .001$. This result indicates that Indonesians had more out-group knowledge than did Americans as demonstrated in Figure 5. Therefore, hypothesis H2a was rejected.
Table 9. Hierarchical regression Model 3: Testing direct contact with stereotype potency as dependent variable by controlling extended contact

<table>
<thead>
<tr>
<th>Predictor Variables</th>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE B</td>
<td>β</td>
</tr>
<tr>
<td>Direct contact (centered)</td>
<td>-.03</td>
<td>.28</td>
<td>-.01</td>
</tr>
<tr>
<td>Extended contact (centered)</td>
<td>.23</td>
<td>.27</td>
<td>.08</td>
</tr>
<tr>
<td>Group status</td>
<td>-.73</td>
<td>.53</td>
<td>-.12</td>
</tr>
<tr>
<td>Culture</td>
<td>1.65</td>
<td>.39</td>
<td>.27***</td>
</tr>
<tr>
<td>Direct X Status</td>
<td>.01</td>
<td>.50</td>
<td>.00</td>
</tr>
<tr>
<td>Direct X Culture</td>
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<td>.47</td>
<td>.13</td>
</tr>
<tr>
<td>Status X Culture</td>
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<td>1.12</td>
<td>-.15</td>
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<td>.99</td>
<td>-.32</td>
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<td>R²</td>
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<td></td>
<td>.08</td>
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<tr>
<td>F for Change in R²</td>
<td>5.26***</td>
<td>.35</td>
<td>2.46</td>
</tr>
</tbody>
</table>

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

Similarly, more extended contact was expected to be associated with more out-group knowledge for both majority and minority groups in the US and Indonesia, but the
relationship would be stronger for the majority than for minority group across cultures. Consequently, a significant two-way interaction effect of extended contact and group status was anticipated in predicting stereotype potency. Nonetheless, results shown in Table 10 indicates that the inclusion of the three-way interaction into the equation did significantly improve the model, $R = .31$, $R^2 = .10$, $F(8,243) = 3.20$, $p < .01$. A three-way interaction effect between extended contact, group status, and culture was found, $\beta = -.43$, $t = -2.09$, $p < .05$. Therefore, hypothesis H2b was not accepted.

**Table 10. Hierarchical regression Model 4: Testing extended contact with stereotype potency as dependent variable by controlling direct contact**

<table>
<thead>
<tr>
<th>Predictor Variables</th>
<th>DV: Stereotype Potency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Step 1</td>
</tr>
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<td></td>
<td>B</td>
</tr>
<tr>
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<td>Extended contact (centered)</td>
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<tr>
<td>Group status</td>
<td>-.73</td>
</tr>
<tr>
<td>Culture</td>
<td>1.65</td>
</tr>
<tr>
<td>Extended X Status</td>
<td>-.08</td>
</tr>
<tr>
<td>Extended X Culture</td>
<td>.14</td>
</tr>
<tr>
<td>Status X Culture</td>
<td>-.40</td>
</tr>
<tr>
<td>Extended X Status X Culture</td>
<td></td>
</tr>
<tr>
<td>$R^2$</td>
<td>.08</td>
</tr>
<tr>
<td>F for Change in $R^2$</td>
<td>5.26***</td>
</tr>
</tbody>
</table>

*Note. * = $p < .05$, ** = $p < .01$, *** = $p < .001$.

Figure 6 shows the interaction plot between culture, group status, and extended contact in predicting stereotype potency. Subsequent simple slope analyses showed a
significant correlation between extended contact and stereotype potency only for Chinese Americans ($\beta=.46, t=2.04, p<.05$), but not for European Americans ($\beta=.03, t=.18, p=.86$), Javanese ($\beta=.25, t=1.10, p=.27$), or Chinese Indonesians ($\beta=-.03, t=-.21, p=.84$).

![Figure 6](image)

**Figure 6.** Three-way interaction effect of culture, group status, and extended contact in predicting stereotype potency.

**Contact and Stereotype Accuracy: Testing H3a and H3b Hypotheses**

Two competing hypotheses were constructed in order to explore the pattern of relationship between direct contact and stereotype accuracy. If stereotype accuracy is linked more to the knowledge that individuals have about the out-group, then it was expected that those who had more direct contact would be more accurate in perceiving the out-group members for both majority and minority groups in both cultural settings, but the relationship would be stronger for the majority than for minority groups across cultures. In this case, a two-way interaction effect of direct contact and group status was anticipated in predicting stereotype accuracy. Yet, if stereotype accuracy was actually more associated with expression of stereotype, then more direct contact was predicted to
be associated with more accurate out-group perception for both majority and minority
groups in the US and Indonesia, but the relationship would be strongest for the majority
group in the US than any other groups. Hence, a three-way interaction between direct
contact, group status, and culture was expected in predicting stereotype accuracy.

As presented in Table 11, the inclusion of the two-way interaction terms was
found to have significantly improved the model, $R^2$ change = .18, $F = 19.13, p < .001$ and
the second model was found to be the best fitting model, $R = .48, R^2 = .23, F(7,244) = 10.49, p < .001$. In this model, a two-way interaction effect between group status and
culture was significant in predicting stereotype accuracy, $\beta = .64, t = 4.20, p < .001$. As a
result, none of the two competing hypotheses were supported.

As shown in Figure 7, subsequent independent t-tests based on the cultural
settings confirmed significant difference between majority and minority groups in terms
of stereotype accuracy, yet with opposite patterns based on the cultural settings. In
Indonesia, minority group members ($M = .10, SD = .27$) were significantly more accurate
than majority group members ($M = -.18, SD = .25$), $t(131) = -6.16, p < .001$. In contrast,
majority group members ($M = .16, SD = .24$) were significantly more accurate than the
minorities ($M = -.04, SD = .26$) in the US, $t(117) = 4.22 p < .001$. 
Table 11. *Hierarchical regression Model 5: Testing direct contact with stereotype accuracy as dependent variable by controlling extended contact*

<table>
<thead>
<tr>
<th>Predictor Variables</th>
<th>DV: Stereotype Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Step 1</td>
</tr>
<tr>
<td></td>
<td>B</td>
</tr>
<tr>
<td>Direct contact (centered)</td>
<td>-0.00</td>
</tr>
<tr>
<td>Extended contact (centered)</td>
<td>0.01</td>
</tr>
<tr>
<td>Group status</td>
<td>0.05</td>
</tr>
<tr>
<td>Culture</td>
<td>-0.12</td>
</tr>
<tr>
<td>Direct X Status</td>
<td>0.04</td>
</tr>
<tr>
<td>Direct X Culture</td>
<td>0.05</td>
</tr>
<tr>
<td>Status X Culture</td>
<td>0.40</td>
</tr>
<tr>
<td>Direct X Status X Culture</td>
<td>-0.08</td>
</tr>
<tr>
<td>R²</td>
<td>0.05</td>
</tr>
<tr>
<td>F for Change in R²</td>
<td>3.29*</td>
</tr>
</tbody>
</table>

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

Figure 7. Stereotype accuracy based on group status and culture.
Two competing hypotheses were also constructed in order to investigate the pattern of relationship between extended contact and stereotype accuracy. If stereotype accuracy was associated more with the presence of out-group knowledge, then more extended contact was expected to be associated with more accurate out-group perception regardless of group status and culture. Consequently, a main effect of extended contact was anticipated. Yet, if stereotype accuracy was more associated with stereotype expression, more extended contact was predicted to be associated with more accurate out-group perception irrespective of group status across cultures, but the relationship would be stronger for both groups in the US than in Indonesia. Hence, a two-way interaction effect of extended contact and culture was expected in predicting stereotype accuracy.

Similar to what was found with the direct contact, Table 12 shows that the inclusion of the two-way interaction terms was found to have significantly improved the model, $R^2$ change = .18, $F = 19.22, p < .001$. The second model was noted as the best fitting model, $R = .48, R^2 = .23, F(7,244) = 10.53, p < .001$. In this model, a two-way interaction effect between group status and culture was also found to be significant in predicting stereotype accuracy, $\beta = .72, t = 5.47, p < .001$. Given the results above, neither the H3b1 nor the H3b2 hypotheses were supported.

As there is no effect of extended contact in predicting stereotype accuracy, the patterns of difference between majority and minority groups in both cultures were similar to the ones found for direct contact as shown in figure 8. Therefore, results of the t-tests in both cultures are identical to those discussed for direct contact hypothesis testing, i.e., minority group members ($M = .10, SD = .27$) were significantly more accurate than majority group members ($M = -.18, SD = .25$) in Indonesia, $t(131) = -6.16, p < .001$, but less accurate.
(M = -.04, SD = .26) than majority group members (M = .16, SD = .24) in the US, t(117) = 4.22 p < .001.

Table 12. Hierarchical regression Model 6: Testing extended contact with stereotype accuracy as dependent variable by controlling direct contact

<table>
<thead>
<tr>
<th>Predictor Variables</th>
<th>DV: Stereotype Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Step 1</td>
</tr>
<tr>
<td></td>
<td>B</td>
</tr>
<tr>
<td>Direct contact (centered)</td>
<td>-0.00</td>
</tr>
<tr>
<td>Extended contact</td>
<td>0.01</td>
</tr>
<tr>
<td>Group status</td>
<td>0.05</td>
</tr>
<tr>
<td>Culture</td>
<td>-0.12</td>
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<td>Extended X Culture</td>
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<td>Extended X Status X</td>
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<tr>
<td>Culture</td>
<td></td>
</tr>
<tr>
<td>R²</td>
<td>0.05</td>
</tr>
<tr>
<td>F for Change in R²</td>
<td>3.29*</td>
</tr>
</tbody>
</table>

Note. * = p < .05, ** = p < .01, *** = p < .001.
Figure 8. Stereotype accuracy based on group status and culture.
Chapter 5: Discussions

The current study aimed to assess the relationships between two types of intergroup contact (i.e. direct contact and extended contact), and three dimensions of stereotypes as described in the EPA model (i.e. stereotype evaluation, stereotype potency, and stereotype accuracy). Given that previous studies have found different effects of intergroup contact in improving intergroup relations for groups with different status, the current study was conducted to examine the relationship between intergroup contact and stereotypes between members of majority and minority groups. Furthermore, the study was also conducted across two different cultures, i.e. American and Indonesian. In each culture, members of two different groups that were considered as majority and minority groups based on the group size, participated this study. In US, participants from the majority group were European Americans and participants from the minority group were Chinese Americans; whereas in Indonesia, participants from the majority group were Javanese and participants from the minority group were Chinese Indonesians.

As anticipated, direct contact and extended contact were highly correlated across cultures. In other words, those who had more direct contact tended to have more extended contact with out-group members. This finding is consistent with previous studies that examined direct contact and extended contact altogether in one study (Eller, et al., 2012; Feddes, et al., 2009; Gómez, et al., 2011). Consequently, each of the intergroup contact
type was tested separately by controlling each other’s effect in predicting stereotype evaluation, stereotype potency, and stereotype accuracy.

**Contact and Stereotype Evaluation: H1a and H1b Hypotheses**

Previous studies have consistently found that direct contact was associated with reduced prejudice (Pettigrew & Tropp, 2006). Yet, it was also noted that the effect of direct contact was stronger for members of majority groups than minority groups (Tropp & Pettigrew, 2005b). Nevertheless, whether the similar pattern would be observed across different cultures was uncertain. Still, previous cross-cultural studies have suggested that individuals from collectivistic culture tended to alter the expression of stereotypes even though they were not less prejudiced than individuals from individualistic culture (Spencer-Rodgers, et al., 2013). Hence, it was reasonable to expect a positive correlation between direct contact and stereotype evaluation, but with anticipated difference across group status and cultures. Specifically, it was expected that the relationships between direct contact and stereotype evaluation would be stronger for European Americans than for Chinese Americans, Javanese, and Chinese Indonesians.

Indeed, a significant three-way interaction effect of direct contact, group status, and culture was observed in predicting stereotype evaluation. Nevertheless, subsequent analyses showed that the patterns of relationship did not appear as expected. Even though the results showed expected findings for Indonesians, as both majority and minority groups members had more positive out-group evaluation with increased direct contact and that the effect was stronger for the majority group members than the otherwise (Tropp & Pettigrew, 2005b), similar patterns did not occur for the American participants.
On the contrary, minority group members in the US (Chinese Americans) showed more positive out-group evaluation with increased direct contact, whereas the majority group members (European Americans) showed opposite direction of the relationship even though it was not significant.

Albeit unexpected, the findings in American cultural setting were not completely unexplainable. The negative direction of the relationship between direct contact and stereotype evaluation found in European American participants when perceiving Chinese Americans can be explained through the integrated threat theory. The integrated threat theory explains that out-group prejudice may be influenced by one of the four threats, i.e. realistic threats, symbolic threats, intergroup anxiety, and negative stereotypes (Stephan & Stephan, 2000). In the case of European Americans and Chinese Americans relationship, it is reasonable to assume that the reason behind negative relationship between direct contact and stereotype evaluation in European Americans was due to the realistic threat that the Chinese Americans pose towards the majority group in the country. As discussed in the literature review, the quality of life of Asian Americans, which includes Chinese Americans, in terms of education and income has escalated in a way that surpassed the European Americans (Pew Research Center, 2013). In fact, Chinese Americans are often regarded as a prime example of “American Way” as they are relatively more educated, better employed, and enjoy higher incomes than the average citizens, especially when compared to other ethnic minority groups (Brown & Pannell, 2000).

The relative success of Asian Americans coupled with the low sociability stereotype had created the Asian American group as an envied out-group for the White
Americans (Lin, Kwan, Cheung, & Fiske, 2005). Therefore, it is not surprising if Chinese Americans, which most Americans did not differentiate from other subgroups under the Asian American umbrella (Committee of 100, 2001), were less positively evaluated by the European Americans. Indeed, Ho & Jackson (2001) have previously found that both positive stereotypic attributes (e.g., too intelligence and too competitive) and negative stereotypic attributes (e.g., nerdy, antisocial, unassimilable) were associated with negative attitudes toward Asian Americans, and these negative attitudes were closely linked with economic threat and relative deprivation.

Another possible explanation of this specific finding may be related to the actual valence of the contact between European American participants in this study with the Chinese Americans. Previous studies have suggested that negative contact experience predicted increased prejudice and the effect of negative contact in predicting increased prejudice was even stronger than the effect of positive contact in predicting reduced prejudice (Barlow, et al., 2012). Unfortunately, this interpretation cannot be directly verified in the present study as valence of contact was not measured and thus needs further clarification from future studies.

On the other hand, the positive stereotypes about Asian Americans may also influence the willingness of the Asian Americans themselves to interact with their European American counterparts. A daily diary study revealed that the stigma conscious Asian American college students who lived with European American roommates experienced greater level of anxiety and contact avoidance than those who lived with roommates who belong to other minority groups (Son & Shelton, 2011). This situation
may subsequently hamper the opportunity of having a better quality contact between European Americans and Asian Americans.

In contrast to the negative correlation between direct contact and stereotype evaluation with European Americans, Chinese American participants had significantly more positive stereotype evaluation with increased direct contact with their European American counterparts. This phenomenon may be related to the opportunities that are available to the Chinese Americans in increasing their quality of life (Brown & Pannell, 2000). In addition, the need to fit in with the more dominant culture could also be the reason underlying the more positive evaluation towards European Americans.

Another highlight of the finding in terms of the direct contact and its relations with stereotype evaluation is that the strongest effect was found with Javanese participants instead of European Americans as hypothesized. The reasoning underlying this assumption was that individuals from collectivistic culture would alter the expression of stereotypes (Williams & Spencer-Rodgers, 2010), so that the difference between those who had less and more direct contact with the out-group members would be smaller than those individuals from individualistic culture. It turns out that the present study showed that Javanese benefit more from direct contact than any other groups in terms of improving stereotype evaluation towards a particular minority group, which is Chinese Indonesian in this case. Looking at this finding within the cultural setting itself, however, it fits with the expectation, as the majority group benefit more from direct contact than the minority group in terms of stereotype evaluation (Tropp & Pettigrew, 2005b).

With regards to extended contact, a main effect of extended contact was expected considering the findings from a previous study that extended contact had similar effect to
the improvement of intergroup relations for both the majority and the minority groups (Gómez, et al., 2011). Yet again, a significant three-way interaction effect of extended contact, group status, and culture, was found in predicting stereotype evaluation. Subsequent simple slope analyses also found similar patterns and direction of relationship between extended contact and stereotype evaluation as the ones observed when direct contact was the main predictor for all groups, even though all of the relationships were not significant in this case.

These findings indicate that both direct contact and extended contact showed similar patterns of relationship when it comes to predicting stereotype evaluation across group status and cultures. Still, the interaction effect of direct contact, group status, and culture was stronger than the interaction effect of extended contact, group status, and culture in predicting stereotype evaluation. This finding is in-line with the previous study which implied that extended contact effect was stronger when opportunity for direct contact was low (Cameron, 2011; Eller, et al., 2012). As a matter of fact, participants in this study tended to have access of direct contact with targeted out-group members, even though as expected, minority group members did have more direct contact with the majority group members than the opposite across cultures. Consequently, this finding indicates that extended contact is not always more advantageous than direct contact when it comes to the course of intergroup relations between groups of unequal status as suggested by previous study (Gómez, et al., 2011).
Contact and Stereotype Potency: H2a and H2b Hypotheses

It was anticipated that individuals with more direct contact would provide more out-group knowledge regardless of group status and culture, but the relationship would be stronger for the majority than for minority group in both cultural settings. Consequently, a two-way interaction effect of direct contact and group status was expected in predicting stereotype potency. Nevertheless, contrary to the prediction that contact would likely to enhance out-group knowledge (Allport, 1954/1979; Pettigrew, 1998; Pettigrew & Tropp, 2008), findings from the present study revealed a main effect of culture only in predicting stereotype potency, in which Indonesians had more out-group knowledge than their American counterparts. These findings support the prediction that individuals from collectivistic culture might use stereotypes more readily than individuals from individualistic culture (Williams & Spencer-Rodgers, 2010), that might be manifested in terms of the amount of knowledge that the individuals have about the out-group.

Learning about out-group can also occur through computer-mediated interactions with out-group members as well as through traditional mass media channels (Harwood, 2010). Therefore, it is possible that there was a cultural difference between the American and Indonesian participants in the opportunity of these alternative media of intergroup contact. Indeed, an additional t-test comparing American and Indonesian participants in this study in terms of intergroup contact through social media showed a significant difference between participants in the two cultural settings, with Indonesian participants experienced more intergroup contact through social media than the American participants.
Another possibility that may explain this phenomenon is the difference between the two cultural settings in terms of the race/ethnic group categorization. In the US, race/ethnic groups tend to be too generalized and not specific. For example, the Chinese American category is embedded into Asian American group, whilst the characteristics of the subgroups included in the Asian American race/ethnic group are pretty diverse (Pew Research Center, 2013; Omi, 2001). On the contrary, in Indonesia, a similar phenomenon does not exist. Even though some of the major ethnic groups also consisted of several sub ethnic groups, the division of the groups is not as general as the ones in the US (Badan Pusat Statistik, 2011). Thus, individuals in the two cultural settings may not have similar experience when it comes to contact with the out-group members. In fact, the ratio of the Chinese Americans compared to the European Americans is 1:55 (Pew Research Center, 2013; United States Census Bureau, 2011), while the ratio of the Chinese Indonesians to the Javanese is 1:33 (Badan Pusat Statistik, 2011). This situation could lead to different opportunity of exposure to out-group members which may subsequently be associated with difference of amount of knowledge about out-group.

In the case of extended contact, it was expected that individuals who had more extended contact with out-group members would provide more out-group knowledge regardless of group status and culture, but the relationship would be stronger for majority group than minority in both cultural settings. A two-way interaction effect of extended contact and group status was also predicted in this case. Yet, results revealed a three-way interaction effect of extended contact, group status, and culture. In addition, only the positive correlation between extended contact and stereotype potency for Chinese American participants was found to be significant and not for the others.
The expectation lies with the assumption that learning about out-group will occur by observing interaction between an in-group member and an out-group member (Harwood, 2010). This particular out-group member will also be considered as a positive exemplar of his/her group (Wright, et al., 1997), which will motivate an individual to learn more about the out-group. Nevertheless, it seems that the nature of extended contact in which individuals do not necessarily meet the out-group members directly, hampered the opportunity to learn about out-group at least for the three groups in this study, excluding the Chinese Americans.

Unlike Indonesia, US is a country of immigrants. As a matter of fact, Chinese immigrated to US much later than the European settlers, and as Chinese Americans are considered as minority group in the US, acculturation processes often occur as an adaptation strategy for the immigrants to the dominant host culture. Previous studies indicated that minority group members prefer more integration between their own cultures and the more dominant culture (van Oudenhoven, Prins, & Buunk, 1998; Dovidio, Gaertner, & Kafati, 2000; Verkuyten, 2006), which required the minority group members to learn about the culture of the majority group. In this case, it is likely that Chinese American participants may be more motivated to learn about the European American culture as the number of extended contact increased.

**Contact and Stereotype Accuracy: H3a and H3b Hypotheses**

Two competing hypotheses have been constructed for each direct contact and extended contact in predicting stereotype accuracy. If stereotype accuracy was linked more to the possession of out-group knowledge, individuals who had more direct contact
with out-group members were expected to provide more accurate out-group perception for all groups, but the relationship would be stronger for majority than minority group in both cultures. Nevertheless, if stereotype accuracy was linked more to the expression of stereotype, significant positive correlations between direct contact and stereotype accuracy were also expected for all groups, but the relationship would be strongest for the majority group in the US.

In the case of extended contact, it was expected that if stereotype accuracy was more associated with the possession of knowledge, then individuals with more extended contact experiences with out-group members would provide more accurate out-group perception regardless of group status and culture. However, if stereotype accuracy was more associated with the expression of stereotype, more extended contact was predicted to be associated with more accurate out-group perception for all groups, but the relationship would be stronger for Americans than Indonesians.

In fact, results from the Pearson product-moment correlation analysis showed that for all participants in general, stereotype accuracy was positively correlated with stereotype evaluation, which indicates that stereotype accuracy tended to be associated more with the expression of stereotype than the possession of the out-group knowledge per se. Yet, when the data was split into cultural-wise, the same pattern only occurred with the Indonesian participants; while for the American participants, stereotype accuracy did not correlate with neither stereotype potency nor the stereotype evaluation. This finding indicates a cultural difference in what might influence stereotype accuracy.

Indeed, two-way interaction effects between culture and status were found for both direct contact and extended contact in predicting stereotype accuracy which led to
the rejection of the two competing hypotheses for both types of the contact. Unexpectedly, the patterns of differences between majority and minority groups in terms of stereotype accuracy in two cultural settings were different from each other. The minority group members were more accurate than the majority group members as predicted by previous studies (Hewstone, et al. 2002; Ryan, 1996; Ryan, 2002) only for Indonesian participants, whereas the opposite was found for American participants. It is possible that the self-fulfilling prophecy amongst the Chinese Americans plays a role in the higher stereotype accuracy of the European Americans towards Chinese Americans (Jussim, 2012).

Nonetheless, unlike what was anticipated, the present study failed to show that contact, either direct or extended, promotes stereotype accuracy. The present study indicates that contact may not always encourage a perceiver to pay more attention to the individuating information of the out-group members as predicted (Lee, et al., 2013) which may lead to the enhancement of stereotype accuracy (Lee, et al., 2014); nor that contact appeared to diminish stereotype accuracy (Wilder, 1984). Instead, stereotype accuracy seems to be associated with cultural differences and status differences that may lie on the difference in the socio-political experience between the groups and the availability of exposure to the out-group members.

Limitations and Future Direction

One of the limitations in this study was the difference in data collection procedure which leads to the sampling differences between the two cultures. For practical reasons, the data in Indonesia were collected through paper and pencil survey, while data in the
US were collected through online survey. The difference in data collection procedure then lead to differences in educational background between participants in two cultures, where most of American participants had graduate (41.2%) and undergraduate degree (32.8%), while most of the Indonesian participants were high-school graduates (72.7%). Nevertheless, when additional analyses were conducted by controlling participants’ educational background as well as other demographic information such as age, places of growing up, and subjective SES, most of the findings were held. The only exception was that main effect of culture was found instead of the three way interaction between extended contact, culture, and group status in predicting stereotype potency.

The difference in data collection procedure could also potentially affect responses on the stereotype potency measures. The fact that the Indonesian data was collected through paper and pencil which in most situations required research assistants to be present at the time of the survey completion, may actually encouraged participants to write more about outgroup compared to the American participants who anonymously responded to the instruction through online survey. Indeed, an additional independent t-test showed that Indonesian participants did significantly provided more number of ideas on their stereotype potency essay than the American participants, t(243.98) = -4.37, p < .001, which could possibly explain the absence of direct contact effect on stereotype potency. Therefore, future study will profit from matching the data collection procedure and the demographic background of participants across groups and cultures, in order to minimize any confounding variables that might affect the results.
The use of number of ideas as a single measure of stereotype potency could also be one limitation that needs modification for future study. Stereotype potency which refers to the activation of knowledge about outgroups (McCauley, Jussim, & Lee, 1995; Lee, McCauley, & Jussim, 2013) is likely to be multifaceted. The latent variable of stereotype potency may not be fully captured by a single measure such as number of ideas that an individual has about outgroups. Therefore, it is wise to use multiple measures to assess stereotype potency in future research. Other measures that may be used to assess stereotype potency include but not limited to the reaction time test, picture and word association test, and filling in the blank task. Even though number of ideas can still potentially be used as one of the stereotype potency measures, it may not be able to fully capture the concept of knowledge activation as the key of stereotype potency. As aforementioned, the amount of ideas that participants wrote in their essays could be sensitive to other factors such as the presence of researchers or outgroup members and therefore could not genuinely capture the activation of knowledge about outgroup in spontaneous manner.

In addition, due to the time constraint, a pilot study for the construction of the group traits scale was not possible to be conducted before the main study. Even though the lists of the traits were gathered from previous studies in each culture (Madon, et al., 2001; Pertiwi, 2012), stereotypes toward particular groups may have changed following the dynamic change of intergroup relationships by the time the present study was conducted. It is possible that this limitation could be one of the reasons behind the low score of stereotype accuracy across groups and cultures in this study, unlike what was expected with regards to stereotype accuracy (Jussim, 2012; Jussim, McCauley, & Lee,
1995). Therefore, it will be beneficial for future researchers in this area to conduct pilot study in order to verify the relevance of the trait lists during the time of the study.

Moreover, all participants in this study received exactly the same order of the survey. While using the same order of survey can be practically beneficial for researchers, future study may consider randomizing the order so that it would be clear that results of the study were not due to the order of the survey.

As valence of the intergroup contact may also influence the association between contact and stereotype dimensions (Barlow, et al., 2012), future researchers could benefit in measuring valence of intergroup contact in addition to the existing quantity of contact measurement. In this way, the pattern of intergroup relations as found in the study can be understood in a more comprehensive manner.

Future researchers may also profit from involving more than two groups and involving different groups other than the ones included in the present study. As discussed previously, the two groups involved in this study have its own unique socio-political relationships within its society. Therefore, findings in this study could be unique to the groups that have similar patterns of relationships. Involving other groups in future studies may be able to explain further on the influence of socio-political relationships between different groups in terms of contact and stereotypes. Furthermore, expanding the study to other cultural settings, especially to those places with rare published works in this area of research, and places where open conflicts between groups tend to occur, will provide a more comprehensive picture on the relationships between contact and stereotypes.
Finally, the present study utilized a survey method in collecting data and thus, causal relationships between contact and stereotypes cannot be inferred from the findings. In addition, all data collected in this study were self-reported. Thus, it lacks behavioral data that can be beneficial in explaining the findings further. Future researchers in this topic should consider employing not only the experimental method, but also gather behavioral data on contact and stereotypes.

**Implications**

Despite the limitations, the study has contributions and implications both theoretically and practically in the field of social psychology in general and intergroup relations specifically. By including groups of different status from two different cultures, the present study has expanded social psychological studies beyond WEIRD participants (Henrich, et al., 2010) and thus contributed to the more understanding of psychological aspects across different cultures (Arnett, 2008; Berry, 2013; Kim, et al., 2006; Turner, et al., 2008). In addition, the study compared two different cultures that are rarely compared in any previous published study in psychology. Therefore, the study has provide more understanding about differences and similarities across cultures, which can contribute to the pursuit of the global psychology (Berry, 2013).

The study has also investigated the association between both direct and extended contact, and three dimensions of stereotypes, instead of only the association between direct contact and prejudice (Kenworthy, et al., 2005). As expected, findings from the present study showed that the association between contact and stereotypes differs based on the dimension of the stereotypes being studied. Nevertheless, in contrast to the
prediction based on the literature review, both direct contact and extended contact was only significantly correlated with stereotype evaluation and neither with stereotype potency nor stereotype accuracy. Thus, any future study that aims to investigate stereotypes should explain and describe which dimension of the stereotype being studied to better understand the results. In addition, as findings of this study might reflect the unique patterns of relationships between the groups being studied, researchers in this area may consider retesting the hypotheses with other groups as well as other cultural settings with different situation.

Findings from the present study also suggest that direct contact effect is not always higher for the majority than for minority groups in reducing prejudice (Tropp & Pettigrew, 2005b). Rather, direct contact has stronger association with stereotype evaluation for the minority group in US (i.e., Chinese Americans) than for the majority group (i.e., European Americans) in this study. Furthermore, the present study also revealed that extended contact is not always more advantageous than direct contact in a way that extended contact has strong association with improved out-group attitudes for both majority and minority groups as suggested by previous study (Gómez, et al., 2011). Instead, findings in this study showed no significant relationship between extended contact and stereotype evaluation across group status and cultures. Moreover, as in the case of direct contact, the relationship between extended contact and stereotype evaluation for majority group in the US showed negative trend. In fact, more extended contact was only significantly associated with more stereotype potency for Chinese Americans, and not for the other dependent variables and other groups.
In general, the trend of relationship between direct contact and extended contact with each of the stereotype evaluation, stereotype potency, and stereotype accuracy was mostly similar. One possible explanation for this finding is the high correlation between direct contact and extended contact across cultures. In fact, contrary to the differing results found in previous studies on the correlation between direct contact and extended contact when group status was taken into account (Eller, et al., 2010; Feddes, et al., 2009; Gómez, 2011), significant positive correlations between direct contact and extended contact have consistently been found across group status and cultures (European American: \( r = .67, p < .001 \), Chinese American: \( r = .60, p < .001 \), Javanese: \( r = .72, p < .001 \), Chinese Indonesian: \( r = .31, p < .01 \)). Therefore, it is possible that in this sample, direct contact and extended contact are naturally related with each other, perhaps due to the population composition in each cultural setting and the nature of relationship between the particular groups in this study.

Overall, findings of the present study revealed that the relationships between each type of contact and stereotypes are not one-way street. Rather, it highly depends on the nature of relationship between the groups in each culture. Therefore, future study that aims to look at the differing effect of direct contact and extended contact in the area of intergroup relations should take into account this variable more carefully in order to answer the main question of when does extended contact uniquely affects intergroup relations above and beyond direct contact.

Finally, from the practical perspective, findings from the present study may be used a valuable input to create and improve intervention program in the area of intergroup relations. It is wise that any intervention program that involve intergroup
contact, both direct and extended, to actually consider the socio-political relations between the two-groups.
References


http://www.pewsocialtrends.org/2012/06/19/the-rise-of-asian-americans/


Appendix A: Questionnaire

A1. Sample of Online Survey for European Americans

A Study of Intergroup Relations_EA

1. What is your ethnicity?
   □ European American [Value=1]
   □ Other [please specify] [Value=3]

2. Are you an American citizen OR have you resided in the United States of America for at least 5 years?
   □ Yes [Value=1]
   □ No [Value=2]

ADULT RESEARCH SUBJECT - INFORMED CONSENT FORM
A Study of Intergroup Relations

Principal Investigator: Yueh-Ting Lee, PhD, 419-530-2347
Yogina Periwal, 419-530-2526

Purpose: You are invited to participate in the research project entitled, A Study of Intergroup Relations which is being conducted at the University of Toledo under the direction of Prof. Yueh-Ting Lee and Yogina Periwal. The purpose of this study is to examine the relationship between two different cultural groups in the United States.

Description of Procedures: This research study will be conducted using an online survey through PsychData website and will take approximately 30 minutes to complete the study. You will be asked to complete various questionnaires in which you will evaluate two cultural groups including your own group in terms of their characters and general image. You will also have to complete several questions related to your relationship with members of a particular cultural group. In addition, you have to be 18 years old or older to participate in this study.

After you have completed your participation, you will read a debriefing statement about the data, theory and research area under study and answer any questions you may have about the research.

Potential Risks: There are minimal risks to participation in this study, including loss of confidentiality.

Potential Benefits: The direct benefit for you if you participate in this research is that you will receive a monetary reward for your participation stated in the MyLink Amazon website. Another direct benefit may be that you will learn about how cross-cultural studies in psychology are run and may learn more about different cultural groups in the United States. Others may benefit by learning about the results of this research.

Confidentiality: The researchers will make every effort to prevent anyone who is not on the research team from knowing that you provided this information, or what that information is. The data will be kept anonymous, and your personal identity will not be linked to the respondents that you provide during the survey. Although we will make every effort to protect your confidentiality, there is a low risk that this might be breached.

Voluntary Participation: Your refusal to participate in this study will involve no penalty or loss of benefits to which you are otherwise entitled and will not affect your relationship with The University of Toledo. In addition, you may discontinue.

participation at any time without any penalty or loss of benefits.

Contact Information: Before you decide to accept this invitation to take part in this study, you may ask any questions that you might have. If you have any questions at any time before, during or after your participation you should contact a member of the research team (Prof. Yueh-Ting Lee, 419-530-2347 or Yopna Pottsw, 419-530-8400). If you have questions beyond those answered by the research team or your rights as a research subject or research-related injuries, please feel free to contact the IBS Chair at (419) 530-2844.

3) By clicking on the next page and beginning the survey, you are stating that you have read and accept the information above and are giving your consent to participate in this research. You are also confirming that you are 18 years old or over.
   - CONTINUE TO THE SURVEY [Value:1]
   - CANCEL PARTICIPATION [Value:2]

Question Logics:
   E [CONTINUE TO THE SURVEY] is selected, then skip to question [M]
   E [CANCEL PARTICIPATION] is selected, then skip to question [GO TO END OF SURVEY]

Page Break

4) Please write as many as possible: ANYTHING THAT YOU KNOW ABOUT CHINESE AMERICANS IN THE UNITED STATES

Page Break

Instruction: Listed below are a number of items collected from a variety of sources related to social perception and group judgment. Please select a number that reflects your opinion in each column:

1=least true 2=less true 3=more true 4=much true
5=much true 6=more true 7=most true

5) Admiration

<table>
<thead>
<tr>
<th>Yourself</th>
<th>Chinese Americans</th>
<th>European Americans</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Select-</td>
<td>-Select-</td>
<td>-Select-</td>
</tr>
<tr>
<td>-1=least true [Value:1]</td>
<td>-1=least true [Value:1]</td>
<td>-1=least true [Value:1]</td>
</tr>
<tr>
<td>-2=less true [Value:2]</td>
<td>-2=less true [Value:2]</td>
<td>-2=less true [Value:2]</td>
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<tr>
<td>-3=more true [Value:3]</td>
<td>-3=more true [Value:3]</td>
<td>-3=more true [Value:3]</td>
</tr>
<tr>
<td>-7=most true [Value:7]</td>
<td>-7=most true [Value:7]</td>
<td>-7=most true [Value:7]</td>
</tr>
</tbody>
</table>

6) Conservative

<table>
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<tr>
<th>Yourself</th>
<th>Chinese Americans</th>
<th>European Americans</th>
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</thead>
<tbody>
<tr>
<td>-Select-</td>
<td>-Select-</td>
<td>-Select-</td>
</tr>
</tbody>
</table>

7) Competitive

<table>
<thead>
<tr>
<th>Yourself</th>
<th>Chinese Americans</th>
<th>European Americans</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Select-</td>
<td>-Select-</td>
<td>-Select-</td>
</tr>
</tbody>
</table>

8) Demanding

<table>
<thead>
<tr>
<th>Yourself</th>
<th>Chinese Americans</th>
<th>European Americans</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Select-</td>
<td>-Select-</td>
<td>-Select-</td>
</tr>
</tbody>
</table>

9) Disobedient

<table>
<thead>
<tr>
<th>Yourself</th>
<th>Chinese Americans</th>
<th>European Americans</th>
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</thead>
<tbody>
<tr>
<td>-Select-</td>
<td>-Select-</td>
<td>-Select-</td>
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</tbody>
</table>

10) Leader

<table>
<thead>
<tr>
<th>Yourself</th>
<th>Chinese Americans</th>
<th>European Americans</th>
</tr>
</thead>
<tbody>
<tr>
<td>-Select-</td>
<td>-Select-</td>
<td>-Select-</td>
</tr>
</tbody>
</table>


92
Below you will see something that looks like a thermometer. We would like you to use the thermometer to indicate your overall attitude towards Chinese Americans. If you have a favorable attitude towards Chinese Americans, you would give them a score somewhere between 50° and 100°, depending on how favorable you are toward them. If you have an unfavorable attitude towards Chinese Americans, you would give them a score somewhere between 0° and 50°, depending on how unfavorable you are toward them. The degree labels will help you to locate the group on the thermometer. However, you are not restricted to the numbers indicated — feel free to use any number between 0° and 100°. Please be honest.

*17) Your Response: [ ]

---

**Instruction:** In this section, you are asked to write an estimation about number of population, income, and educational degree of several ethnic groups in US. Please write your estimation after each statement.

**Chinese American**

*18) Percentage of Chinese American population number out of all US population (%) [ ]

*19) Annual average income (USD) of Chinese Americans [ ]

*20) Percentage of Chinese American population number out of all Chinese Americans who finish high school (%) [ ]

https://www.psychdata.com/surveyprint.asp?uid=98292&sid=154324
A Study of Intergroup Relations

21) Percentage of Chinese American population number out of all Chinese Americans who have at least an undergraduate degree (%)

22) Percentage of European American population number out of all US population (%)

23) Annual average income (USD) of European Americans

24) Percentage of European American population number out of all European Americans who finish high school (%)

25) Percentage of European American population number out of all European Americans who have at least a graduate degree (%)

CONTACT

26) How many friends do you have who are Chinese Americans?
   - None [Value=1]
   - One [Value=2]
   - Two to five [Value=3]
   - Five to ten [Value=4]
   - Over ten [Value=5]

27) How often do you spend time with Chinese Americans?
   - Never [Value=1]
   - Occasionally [Value=2]
   - Sometimes [Value=3]
   - Quite a lot [Value=4]
   - All the time [Value=5]

28) How often do you have informal conversation with Chinese Americans?
   - Never [Value=1]
   - Occasionally [Value=2]
   - Sometimes [Value=3]
   - Quite a lot [Value=4]
   - All the time [Value=5]

29) How often do you visit any Chinese American's home?
   - Never [Value=1]
   - Occasionally [Value=2]
   - Sometimes [Value=3]
   - Quite a lot [Value=4]
   - All the time [Value=5]

30) How many European American people do you know who have friends who are Chinese Americans?
   - None [Value=1]
   - A few [Value=2]
   - About half [Value=3]
   - More than half [Value=4]
**31.)** How many of your European American neighbors do you think have friends who are Chinese Americans?
- None [Value=1]
- One [Value=2]
- Two to five [Value=3]
- Fewer than ten [Value=4]
- Over ten [Value=5]

**32.)** How many of your European American [friends] have friends who are Chinese Americans?
- None [Value=1]
- One [Value=2]
- Two to five [Value=3]
- Fewer than ten [Value=4]
- Over ten [Value=5]

**33.)** How many of your very best European American friends have friends who are Chinese Americans?
- None [Value=1]
- One [Value=2]
- Two to five [Value=3]
- Fewer than ten [Value=4]
- Over ten [Value=5]

**34.)** How many members of your family (including parents, brothers and sisters, cousins, etc.) have friends who are Chinese Americans?
- None [Value=1]
- One [Value=2]
- Two to five [Value=3]
- Fewer than ten [Value=4]
- Over ten [Value=5]

---

**SOCIAL MEDIA**

**35.)** Do you have any account in social media, such as Facebook, Twitter, Instagram, etc.?
- Yes [Value=1]
- No [Value=2]

*Question Logic:
F [Yes] is selected, then skip to question [39b];
F [No] is selected, then skip to question [after #38, Text] (See "Edit Logic" for details)

---

36.) Please select the social media in which you have at least one account

- Facebook [Checked=1]
- Twitter [Checked=1]
- Instagram [Checked=1]
- MySpace [Checked=1]
- Other (please specify) [Checked=1]

---

**37.)** How many friends do you have in your social media account(s) who are Chinese Americans?
- None [Value=1]
- One [Value=2]
38) How often do you have conversations online with Chinese friends through your social media accounts?
- Never [Value=1]
- Occasionally [Value=2]
- Sometimes [Value=3]
- Quite a bit [Value=4]
- All the time [Value=5]

GENERAL OPINION

39) In general, how powerful do you think the Chinese Americans are compared to the European Americans in terms of political position in the United States, on a scale of 1 to 7?
- 1 (not powerful at all) [Value=1]
- 2 [Value=2]
- 3 [Value=3]
- 4 [Value=4]
- 5 [Value=5]
- 6 [Value=6]
- 7 (very much powerful) [Value=7]

40) In general, how powerful do you think the Chinese Americans are compared to the European Americans in terms of economic status in the United States?
- 1 (not powerful at all) [Value=1]
- 2 [Value=2]
- 3 [Value=3]
- 4 [Value=4]
- 5 [Value=5]
- 6 [Value=6]
- 7 (very much powerful) [Value=7]

41) In general, how active do you think the US government is in making efforts to maintain harmonious relationship between the majority and minority groups in the country?
- 1 (not active at all) [Value=1]
- 2 [Value=2]
- 3 [Value=3]
- 4 [Value=4]
- 5 [Value=5]
- 6 [Value=6]
- 7 (very much active) [Value=7]

42) In general, how serious do you think the US government is in making efforts to maintain harmonious relationship between the majority and minority groups in the country?
- 1 (not serious at all) [Value=1]
- 2 [Value=2]
- 3 [Value=3]
- 4 [Value=4]
- 5 [Value=5]
- 6 [Value=6]
- 7 (very much serious) [Value=7]

43) In general, how close do you think the relationship between the European American and Chinese American is in the US at the present time?
- 1 (not close at all) [Value=1]
- 2 [Value=2]
- 3 [Value=3]
4 (Value=4)
5 (Value=5)
6 (Value=6)
7 (very much closer) (Value=7)

*44* In general, how much conflict do you think occur between the European American and Chinese American in the US at the present time, in a scale of 1 to 7?
1 (no conflict at all) (Value=1)
2 (Value=2)
3 (Value=3)
4 (Value=4)
5 (Value=5)
6 (Value=6)
7 (very much conflict) (Value=7)

*45* In general, how harmonious do you think the relationship between the European American and Chinese American in the US?
1 (not harmonious at all) (Value=1)
2 (Value=2)
3 (Value=3)
4 (Value=4)
5 (Value=5)
6 (Value=6)
7 (very much harmonious) (Value=7)

SOCIAL STANDING

*46* Think of these numbers as representing where people stand in our society. At the top are the people who are the best off, those who have the most money, most education, and best jobs. At the bottom are the people who are the worst off, those who have the least money, least education, and worst jobs or no job. Please pick the number that best represents where you think you stand.
1 (best off) (Value=1)
2 (Value=2)
3 (Value=3)
4 (Value=4)
5 (Value=5)
6 (Value=6)
7 (Value=7)
8 (Value=8)
9 (Value=9)
10 (worst off) (Value=10)

BACKGROUND INFORMATION

*47* Gender
1 (Male) (Value=1)
2 (Female) (Value=2)
3 (Other/Prefer not to say) (Value=3)

*48* Age

*49* Occupation
58) Student Major

59) Highest degree
- Less than high school [Value=1]
- High school [Value=2]
- College [Value=3]
- Undergraduate [Value=4]
- Graduate [Value=5]
- Other (please specify) [Value=6]

60) Mother's highest degree
- Less than high school [Value=1]
- High school [Value=2]
- College [Value=3]
- Undergraduate [Value=4]
- Graduate [Value=5]
- Other (please specify) [Value=6]

61) Father's highest degree
- Less than high school [Value=1]
- High school [Value=2]
- College [Value=3]
- Undergraduate [Value=4]
- Graduate [Value=5]
- Other (please specify) [Value=6]

62) Mother's ethnicity
- African American [Value=1]
- Asian American [Value=2]
- European American [Value=3]
- Latino/Hispanic [Value=4]
- Other (please specify) [Value=5]

63) Father's ethnicity
- African American [Value=1]
- Asian American [Value=2]
- European American [Value=3]
- Latino/Hispanic [Value=4]
- Other (please specify) [Value=5]

64) Mother's religion
- Catholic [Value=1]
- Protestant [Value=2]
- Islam [Value=3]
- Buddhism [Value=4]
- Hindu [Value=5]
- Other (please specify) [Value=6]
57. Father's religion
- Catholic [Value=1]
- Protestant [Value=2]
- Islamic [Value=3]
- Buddhist [Value=4]
- Hindu [Value=5]
- Other (please specify) [Value=6]

58. Mother's religion
- Catholic [Value=1]
- Protestant [Value=2]
- Islamic [Value=3]
- Buddhist [Value=4]
- Hindu [Value=5]
- Other (please specify) [Value=6]

59. On the scale of 1 to 7, please rate how religious are you?
- 1 [Value=1]
- 2 [Value=2]
- 3 [Value=3]
- 4 [Value=4]
- 5 [Value=5]
- 6 [Value=6]
- 7 [Value=7]

60. Where were you growing up?
- Village [Value=1]
- Small town [Value=2]
- Big city [Value=3]
- Other (please specify) [Value=4]

61. Estimated annual family income (US$)

62. Your ethnicity
- African American [Value=1]
- Asian American [Value=2]
- European American [Value=3]
- Latino/Mexican [Value=4]
- Other (please specify) [Value=5]
83) To which sub-ethnic group do you belong to?
- Chinese American [Value=1]
- Japanese American [Value=2]
- Filipino American [Value=3]
- Asian Indian American [Value=4]
- Pacific Islander [Value=5]
- Other (please specify) [Value=6]

85) Were you born in the United States?
- Yes [Value=1]
- No [Value=2]

Question Logic
If [Yes] is selected, then skip to question [#88]
If [No] is selected, then skip to question [#68]

Page Break

86) If NO, when did you come to the United States?

Page Break

87) Are you a native English speaker?
- Yes [Value=1]
- No [Value=2]

Question Logic
If [Yes] is selected, then skip to question [after #68, Skip Logic]
If [No] is selected, then skip to question [#68]

Page Break

87) What is your native language?

Page Break

88) Were you had trouble in understanding any part of this survey? If yes, please explain.

Page Break

Skip Logic
Skip to question [#69]

Skip Logic
Skip to question [GO TO END OF SURVEY]

We are SORRY, you are NOT ELIGIBLE to participate in this study.

89) Please make up your own 5 digit completion code (ex. 34781) and enter it below. You will also enter this code on Black to show that you completed the survey.

Page Break
A Study of Intergroup Relations

Debriefing Statement:

A Study of Intergroup Relations

The purpose of the study today is to examine the relations between contact, both direct and indirect, and the way people of different cultural groups perceive each other. Specifically, the study compares how members of majority group perceive members of minority group and vice versa, and the association of contact between members of the two groups and perception toward each other. The study also measures how members of different groups evaluate each other, how accurate is the perception, and how much knowledge they have about the other group.

The survey consists of eight parts, and each part was intended to measure different aspects. The first part measures your subjective knowledge about the other group, the second part measures your perception and evaluation toward the other group, the third part measures your general feeling about the other group, the fourth part measures your objective knowledge about the other group; the fifth part measures how much contact, directly and indirectly, do you have with members of the other group; the sixth part measures how much indirect contact do you have with members of the other group through social media; the seventh part measures your subjective opinion about the power, politically and economically, that the other group has within the country, and also your subjective opinion on the relationship between the two groups within the country, and the last part measures your subjective belief about your socio-economic standing in the society in general.

All the information we collected in today's study will be confidential, and there will be no way of identifying your responses in the data archive. We are not interested in any one individual's responses, we want to look at the general patterns that emerge when the data are aggregated together.

Your participation today is appreciated. We ask that you do not discuss the nature of the study with others who may later participate in it, as this could affect the validity of our research conclusions. If you have any questions or concerns, you are welcome to contact Yosheen Porthel at Yosheen.Porthel@ubcdo.bj or Prof. Yuhg Ting Lee at Y.lee@ubcdo.bj of the UT Psychology Department.

Thank you again for your participation.

A Study of Intergroup Relations

Thank you!

For maximum confidentiality, please close this window.

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A2. Sample of Indonesian Version Paper and Pencil Survey for Javanese

Penelitian tentang Hubungan Antarkelompok

Peneliti : Yopina G. Pertiwi
(University of Toledo & Universitas Gadjah Mada)

Asisten Peneliti : Made A. Suadnyana & Cendy Cahyo Rahmat

Tujuan Penelitian:
Melalui studi ini, kami ingin mengetahui opini Anda terkait etnis Anda sendiri dan etnis lainnya.

Kerahasiaan:
Semua respon yang kami peroleh melalui penelitian ini hanya akan kami gunakan untuk kepentingan penelitian dan hanya tim peneliti pada penelitian ini yang dapat mengakses respon dari partisipan. Anda diminta untuk tidak menuliskan nama Anda di bagian mana pun dalam pengisian kuesioner ini.
Jika Anda memiliki pertanyaan mengenai penelitian ini, silakan menghubungi asisten peneliti kami atau mengirimkan email melalui Yopina.Pertiwi@rockets.utoledo.edu.

Terima kasih.

Instruksi Umum:

Selamat Mengerjakan! 😊
BAGIAN I. Identitas Personal

Apakah Anda:

☐ Etnis Jawa
☐ Etnis Cina

BAGIAN II. Pengetahuan Umum

Instruksi: Tuliskan sebanyak mungkin: APA PUN YANG ANDA KETAHUI TENTANG ETNIS CINA DI INDONESIA
BAGIAN III. Persepsi

Instruksi: Hal-hal yang tertera di bawah ini adalah aitem-aitem yang dirangkum dari berbagai sumber terkait persepsi sosial dan penilaian kelompok. Tuliskan angka di bawah ini yang menunjukkan pendapat Anda pada setiap kolom.

1 = sangat tidak sesuai 2 = tidak sesuai 3 = kurang sesuai
4 = netral 5 = agak sesuai 6 = sesuai
7 = sangat sesuai

<table>
<thead>
<tr>
<th></th>
<th>Diri Sendiri</th>
<th>Orang Jawa</th>
<th>Orang Cina</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Basa-basi</td>
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<tr>
<td>2. Hemat</td>
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<td>3. Kalem</td>
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<td>4. Kaku</td>
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<td>5. Lemah-lembut</td>
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<td>6. Licik</td>
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<td>7. Oportunis</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>8. Pemalu</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Pekerja keras</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Pintar Dagang</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Sopan</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Sungkan</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

BAGIAN IV. Sikap

Di bawah ini Anda akan melihat sesuatu yang tampak seperti termometer. Kami ingin Anda menggunakan termometer tersebut untuk menunjukkan sikap Anda secara keseluruhan terhadap etnis Cina. Jika Anda memiliki sikap yang positif terhadap etnis Cina, Anda akan memberi mereka nilai antara 50° hingga 100 °, tergantung pada seberapa positif sikap anda terhadap mereka. Jika Anda memiliki sikap yang kurang positif (kurang baik) terhadap etnis Cina, Anda akan memberi mereka nilai antara 0 ° hingga 50 °, tergantung pada seberapa kurang positif sikap anda terhadap mereka. Penunjuk/penanda derajat pada termometer akan membantu Anda untuk menempatkan kelompok etnis tersebut. Namun, pilihan Anda tidak dibatasi hanya pada nomor yang tertera di termometer—Anda
dibebaskan untuk menggunakan skor antara 0 ° hingga 100 °. Mohon menjawab dengan sejujurnya.

BAGIAN V. Prediksi


1. **Cina**
   a. Persentase populasi etnis Cina dibandingkan seluruh populasi di Indonesia = ___________%
   b. Pendapatan rata-rata bulanan = Rp ______________
   c. Persentasi populasi etnis Cina yang memiliki latar belakang pendidikan sekolah menengah atas dibandingkan dengan seluruh populasi etnis Cina di Indonesia = ___________%
   d. Persentasi populasi etnis Cina yang memiliki latar belakang pendidikan S1 dibandingkan dengan seluruh populasi etnis Cina di Indonesia = ___________%

2. **Jawa**
   a. Persentase populasi etnis Jawa dibandingkan seluruh populasi di Indonesia = ___________%
   b. Pendapatan rata-rata bulanan = Rp ______________
   c. Persentasi populasi etnis Jawa yang memiliki latar belakang pendidikan sekolah menengah atas dibandingkan dengan seluruh populasi etnis Jawa di Indonesia = ___________%
   d. Persentasi populasi etnis Jawa yang memiliki latar belakang pendidikan S1 dibandingkan dengan seluruh populasi etnis Jawa di Indonesia = ___________%

BAGIAN VI. Kontak

1. Berapa banyak teman yang Anda miliki, yang berasal dari etnis Cina?
   - [ ] Tidak ada satu pun
   - [ ] Satu
   - [ ] Dua sampai lima
   - [ ] Lima sampai sepuluh
   - [ ] Lebih dari sepuluh
2. Seberapa sering Anda melewatkan/menghabiskan waktu bersama orang dari etnis Cina?

☐ Tidak pernah
☐ Sesekali
☐ Kadang-kadang
☐ Cukup sering
☐ Setiap saat

3. Seberapa sering Anda terlibat dalam percakapan tidak formal dengan orang dari etnis Cina?

☐ Tidak pernah
☐ Sesekali
☐ Kadang-kadang
☐ Cukup sering
☐ Setiap saat

4. Seberapa sering Anda mengunjungi rumah (tempat tinggal) dari seorang etnis Cina?

☐ Tidak pernah
☐ Sesekali
☐ Kadang-kadang
☐ Cukup sering
☐ Setiap saat

5. Berapa banyak orang dari etnis Jawa yang Anda ketahui memiliki teman yang berasal dari etnis Cina?

☐ Tidak ada satupun
☐ Beberapa
☐ Sekitar setengah (dari jumlah keseluruhan)
☐ Lebih dari setengah (dari jumlah keseluruhan)
☐ Sebagian besar

6. Berapa banyak tetangga Anda yang berasal dari etnis Jawa yang Anda ketahui memiliki teman dari etnis Cina?

☐ Tidak ada satupun
☐ Beberapa
☐ Sekitar setengah (dari jumlah keseluruhan)
☐ Lebih dari setengah (dari jumlah keseluruhan)
☐ Sebagian besar

7. Berapa banyak teman Anda yang berasal dari etnis Jawa yang juga memiliki teman dari etnis Cina?

☐ Tidak ada satupun
☐ Beberapa
☐ Sekitar setengah (dari jumlah keseluruhan)
Lebih dari setengah (dari jumlah keseluruhan)
Sebagian besar
8. Berapa banyak teman terdekat Anda yang berasal dari etnis Jawa yang juga memiliki teman dari etnis Cina?
☐ Tidak ada satupun
☐ Satu
☐ Dua sampai lima
☐ Lima sampai sepuluh
☐ Lebih dari sepuluh

9. Berapa banyak anggota keluarga Anda (termasuk kedua orangtua, saudara laki-laki dan perempuan, sepupu, dll.) yang memiliki teman dari etnis Cina?
☐ Tidak ada satupun
☐ Satu
☐ Dua sampai lima
☐ Lima sampai sepuluh
☐ Lebih dari sepuluh

BAGIAN VII. Media Sosial

1. Apakah Anda memiliki akun di media sosial, seperti Facebook, Twitter, Instagram, dll.?
   ☐ Ya
   ☐ Tidak

Jika tidak, silahkan melanjutkan ke nomor 3.

2. Jika ya, silahkan pilih media sosial yang Anda miliki setidaknya satu akun:
   ☐ Facebook
   ☐ Twitter
   ☐ Instagram
   ☐ MySpace
   ☐ Lainnya: _______________

3. Berapa banyak teman yang Anda miliki di akun media sosial yang merupakan orang Cina?
   ☐ Tidak ada satupun
   ☐ Satu
   ☐ Dua sampai lima
   ☐ Lima sampai sepuluh
   ☐ Di atas sepuluh
4. Seberapa sering Anda melakukan percakapan maya (online chat) dengan teman Anda yang orang Cina Anda melalui akun media sosial?
   □ Tidak pernah
   □ Sesekali
   □ Kadang-kadang
   □ Cukup sering
   □ Setiap saat

Bagian VIII. Pendapat Umum

1. Secara umum, seberapa berkuasa Anda pikir orang Cina dibandingkan dengan orang Jawa dalam hal status politik di Indonesia, dalam skala 1 hingga 7?
   □ 1 (tidak berkuasa sama sekali)
   □ 2
   □ 3
   □ 4
   □ 5
   □ 6
   □ 7 (amat sangat berkuasa)

2. Secara umum, seberapa berkuasa Anda pikir orang Cina dibandingkan dengan orang Jawa dalam hal status ekonomi di Indonesia, dalam skala 1 hingga 7?
   □ 1 (tidak berkuasa sama sekali)
   □ 2
   □ 3
   □ 4
   □ 5
   □ 6
   □ 7 (amat sangat berkuasa)

3. Secara umum, seberapa aktif menurut Anda pemerintah Indonesia dalam melakukan usaha untuk menjaga keharmonisan antara kelompok mayoritas dan minoritas di negeri ini, dalam skala 1 hingga 7?
   □ 1 (tidak aktif sama sekali)
   □ 2
   □ 3
   □ 4
   □ 5
   □ 6
   □ 7 (amat sangat aktif)
4. Secara umum, seberapa serius menurut Anda pemerintah Indonesia dalam melakukan usaha untuk menjaga keharmonisan antara kelompok mayoritas dan minoritas di negeri ini, dalam skala 1 hingga 7?

   □ 1 (tidak serius sama sekali)
   □ 2
   □ 3
   □ 4
   □ 5
   □ 6
   □ 7 (amat sangat serius)

5. Secara umum, seberapa dekat menurut Anda hubungan antara orang Jawa dan orang Cina di Indonesia pada saat ini, dalam skala 1 hingga 7?

   □ 1 (tidak dekat sama sekali)
   □ 2
   □ 3
   □ 4
   □ 5
   □ 6
   □ 7 (amat sangat dekat)

6. Secara umum, berapa banyak konflik menurut Anda yang terjadi antara orang Jawa dan orang Cina di Indonesia pada saat ini, dalam skala 1 hingga 7?

   □ 1 (tidak ada konflik sama sekali)
   □ 2
   □ 3
   □ 4
   □ 5
   □ 6
   □ 7 (amat sangat banyak konflik)

7. Secara umum, seberapa harmonis menurut Anda hubungan antara orang Jawa dan orang Cina di Indonesia pada saat ini, dalam skala 1 hingga 7?

   □ 1 (tidak harmonis sama sekali)
   □ 2
   □ 3
   □ 4
   □ 5
   □ 6
   □ 7 (amat sangat harmonis)
BAGIAN IX. Status Sosial

Bayangkan angka-angka di bawah ini merepresentasikan di mana orang-orang berdiri di dalam kelompok masyarakat kita. Pada tempat teratas adalah orang-orang yang memiliki posisi terbaik, mereka yang memiliki uang terbanyak, pendidikan tertinggi, dan pekerjaan terbaik. Pada posisi terbawah adalah orang-orang yang memiliki posisi terendah, mereka yang memiliki uang paling sedikit, pendidikan terendah, dan pekerjaan terburuk atau tanpa pekerjaan sama sekali. Pilihlah salah satu angka di bawah ini yang merepresentasikan dimana posisi Anda.

☐ 1 (teratas)
☐ 2
☐ 3
☐ 4
☐ 5
☐ 6
☐ 7
☐ 8
☐ 9
☐ 10 (terendah)

BAGIAN X. Identitas

Gender : Pria / Wanita
Usia : _______________
Pekerjaan : _______________
Jika Mahasiswa, jurusan : _______________
Pendidikan tertinggi :
  ☐ Lebih rendah dari SMU
  ☐ SMU
  ☐ Diploma
  ☐ Sarjana
□ Pascasarjana

Pendidikan tertinggi Ibu:

□ Lebih rendah dari SMU
□ SMU
□ Diploma
□ Sarjana
□ Pascasarjana

Pendidikan tertinggi Ayah:

□ Lebih rendah dari SMU
□ SMU
□ Diploma
□ Sarjana
□ Pascasarjana

Etnis Ibu: ___________________

Etnis Ayah: ___________________

Etnis Anda: ___________________

Agama Ibu:

□ Katolik
□ Protestant
□ Islam
□ Budha
□ Hindu
□ Lainnya: ______________

Agama Ayah:

□ Katolik
□ Protestant
□ Islam
□ Budha
□ Hindu
□ Lainnya: ______________

Agama Anda:

□ Katolik
□ Protestant
☐ Islam
☐ Budha
☐ Hindu
☐ Lainnya: ________________

Dengan menggunakan skala 1 hingga 7, seberapa relijiuskah Anda?

☐ 1 (tidak relijius sama sekali)
☐ 2
☐ 3
☐ 4
☐ 5
☐ 6
☐ 7 (amat sangat relijius)

Di mana Anda tumbuh besar:

☐ Pedesaan
☐ Kota kecil
☐ Kota besar

Perkiraan pendapatan keluarga bulanan: 

Rp. ________________

TERIMA KASIH 😊
**Appendix B: Stereotype Potency Coding Form**

**Stereotype Potency Coding Form**

Participant No.: _______________
Rater: _______________

<table>
<thead>
<tr>
<th>Criteria</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Relevance</strong></td>
<td>None of the ideas represent the targeted out-group</td>
<td>Less than twenty five percent of the ideas represent the targeted out-group</td>
<td>About fifty to seventy five percent of the ideas represent the targeted out-group</td>
<td>More than 75% of the ideas (but not all) represent the targeted out-group</td>
<td>All of ideas represent the targeted out-group</td>
</tr>
<tr>
<td><strong>Depth</strong></td>
<td>Only one ideas written about the targeted out-group</td>
<td>Ideas represent superficial characteristics (only popular stereotypes) about the targeted out-group</td>
<td>Ideas represent popular stereotypes and/or personal experiences</td>
<td>Ideas represent popular stereotypes, personal experiences, and/or media coverage</td>
<td>Ideas represent popular stereotypes, personal experiences, media coverage, and/or some historical accounts</td>
</tr>
</tbody>
</table>

Number of ideas: _______________
Number of words: _______________
Appendix C: List of Stereotypes

<table>
<thead>
<tr>
<th>Positive</th>
<th>Negative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Americans</td>
<td></td>
</tr>
<tr>
<td>European Americans</td>
<td>Adventurous</td>
</tr>
<tr>
<td></td>
<td>Democratic</td>
</tr>
<tr>
<td></td>
<td>Leaders</td>
</tr>
<tr>
<td>Chinese Americans</td>
<td>Disciplined</td>
</tr>
<tr>
<td></td>
<td>Competitive</td>
</tr>
<tr>
<td></td>
<td>Scientifically minded</td>
</tr>
<tr>
<td>Indonesians</td>
<td></td>
</tr>
<tr>
<td>Javanese</td>
<td>Calm (kalem)</td>
</tr>
<tr>
<td></td>
<td>Gentle (lemah-lembut)</td>
</tr>
<tr>
<td></td>
<td>Mannered (sopan)</td>
</tr>
<tr>
<td>Chinese Indonesians</td>
<td>Smart in business (pintar dagang)</td>
</tr>
<tr>
<td></td>
<td>Hard worker (pekerja keras)</td>
</tr>
<tr>
<td></td>
<td>Thrifty (hemat)</td>
</tr>
</tbody>
</table>


Appendix D: Calculating Sensitivity Correlation

Signed perceived–actual discrepancies

The method that directly addresses traditional accuracy questions, that is, the accentuation of intergroup differences and intragroup similarities (Cornell & Judd, 1999; Doise, Deschamps, & Meyer, 1978; Knieger & Clement, 1994; Tajfel 1960; Tajfel & Wilkes, 1963), involves computing difference scores for which the sign or direction of each difference is retained. Consider the hypothetical data in Table 1 for two perceivers who were asked to estimate the percentage of group members that possessed each of two stereotypic and two counterstereotypic attributes. The third column of the table contains signed discrepancy scores (i.e., the perceived minus the actual values) for each attribute. Positive discrepancies indicate that the perceiver overestimated, and negative discrepancies indicate that the perceiver underestimated, the group’s actual percentage on the given dimension. Each perceiver’s overall signed discrepancy accuracy score is computed by subtracting the mean perceived–actual discrepancy on counterstereotypic attributes from the mean perceived–actual discrepancy on stereotypic attributes. If the mean accuracy score for a sample of participants were statistically significant and positive, participants’ stereotypes could be characterized as exaggerations of the group’s actual characteristics (Judd & Park, 1993).

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Perceived</th>
<th>Actual (criteria)</th>
<th>Signed discrepancy</th>
<th>Absolute discrepancy</th>
<th>Sensitivity correlation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stereotypic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Athletic</td>
<td>90</td>
<td>70</td>
<td>+20</td>
<td>20</td>
<td>—</td>
</tr>
<tr>
<td>Streetwise</td>
<td>80</td>
<td>60</td>
<td>+20</td>
<td>20</td>
<td>—</td>
</tr>
<tr>
<td>Counterstereotypic</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educated</td>
<td>30</td>
<td>50</td>
<td>−20</td>
<td>20</td>
<td>—</td>
</tr>
<tr>
<td>Ambitious</td>
<td>20</td>
<td>40</td>
<td>−20</td>
<td>20</td>
<td>—</td>
</tr>
<tr>
<td>Accuracy score</td>
<td></td>
<td>40</td>
<td>20</td>
<td></td>
<td>1.00</td>
</tr>
<tr>
<td>Stereotypic2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Athletic</td>
<td>90</td>
<td>70</td>
<td>+20</td>
<td>20</td>
<td>—</td>
</tr>
<tr>
<td>Streetwise</td>
<td>40</td>
<td>60</td>
<td>−20</td>
<td>20</td>
<td>—</td>
</tr>
<tr>
<td>Counterstereotypic2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Educated</td>
<td>70</td>
<td>50</td>
<td>+20</td>
<td>20</td>
<td>—</td>
</tr>
<tr>
<td>Ambitious</td>
<td>20</td>
<td>40</td>
<td>−20</td>
<td>20</td>
<td>—</td>
</tr>
<tr>
<td>Accuracy score</td>
<td></td>
<td>0</td>
<td>20</td>
<td></td>
<td>0.832</td>
</tr>
</tbody>
</table>
Absolute perceived–actual discrepancies

One might also compare perceived to actual group values by examining the absolute value of the same discrepancies, ignoring the sign that indicates whether the perceived value is higher or lower than the actual value. Hypothetical absolute discrepancies for the same two perceivers described above are reported in the fourth column of Table 1. Because the sign or direction of the difference is disregarded, this accuracy measure does not indicate whether people overestimate or underestimate the group’s actual characteristics—larger discrepancies simply reflect greater inaccuracy. Thus, not only are these discrepancies subject to the same response language confounds described above, they also do not tell us about the types of accuracy that have been of primary interest to stereotyping researchers. Nevertheless, absolute discrepancies may be important to examine, inasmuch as they are potentially distinct from signed discrepancies. Note, for example, that the signed discrepancies in Table 1 indicate that the second perceiver is more accurate than the first, whereas the absolute discrepancies indicate that the two perceivers are equally (in)accurate.

Within-subject sensitivity correlations

A third method for comparing perceived to actual group values involves computing for each participant the correlation between perceived and actual characteristics of the group. Each within-subject correlation is computed across attributes so that the sample size for each correlation is based on the number of attributes for which that particular participant has complete data. Higher sensitivity correlations indicate greater accuracy—that is, greater sensitivity to differences between attributes in the group’s actual characteristics. Consider once again the hypothetical data in Table 1. The sensitivity correlation for each perceiver is reported in the last column. Each correlation is computed by correlating the perceived values in the first column with the actual values in the second column. (Note that I first reverse-scored the perceived and actual values for counterstereotypic attributes so that the magnitude of the correlation would not be confounded with the stereotypic counterstereotypic attribute difference.) As the data indicate, Perceiver #1 is much more sensitive than is Perceiver #2 to the fact that the group is more athletic than it is streetwise and more streetwise than it is educated. (Remember that these actual data are strictly hypothetical.)

An advantage of sensitivity correlations is that they are not influenced by the types of response language confounds that make it difficult to interpret discrepancies. If a mean correlation is significantly greater than zero, one can conclude that the group is perceived accurately or, more precisely, that
the perceivers in the study are sensitive to between-attribute differences in the actual characteristics (e.g., the mean or range) of the target group. The disadvantage, however, is that sensitivity correlations do not address traditional questions concerning stereotype overestimation (i.e., exaggeration) and variability underestimation (i.e., overgeneralisation). Such traditional questions require one to examine the signed discrepancies between perceived and actual values. Consider again the hypothetical data for Perceiver #1 in Table 1. If 10 were added to each of the perceived values on stereotypic attributes and subtracted from each of the perceived values for counterstereotypic attributes, the signed discrepancy score would substantially increase to 60. This discrepancy score may reflect greater stereotype exaggeration or a stronger judgement extremity bias (i.e., a stronger tendency to use the extremes of the response scale). However, the sensitivity correlation would not be affected. It would remain at 1.00 (recall that counterstereotypic attributes are reverse-scored before the correlation is computed).

Note that in some accuracy studies researchers have averaged across perceivers for each attribute and then correlated these mean values with the actual group values for each attribute (e.g., Eagly & Diekman, 1997; Swim, 1994). In other cases, researchers have compared the magnitudes and statistical significance of two separately computed correlations: the correlation between perceivers’ judgements of individuals and those individuals’ group membership (e.g., the correlation between teachers’ judgements of students and students’ ethnicity) and the correlation between the same individuals’ self-ratings or performance on a standardised test and their group membership (e.g., Madon et al., 1998). These methods assess accuracy at an aggregate level; they do not assess the accuracy of individual perceivers’ stereotypes. It is possible for there to be relatively high accuracy at an aggregate level, even when individual perceivers are inaccurate.

**Relationships among signed discrepancies, absolute discrepancies, and within-subject sensitivity correlations**

There is no necessary relationship between discrepancies, whether signed or absolute, and within-subject sensitivity correlations. More positive signed central tendency discrepancies on stereotypic attributes indicate greater overestimation of the stereotype. Similarly, more negative signed range discrepancies reflect greater underestimation of group variability. In contrast, sensitivity correlations assess the extent to which perceivers detect differences between attributes in the actual central tendency or range of the group. Discrepancy and correlation measures may therefore yield different