

## Structured Imaginings: Social Media as a Tool to Reduce Intergroup Prejudice

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**Abstract:** Based on intergroup contact theory, we conducted a social media campaign to improve the relationship between Chinese sojourners and Singaporeans. We found that perceived discrimination fully mediated the effects of face-to-face contact as well as imagined contact on intergroup prejudice. An investigation of joint effects showed that, for the campaign audience, online contact campaign, instead of face-to-face contact, significantly reduced their perceived discrimination, which in turn reduced intergroup prejudice. We discuss explanations for the impact of social media on intergroup relationships and implications of targeted social media campaigns in the context of a growing crisis in global immigration.

**Keywords:** China, immigrant, prejudice, Singapore, social media, sojourner, Weibo

### 1. Introduction

The cultural adaptation and integration of migrants in recipient host countries have mainly focused on migrants' acculturation strategies (Berry, 1997) and the cross-cultural model (Kim, 1978). We focus this research paper on the rising prejudice amongst migrants, an attitude usually studied amongst the host population. Specifically, we examine People's Republic of China (PRC) sojourners in Singapore. Church (1982) defines sojourners as international migrants who are "relatively short-term visitors to new cultures where permanent settlement is not their purpose" (p 540), usually for the purpose of education and employment (International Association for Migration, 2015). These sojourners nonetheless influence the sociocultural fabric of host countries (Ratha, Mohapatra, & Scheja, 2011), and intercultural discord becomes a concern. Isolated incidents involving Chinese mainlanders, including a financial investor involved in a fatal Ferrari accident and a student referring to Singaporeans as 'dogs', has led to rising anti-Chinese sentiment (Jacobs, 2012). There is wider discontentment associated with the increased competition for jobs, economic resources, and infrastructure (Eng & Mathew, 2016).

Singapore is often regarded as a country with a predominantly Chinese culture (Tsang, 2001), with ethnic Chinese comprising three quarters of the population (Department of Statistics Singapore, 2017). Singaporean culture is nonetheless different from Chinese culture in essential aspects of daily life. English proficiency and Western education have been legitimized and rewarded (Chong, 2005), and multiculturalism adopted as an organizing concept for governance (Huat, 2003). These unique elements of Singaporean culture coupled

with apparent similarities with Chinese culture has caused PRC sojourners to experience confusion and frustration, leading to a challenging adjustment process to their host society (Tsang, 2001). Beyond usual sources of migration stress, such as homesickness, loneliness, and economic challenges (Chib, Wilkin, & Mei Hua, 2013), these outgroups engage in reactive ethnicity, or reverse stereotyping of locals (Jiang, et al., 2016). Such challenges faced during the cultural adaptation period influences their interactions, relationships, and perceptions of the host society. PRC students and academics have reported feeling isolated, while simultaneously being perceived as arrogant by Singaporeans (Fang, 2012).

Communication has however been a significant factor in promoting intercultural dialogue and for improving intergroup relationships. The positive influence of mass media on attitude and bias towards the out-group have been well documented (e.g., Schiappa, Gregg, & Hewes, 2005; Weisbuch, Pauker, & Ambady, 2009). Information and communication technologies (ICTs) are another effective means to ameliorate intergroup relationships (Hoter, Shonfeld, & Ganayem, 2009). An emergent area of research is the effect of online and social media on intergroup relations (Schuter, 2012). Given this context, we investigate the role of Weibo, a Chinese social networking application.

We conducted two studies. In the first, we use intergroup contact theory (Allport, 1954) to resolve the role of perceived discrimination as a mediator of the relationship between face-to-face contact and prejudice. In the second study, we use imagined intergroup contact theory (Crisp & Turner, 2009) to replicate the investigation of perceived discrimination as a mediator, as proposed by contact theory, under the condition that face-to-face contact and social media contact occur simultaneously.

Several popular international social networking sites, such as Facebook and Twitter, have been blocked in China. Consequently, a number of Chinese social networking sites have been launched and flourished, such as Youku (youku.com), and the Renren Network (renren.com) (Shi & Chen, 2014). Weibo, considered China's equivalent of Twitter, has become one of the most popular social networking sites, also witnessing widespread adoption in the overseas Chinese diaspora globally. Weibo had around 212 million monthly active users and 93 million average daily active users in June 2015 (CIW Team, 2015). It is reasonable to assume that Weibo could be a plausible platform for Mandarin-speaking Singaporeans to interact online with PRC sojourners. Thus, we designed, implemented, and evaluated a social media campaign on Weibo to reduce PRC sojourners' intergroup prejudice toward Singaporeans.

## 2. Literature Review

Intergroup contact theory (Allport, 1954) has a long history, proposing that under the right conditions, social contact can improve relations between different groups, including the reduction of prejudice. First applied to racial and ethnic groups, the theory was later extended to various group interactions. While reviews for the theory found general support (Harrington & Miller, 1992) for the influence on prejudice reduction, later investigations revealed inconsistent conclusions about intergroup relations (Pettigrew & Tropp, 2000), and generalizability of individual effects to the group level (Forbes, 1997). In an effort to resolve this inconsistency in the literature, Pettigrew and Tropp (2006) meta-analyzed 713 independent samples from 515

studies finding general support for Allport's (1954) theory.

However, additional analyses found that the contact prejudice relationship was weaker for minority groups than for majority groups (Tropp & Pettigrew, 2005), while acknowledging the smaller sample pool available for minority status groups. Scholars (Kanas, Scheepers, & Sterken, 2015; MacInnis & Page-Gould, 2015) reiterate that the perspectives of minority groups have been under-represented in the contact literature. In response to a call for future research to identify more involved mediators and moderators, perceived discrimination has been suggested as a possible factor in intergroup contact theory (Tropp & Pettigrew, 2005). This study contributes to the literature by firstly focusing on migrants as a minority group, and secondly, investigating perceived discrimination by the minority group as a possible mediator between contact and intergroup prejudice.

## 2.1. Study 1: Face to Face Contact

Discrimination pertains to "intentional acts that draw unfair or injurious distinctions, that are based solely on ethnic or racial basis" (Jackson, Kendrick, & Daria, 1998, p.110), although this concept has since been extended to other variables such as gender, age, etc. In daily life, however, these unfair acts may sometimes be expressed in subtle and elusive attitudes or behaviors (Noh, Besier, Kaspar, Hou, & Rummens, 1999), rather than in a blatant form. As a result, "perceived discrimination", referring to one's subjective perception of unfair treatments (Jackson et al., 1998), has been widely employed in research about immigrants (Jasinskaja-Lahti, Liebkind, Jaakkola, & Reuter, 2006).

Generally, discrimination produces undesirable outcomes, being significantly negatively associated with individuals' physical (e.g., Ryan, Gee, & Laflamme, 2006) and mental health (e.g., Essed, 1991; Noh et al., 1999). Besides these negative impacts on individuals' themselves, perceived discrimination is likely to significantly negatively affect racial minority groups' attitudes toward the majority group (Alexander, Brewer, & Livingston, 2005). Perceived discrimination moderated the positive effect of contact on intergroup relations for racial minority's attitudes toward the majority, not vice versa (Tropp, 2007). This study claims to extend prior work in predicting perceived discrimination as a moderator, yet the literature associated with the claim is scant. Subsequent studies on inter-racial contact focus on perceived discrimination, dropping prejudice entirely as a dependent variable (e.g., Dixon et al., 2010; Tropp, Hawi, Van Laar & Levin, 2012).

The first study reverts to prejudice as a variable of interest in measuring the impact of contact. We agree with Pettigrew (1998) that the processes by which contact affects behavior change need greater specification, further arguing for the role of perceived discrimination as a mediator of the relationship between contact and prejudice. Given the inconclusive theoretical and empirical evidence so far, we believe that perceived discrimination may mediate the effect of face-to-face contact on PRC sojourners' intergroup prejudice toward Singaporeans (See Figure 1), finding articulation in the Hypothesis 1 (H1):

H1: Perceived discrimination will mediate the relationship between face-to-face contact and intergroup prejudice.

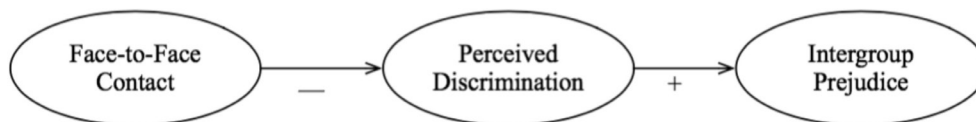


Figure 1. Perceived Discrimination Mediates the Effect of Face-to-Face Contact on Intergroup Prejudice (for H1 in Study 1 and H3 in Study 2).

## 2.2. Study 2: Online Contact via Social Media

The design and evaluation of mass media interventions in improving intergroup relationships have relied extensively on the foundation of extended intergroup contact theory. The original intergroup contact theory has been qualified on the basis of opportunities for direct contact (Crisp, Stathi, Turner, & Husnu, 2008), with extension of the theory finding that indirect contact may improve intergroup relationship as well (Wright, Aron, McLaughlin-Volpe, & Ropp, 1997). The extended contact hypothesis proposes that learning that someone from the in-group has positive interactions with out-group members also results in positive attitudes and less prejudice towards the out-group.

Based on extended contact theory, Crisp and Turner (2009) went a step further and proposed imagined intergroup contact theory as “the mental simulation of social interaction with a member or members of an out-group category” (p. 234). This set of scholars (Crisp et al., 2008) argued that simulation of contact (without the need for direct contact) would lead to positive evaluations of out-groups, in turn resulting in successful interactions with out-group members. The positive impacts have been documented in experimental designs, with imagined contact leading to greater positive perceptions toward other ethnic or national groups and a reduction in intergroup bias (Husnu & Crisp, 2010; Stathi & Crisp, 2008).

There is growing body of work that indicates prejudice reduction might occur because of online contact (Hasler & Amichai-Hamburger, 2013). Kim and Wojcieszak (2017) study online comment postings to find that direct online contact with an outgroup member improved attitudes towards undocumented immigrants. With the advent of social media, however, gaps in communication scholarship exist about their impact on acculturation processes for immigrants (Croucher, Sommer, & Rahmani, 2015). Intercultural scholars (Mollov & Schwartz, 2010) have advanced a preliminary framework for intercultural dialog, yet only focus on email. Others investigate international students’ social media use for adaptation purposes (Lee, Kim, Lee, & Kim, 2012; Sandel, 2014), finding greater online communication with co-ethnic networks in home and host countries – isolation of the effect of intercultural dialog is required. We believe that, given their widespread diffusion, the effect of online contact via social media on intercultural prejudice reduction is worth exploring.

In this study, we focus on sojourners, in the case of Singapore, who are typically young adult migrants, beyond the student samples represented in much of the research. We are interested in studying the effects of social media on populations such as young adults, for whom social media have become an essential part of daily life (boyd & Ellison, 2007). 83% of young adult Internet users use social networking websites, while comprising the largest group of users of

Facebook and Twitter (Duggan & Brenner, 2013).

There is a growing body of evidence about the influence of social media use, with a recent meta-review finding a positive impact on social capital, civic engagement, and political participation (Skoric, Zhu, Goh, & Pang, 2015). However, the role of social media on prejudice within the context of immigration remains a research gap. PRC sojourners are active users of social media forums; the question is whether such communication activities influence attitudes of intergroup prejudice. To test the hypotheses, we conducted a social media campaign on Weibo, the most popular Chinese social networking site. Since PRC sojourners felt isolated from the host society (Fang, 2012; Tsang, 2001), this campaign provided them mediated opportunities to engage in imagined contact with Singaporeans. We therefore expect social media contact to produce similar mediation effects for this population of young adult PRC sojourners (See Figure 2). Therefore, we state the Hypothesis 2 (H2) as follows:

H2: Perceived discrimination will mediate the relationship between imagined contact via social media and intergroup prejudice.

However, the advent of social media has not been entirely at the expense of direct contact. Therefore, with direct contact behavior continuing, as argued previously, perceived discrimination would mediate the effect of face-to-face contact on PRC sojourners' intergroup prejudice toward Singaporeans. In the second study, we replicate the first hypothesis, as stated in the following second hypothesis:

H3: Perceived discrimination will mediate the relationship between direct contact and intergroup prejudice.

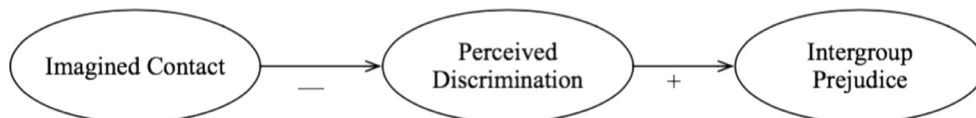


Figure 2. Perceived Discrimination Mediates the Effect of Face-to-Face Contact on Intergroup Prejudice (for H2 in Study 2: Social Media Campaign Audience).

It is reasonable to expect that PRC sojourners living in Singapore who have mediated contact via social media with locals should also have some face-to-face contact in their daily life. For these highly-networked sojourners, we argue that contact would likely occur simultaneously in face to face (direct) and social media (mediated) situations. Thus we aimed to test the joint effects of these two, direct and mediated, conditions. We thus speculate about the relationship between imagined contact as a result of simultaneous social media and face-to-face contact. We are further curious about the effects of mixed contact on perceived discrimination and intergroup prejudice (see the hypothetical model in Figure 3). Thus, our research questions (RQs) are proposed as follows:

RQ1: Which of direct contact and imagined contact via social media more strongly affects prejudice via perceived discrimination?

RQ2: What is the relationship between direct contact and imagined contact via social media?

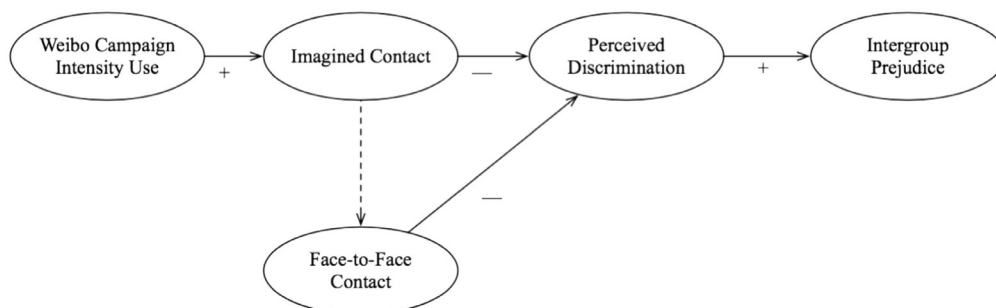


Figure 3. The Hypothetical Model of Combined Effects of Imagined Contact and Face-to-Face Contact on Their Intergroup Prejudice for the Weibo Campaign Audience (for Study 2).

### 3. Method

#### 3.1. The Weibo Campaign

The 5 week-long Weibo campaign was designed to allow formation of online friendships (Pettigrew & Tropp, 2006) and ultimately to create a virtual community. The campaign team, four native Singaporean undergraduate students, created a Weibo account “Singapore Jokes”, which was launched to resemble real-world setting. Prior to launch, the campaign team visited several tertiary private institutions and universities in Singapore to advertise to the target audience. Media coverage and word-of-mouth also helped attract 1,274 people campaign followers. All content posted by the campaign Weibo account was in Mandarin. The posted content focused on Singaporean culture, including Singaporean customs, food, shopping, and lifestyle hangouts. The intent was to provide direct online contact to sojourners via social media to interact with Singaporeans.

The research paper is based on two studies. The first study, focused on direct contact, was conducted amongst respondents who were not exposed to the Weibo social media campaign. The campaign in Study 2 was conducted amongst respondents exposed to the Weibo social media campaign. Study 2 was evaluated by assessing the model fits of the hypothesized model of the campaign follower group, especially the effects of interactions with the Weibo account on intergroup prejudice.

#### 3.2. Data Collection

We recruited participants for Study 1 and Study 2 at the same time period via snowball sampling. For Study 1, we recruited respondents by requesting PRC sojourners via E-mail



to forward an online questionnaire link to their PRC social network in Singapore. For Study 2, Weibo campaign followers were sent a hyperlink invitation for research participation. The Weibo campaign was conducted in a naturalistic setting with participation open to the public, as defined by Weibo account holders. Participants for Study 1 exposed due to contamination to our Weibo campaign were removed from the data analysis. Participants indicated their consent prior to filling an online questionnaire. Respondents received 5 Singaporean dollars (~4 US\$) as an incentive. Identities were kept anonymous throughout the data gathering and analysis.

### 3.2.1. Respondents

**Study 1.** This group includes PRC sojourners in Singapore who were not exposed to the Weibo campaign in the test period. This group ( $n = 182$ ) included 66 males (36.3%) and 80 females (44.0%), while 36 did not report their gender. The largest age group was 21-25 years old ( $n = 99$ , 54.4%). Besides, forty-one participants in this group were 16-20 years old (22.5%), five persons were 26-30 years old (2.7%), and only one person was older than 30 (0.5%). Thirty-six respondents did not report their age.

**Study 2.** This respondent group includes PRC sojourners in Singapore who followed the Weibo campaign during the test period. This group ( $n = 149$ ) had 65 males (43.6%) and 67 females (45%), while 17 persons did not report their gender. The largest age group here also was 21-25 years old ( $n = 84$ , 56.4%). For the other age groups, thirty-five persons were 16-20 years old (23.5%), eight persons were 26-30 years old (5.4%), and five persons were older than 30 (3.4%). Seventeen persons did not report their age.

Chi-square tests revealed a lack of statistical differences between the direct contact (study 1) and the mediated contact group (study 2) in terms of gender ( $\chi^2 = 0.31$ ,  $df = 1$ ,  $p = .58$ ) or age ( $\chi^2 = 8.67$ ,  $df = 4$ ,  $p = .07$ ). All the participants resided in Singapore while participating in the study and had stayed in Singapore for more than one year. Further questions on Singapore citizenship and permanent resident status were included as exclusion criteria to ensure all respondents were sojourners with short term immigration status.

### 3.3. Measures

All study variables were continuous and used a 5-point Likert scale (1 = *strongly disagree* and 5 = *strongly agree*).

**Face-to-Face Contact.** Six items, adapted from Islam and Hewston (1993), measured face-to-face contact with Singaporeans. For example, *I have face-to-face interactions with Singaporeans very often (more than twice a week)* and *I make an effort to interact with Singaporeans*. Cronbach's alpha was .81 for Study 1 sample and .88 for Study 2 sample.

**Perceived Discrimination.** The four item scale was adapted from Berry (2006, 2010) and Noh et al. (1999). *Item examples: I think that Singaporeans have behaved in an unfair or negative way towards me because of my Chinese background, I do not feel accepted by Singaporeans, I feel Singaporeans have something against me, and I feel accepted by Singaporeans in Singapore (inverted)*. Cronbach's alpha was .78 for Study 1 sample and .84 for Study 2 sample.

**Intergroup Prejudice toward Singaporeans.** Five items were used to measure this

variable, which were adapted from Pettigrew, Wagner, and Christ (2010). For example, *Singaporeans only look after their own interests* and *Singaporeans are arrogant*. Cronbach's alpha was .87 for Study 1 sample and .89 for Study 2 sample.

**Imagined Contact.** This four-item measure, adapted from Gibson and Classen (2010), applied only to Study 2 respondents. The example items included *I could imagine being friends with Singaporeans*, *I could imagine taking on a job in Singapore*, *I could imagine being in a gathering made up mainly of Singaporeans*, and *I could imagine myself marrying a Singaporean*. The Cronbach's alpha was .80.

**Weibo Campaign Intensity.** This scale contained five items adapted from Steinfield, Ellison, and Lampe (2008)'s Facebook intensity scale, and was only applied to Study 2 respondents. Example items included *The Singapore Jokes Weibo account is a part of my everyday activity*, *I would be sorry if the Singapore Jokes Weibo account shuts down*, and *I feel I am part of the Singapore Jokes Weibo community*. This variable had a Cronbach's alpha of .81.

### 3.4 Analytical Measures

The mediation effect in both study 1 and 2 was tested using bootstrapping method. The overall model fit for the proposed mixed model in study 2 was evaluated utilizing the chi-square value in structural equation modeling. While chi-square is a popular fit statistic, it has a number of severe limitations in its use (Hooper, Coughlan, & Mullen, 2008). Because chi-square value is sensitive to sample size (Bentler & Bonnet, 1980; Kenny & McCoach, 2003), relative chi-square ( $\chi^2/df$ ) has been recommended to minimize the impact of sample size on the model (Wheaton, Muthen, Alwin, & Summers, 1997). We therefore employed Tabachnik and Fidell (2007)'s acceptable threshold of relative chi-square value, which is equal to or smaller than two. In terms of other model fit indices, we used Wen, Hau and Marsh (2004)'s model evaluation criteria, which are "better and more appropriate" (p. 194) than Hu and Bentler (1999)'s criteria. According to Wen et al. (2004),  $TLI \geq 0.9$ ,  $CFI \geq 0.9$ , and  $RMSEA \leq 0.08$  are cutoff criteria for goodness of fit indices.

### 3.5 Measurement Models

Confirmatory factor analyses (CFAs) were performed using Mplus (Muthén & Muthén, 1998-2011) to assess the measurement models for mixed model group in study 2. The CFA results revealed an acceptable fit:  $\chi^2(n = 149) = 367.28$ ,  $df = 239$ ,  $p < .001$ ,  $\chi^2/df = 1.54$ ,  $RMSEA = 0.060$ ,  $CFI = 0.923$ , and  $TLI = 0.911$ . All factor loadings in this measurement model were significant and ranged from 0.48 to 0.97.

## 4. Evaluation Results

### 4.1. Study 1: Face to Face Contact – Perceived Discrimination – Intergroup Prejudice

We tested the mediation effect by bootstrapping the indirect effects of face-to-face contact



(FFC) on intergroup prejudice (IP) through perceived discrimination (PD), using the SPSS indirect macro by Preacher and Hayes (2008). The bootstrap estimates were based on 5,000 bootstrap samples. The results showed that FFC was a significant predictor of PD,  $b = -0.49$ ,  $SE = .072$ ,  $p < .001$ , and that PD was a significant predictor of IP,  $b = 0.53$ ,  $SE = .073$ ,  $p < .001$ . These results support the mediational hypothesis (see Figure 4). FFC was no longer a significant predictor of IP after controlling for the mediator, PD,  $b = -0.15$ ,  $SE = .078$ ,  $p = .06$ , consistent with full mediation. The predictors accounted for approximately 33.3% of the variance in IP ( $R^2 = .333$ ). As shown in Table 1, all the 95% CIs for this mediating effect are below zero, suggesting that the indirect effect is significantly different from zero. Specifically, increasing FFC would be related to lower levels of PD, which in turn would be related to lower levels of IP. The data was consistent with H1.

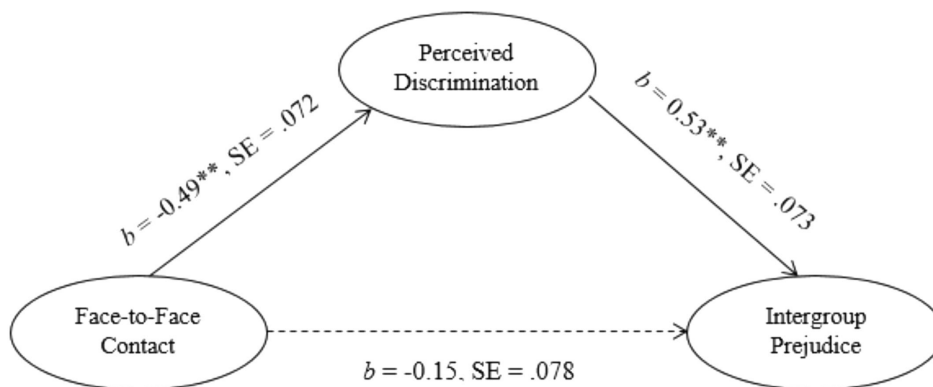


Figure 4. Testing the Mediation Effect of Face-to-Face Contact on Intergroup Prejudice through Perceived Discrimination (for Study 1).

#### 4.2. Study 2: Imagined Contact – Perceived Discrimination – Intergroup Prejudice

We tested the mediation effect by bootstrapping the indirect effects of imagined contact (IC) on intergroup prejudice (IP) through perceived discrimination (PD), using the SPSS indirect macro by Preacher and Hayes (2008). The bootstrap estimates were based on 5,000 bootstrap samples. The results showed that IC was a significant predictor of PD,  $b = -0.35$ ,  $SE = .075$ ,  $p < .001$ , and that PD was a significant predictor of IP,  $b = 0.68$ ,  $SE = .080$ ,  $p < .001$ . These results support the mediational hypothesis. IC was no longer a significant predictor of IP after controlling for the mediator, PD,  $b = -0.14$ ,  $SE = .078$ ,  $p = .08$ , consistent with full mediation. The predictors accounted for approximately 40.6% of the variance in IP ( $R^2 = .406$ ). As shown in Table 1, all the 95% CIs for this mediating effect are below zero, suggesting that the indirect effect is significantly different from zero. Specifically, increasing IC would be related to lower levels of PD, which in turn would be related to lower levels of IP. The data was consistent with H2.

Table 1. Mediation Effects of Perceived Discrimination on Intergroup Prejudice.

	Indirect Effect		Bootstrapping					
			Percentile 95% CI		BC 95% CI		BCa 95% CI	
	Estimate	S.E.	Lower	Upper	Lower	Upper	Lower	Upper
Study 1								
Face to Face Contact	-.262	.069	-.410	-.143	-.421	-.149	-.421	-.149
Study 2								
Face to Face Contact	-.128	.076	-.307	-.012	-.309	-.012	-.230	-.006
Imagined Contact	-.237	.075	-.392	-.100	-.406	-.110	-.403	-.109

Note: BC, bias corrected; BCa, bias corrected and accelerated; 5,000 bootstrap samples.

### 4.3 Study 2: Face to Face Contact – Perceived Discrimination – Intergroup Prejudice

We tested the mediation effect using bootstrapping. Specifically, we bootstrapped the indirect effects of face-to-face contact (FFC) on intergroup prejudice (IP) through perceived discrimination (PD), using the SPSS indirect macro by Preacher and Hayes (2008). The bootstrap estimates were based on 5,000 bootstrap samples. The results showed that FFC was a significant predictor of PD,  $b = -0.18$ ,  $SE = .076$ ,  $p = .02$ , and that PD was a significant predictor of IP,  $b = 0.72$ ,  $SE = .076$ ,  $p < .001$ . These results support the mediational hypothesis. FFC was no longer a significant predictor of IP after controlling for the mediator, PD,  $b = -0.06$ ,  $SE = .072$ ,  $p = .42$ , consistent with full mediation. And, the predictors accounted for approximately 39.5% of the variance in IP ( $R^2 = .395$ ). As shown in Table 1, all the 95% CIs for this mediating effect are below zero, suggesting that the indirect effect is significantly different from zero. Specifically, increasing FFC would be related to lower levels of PD, which in turn would be related to lower levels of IP. The data was consistent with H3.

### 4.4. Study 2: The Combined Model of Direct and Mediated Effects

Structural equation modeling, using Mplus (Muthén & Muthén, 1998-2011), was employed to test the model for the participants in the social media campaign. The statistical results demonstrated that the hypothesized model is acceptable ( $\chi^2 (n = 149) = 368.55$ ,  $df = 244$ ,  $p < .001$ ,  $\chi^2/df = 1.51$ , RMSEA = 0.059, CFI = 0.925, and TLI = 0.915). The path from face-to-face contact to perceived discrimination was not significant. The rest of the paths in the model were significant (see Figure 5).

The results indicated that the social media campaign positively affected PRC sojourners' imagined contact with Singaporeans. The socially-mediated imagined contact reduced intergroup prejudice through the mediation of perceived discrimination. In terms of face-to-face contact, the results showed that, for the campaign audience, their face-to-face contact had no significant impact on their perceived discrimination. Thus, compared to the face-to-face contact, the imagined contact yielded a stronger effect on the campaign audience' prejudice via their perceived discrimination (RQ1). Meanwhile, the socially-mediated imagined contact was positively associated with face-to-face contact (RQ2).

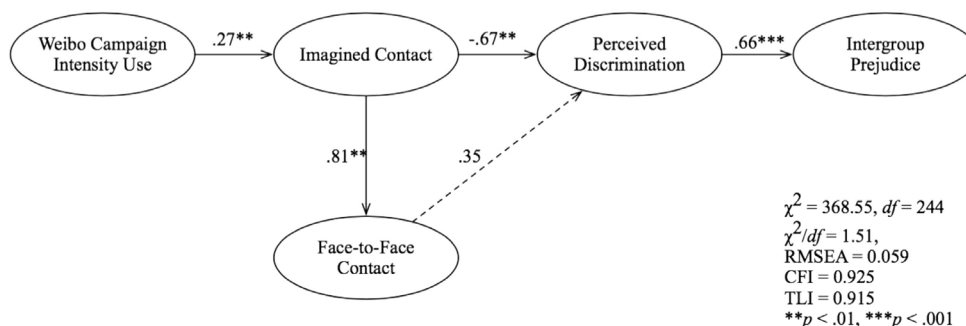


Figure 5. The SEM Results of the Hypothetical Model of Combined Effects of Online Contact and Face-to-Face Contact on Intergroup Prejudice (for Study 2).

## 5. Discussion

This research effort investigated the role of Weibo in facilitating imagined contact and reducing sojourners' intergroup prejudice toward Singaporeans. The information gained from the study is valuable for policymakers as well as intercultural scholars interested in social media. From a theoretical perspective, perceived discrimination was demonstrated as the mediator for both intergroup contact theory, imagined contact theory, and recent literature on online contact. Imagined contact via social media makes sojourners to perceive less discrimination from the host society, which in turn significantly reduces their intergroup prejudice towards host nationals. Previous studies found that the out-group under hostile conditions would perceive threat and become more conscious of their distinctiveness (Rumbaut, 2008; Schwartz, Unger, Zamboanga, & Szapocznik, 2010). We find that imagined contact via social media may supplement face-to-face contact to ameliorate this hostile environment.

Previous research found that although imagined contact positively impacted intergroup relationships, it still was not as effective as actual contact (e.g., Paolini, Hewstone, & Cairns, 2007; Turner, Hewstone, Voci, Paolini, & Christ, 2007). In contrast, we found that imagined contact mediated by social media supplemented sojourner's face-to-face encounters to significantly affect their perceived discrimination and intergroup prejudice. We argue that exploring face-to-face only versus imagined contact only is not representative of reality. It is likely that people will simultaneously experience face-to-face and social media inter-cultural contact. When PRC sojourners had opportunities to engage in both actual and (structured) imagined contact with Singaporeans, the latter was more effective in improving intergroup relationships.

One possible explanation for this phenomenon is because the campaign audience constituted young people who pay a lot of attention to social media, immersing themselves in networked environments (Chen & Yang, 2015; Park, Kee, & Valenzuela, 2009). This population segment might consider virtual interactions as important as actual offline contact, or even overweight social media interactions over face-to-face contact. Another explanation might be the role of computer-mediated contact in the current research. Previous research on imagined contact

often directly asked participants to imagine interactions with out-group members (e.g., Husnu & Crisp, 2010; Stathi & Crisp, 2008). In this study, however, the participants' imagined contact with out-group members was stimulated through ICTs. In other words, the PRC sojourners engaged in computer-mediated contact with out-group members (i.e., Singaporeans), providing them adequate clues, scenarios, or knowledge by design rather than leaving it up to their imaginations.

Theoretical reasons for why social media use might improve intergroup relationships include two critical communication variables, self-disclosure (Pettigrew, 1998) and communication accommodation (Walther, 1996). Because social cues are reduced in the context of computer-mediated communication, individuals may have hyper-personal interactions involving a high level of self-disclosure, thereby building positive or intimate relationships more easily (Joinson, 2001; Walther, 1996) than in face-to-face discussions. In terms of communication accommodation, individuals have more time to optimize their self-presentation and adjust their communication style to suit others in computer-mediated communication (Walther 1996; 2007). It seems that individuals may have a higher level of both self-disclosure and communication accommodation when they interact with out-group members online than in face-to-face interactions. That is probably why, for the followers of the campaign Weibo account, the imagined contact stimulated by social media interactions was more effective than face-to-face contact in reducing PRC sojourners' intergroup prejudice toward Singaporeans. We note, however, following Tropp (2007), that the effect may be stronger for the minority out-group than the majority in-group.

In the context of intercultural research, similar research found that computer mediated contact increases mutual understanding and improves intergroup relationship. For example, Arab and Jewish students in volatile situations in Israel who attended an Internet-based course reported interest in learning about out-groups' cultures and religions (Hoter et al., 2009). In conflict-ridden Ireland, online systems to link schools across political borders helped build friendships with out-group students (Austin et al., 2003), with teachers more willing to increase mutual understanding between groups (Austin & Anderson, 2008).

A second argument concerning the nature of interaction over social media suggests that defined objectives for, and control over, the interaction are important criteria. A previous related study investigated the effects of general mediated (phone and online contact) on PRC sojourners stereotyping towards Singaporeans, but the effect was not significant (Jiang et al., 2016). There might be two reasons for the different results between such general mediated contact and the controlled environment in our campaign. First, the social media contact was more interactive than other mediated contact, thus creating more vivid environments for intergroup communication. The resultant reduction in intergroup prejudice may not have been entirely due to the social media contact per se, but simultaneously influenced by the structured nature of the social media campaign conducted.

Scholars, such as Amichai-Hamburger (2008) advocate that structured and supervised intergroup online contact was more successful in improving intergroup relationships. Pettigrew and Tropp's (2006, p. 766) meta-analysis also found that the participants who "experienced carefully structured contact situations" reached a remarkably higher mean effect size in reducing prejudice than others. The Weibo campaign in our research provided a social media

platform where two groups could have supervised interactions on a specific topic. Given the vibrancy and diversity of social media use, we call for further investigations into the differences in effects caused by targeted structured social media environments versus organic and agentic interactions on social media by groups.

From a policy perspective, both direct and indirect contact help PRC sojourners develop a positive relationship with Singaporeans. Besides relying on direct face-to-face communication, employing social media campaigns might be a more efficient way to reach young sojourners. Moreover, the positive effects of imagined contact do not limit to racial groups only (Turner, Crisp, & Lambert, 2007), therefore, social media campaigns might be a powerful tool in reducing intergroup prejudice between other social groups as well. In the absence of a comparative research design, we caution against overly controlled environments, as these might gain little traction in the dynamic world of social media. This recommendation may be applied to other countries experiencing a rapid influx of sojourners, certainly those with Chinese immigrants.

We caution against indiscriminate application beyond the specific circumstances of the study. The focus on PRC sojourners in majority-Chinese Singapore offers a complex investigation into racial and ethnic boundaries that are sometimes blurred, seen in other societies as well (for example, see Thornton, Taylor, and Chatters', 2012, investigation of African American and Black Caribbean perception of other groups). Ramasubramanian and Oliver (2007) offer model minority stereotypes and modern racist beliefs to explain the differential prejudicial effects found towards African-Americans and Asian-Indians post exposure to news stories. Whether the study results pertaining to PRC sojourners translate to other immigrant groups in Singapore, for example, low-income blue-collar South Asians, is debatable and a matter for further investigation.

It is in the interests of caution that we therefore acknowledge limitations regarding sampling and generalizability in this study. First, cross-sectional data lead us to be cautious about making strong causal inferences. We are confident, however, that the mixed-effects model indicates the effectiveness of the social media campaign over direct contact to some extent. Second, we acknowledge that there could be a self-selection bias in the sample. Since the Ministry of Manpower and Immigration and Checkpoints Authority in Singapore does not disaggregate data on the basis of ethnicities of sojourners, it was hard to design a rigorous sampling frame. Third, due to the need to replicate the simultaneous face to face and social media setting, the Weibo campaign was designed as a quasi-experiment. The naturalistic setting meant that we could not control extraneous factors, such as mass media or journalistic content, from reaching our respondents. Fourth, the participants in this study were young and well-educated PRC sojourners in Singapore, constituting just a single segment of sojourners, themselves a segment of immigrants. Therefore, we recommend further examination for other types of sojourner, for example migrant workers, as well as long-term immigrants.

## 6. Conclusion

By examining the role of social media in reducing intergroup prejudice, this study adds to the considerable body of knowledge on improving intergroup relationship between sojourners and host nationals. The uniqueness of the study is that we examined the effects of face-to-face

contact versus the effects of face-to-face plus social media contact on intergroup prejudice. The results from this study indicate that a structured and supervised social media campaign could be a powerful tool in reducing young sojourners' perceived discrimination and intergroup prejudice towards the host society. We believe that such solutions that aim at improved communication and integration are far more sustainable in the globalized world of today than prevalent protectionist attitudes.

## References

- Alexander, Michele G.; Brewer, Marilynn B. & Livingston, Robert W. (2005). Putting stereotype content in context: Image theory and interethnic stereotypes. *Personality and Social Psychology Bulletin*, 31, 781–794. DOI:10.1177/0146167204271550
- Allport; Gordon Willard; Kenneth Clark & Thomas Pettigrew. (1954). *The nature of prejudice*. Reading, MA: Addison Wesley.
- Amichai-Hamburger, Yair. (2008). Potential and promise of online volunteering. *Computers in Human Behavior*, 24, 544-562. DOI: 10.1016/j.chb.2007.02.004
- Aricat, Rajiv George; Karnowski, Veronika & Chib, Arul. (2015). Mobile phone appropriation and migrant acculturation: A case study of an Indian community in Singapore. *International Journal of Communication*, 9, 2221-2242.
- Bandura, Albert. (1977). *Social learning theory*. Englewood Cliffs, NJ: Prentice Hall.
- Bentler, Peter M. & Bonett, Douglas G. (1980). Significance tests and goodness of fit in the analysis of covariance structures. *Psychological Bulletin*, 88, 588-606. DOI:10.1037/0033-2909.88.3.588
- Berry, John W. (1997). Immigration, acculturation, and adaptation. *Applied Psychology*, 46(1), 5-34.
- Berry, John W. (2006). Mutual attitudes among immigrants and ethnocultural groups in Canada. *International Journal of Intercultural Relations*, 30, 719-734. DOI:10.1016/j.ijintrel.2006.06.004
- Berry, John W. (2010). *Mutual Intercultural Relations in Plural Societies (MIRIPS)*. Retrieved from <http://cacr.victoria.ac.nz/projects/research-projects/mirips>
- Boyd, Dana M. & Ellison, Nicole B. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication*, 13, 210–230. DOI:10.1111/j.1083-6101.2007.00393.x
- Chib, Arul & Aricat, Rajiv. (2016). Belonging and communicating in a bounded cosmopolitanism: The role of mobile phones in the integration of transnational migrants in Singapore. *Information, Communication and Society*. DOI:10.1080/1369118X.2016.1168470.
- Chib, Arul; Malik, Shelly; Aricat, Rajiv George & Kadir, Siti Zuebeidah. (2014). Migrant mothering and mobile phones: Negotiations of transnational identity. *Mobile Media & Communication*, 2(1), 73-93. DOI:10.1177/2050157913506007
- Chib, Arul; Wilkin, Holley A. & Mei Hua, Sri Ranjini. (2013). International migrant workers' use of mobile phones to seek social support in Singapore. *Information Technologies & International Development*, 9(4), 1 -19. DOI: 10.1177/1757975912462419



- Chrisalis, Angelique. (2016, March 27). Water cannon used on anti-immigrant protestors in Brussels. *The Guardian*. Retrieved from <http://www.theguardian.com/world/2016/mar/27/water-cannon-used-anti-immigrant-protesters-brussels>
- Chong, Terence. (2005). Singapore's cultural policy and its consequences. *Critical Asian Studies*, 37, 553–568. DOI:10.1080/14672710500348455
- Church, Austin T. (1982). Sojourner adjustment. *Psychological Bulletin*, 91, 540–572. DOI:10.1037/0033-2909.91.3.540
- CIW Team. (2015, August 20). Weibo MAUs reached 212 million in Q2 2015. *China Internet Watch*. Retrieved from: <http://www.chinainternetwatch.com/14371/weibo-q2-2015/>
- Crisp, Richard J.; Stathi, Sofia; Turner, Rhiannon N. & Husnu, Senel. (2008). Imagined intergroup contact: Theory, paradigm and practice. *Social and Personality Psychology Compass*, 2, 1-18. DOI:10.1111/j.1751-9004.2008.00155.x
- Crisp, Richard J. & Turner, Rhiannon N. (2009). Can imagined interactions produce positive perceptions? Reducing prejudice through simulated social contact. *American Psychologist*, 64, 231-240. DOI:10.1037/a0014718
- Croucher, Stephen M.; Sommier, Mélodine & Rahmani, Diyako. (2015). Intercultural communication: Where we've been, where we're going, issues we face. *Communication Research and Practice*, 1, 71-87. DOI:10.1080/22041451.2015.1042422
- De Castro, Arnold B.; Fujishiro, Kaori; Sweitzer, Erica & Oliva, Jose. (2006). How immigrant workers experience workplace problems: A qualitative study. *Archives of Environmental & Occupational Health*, 61, 249-258. DOI:10.3200/AEOH.61.6.249-258
- Department of Statistics Singapore. (2014). Population and population structure. Retrieved from [http://www.singstat.gov.sg/statistics/browse\\_by\\_theme/population.html](http://www.singstat.gov.sg/statistics/browse_by_theme/population.html)
- Dixon, John; Durrheim, Kevin; Tredoux, Colin; Tropp, Linda; Clack, Beverley & Eaton, Liberty. (2010). A paradox of integration? Interracial contact, prejudice reduction, and perceptions of racial discrimination. *Journal of Social Issues*, 66, 401-416. DOI: 10.1111/j.1540-4560.2010.01652.x
- Duggan, Maeve & Brenner, Joanna. (2013). The demographics of social media users, 2012. Pew Research Center's Internet & American Life Project. Retrieved from <http://pewinternet.org/Reports/2013/Social-media-users.aspx>
- Eng, L. A. & Mathew, M. (2016). Navigating disconnects and divides in Singapore's cultural diversity. In Mathew, M. & Fong, C. W. (Eds.). *Managing diversity in Singapore: Policies and prospects* (pp. 3-40). World Scientific.
- Fang, Joy. (June 26, 2012). Students from China feel alienated by Singaporeans, says scholar. AsiaOne News. Retrieved from <http://news.asiaone.com/News/Latest%2BNews/Singapore/Story/A1Story20120626-355356.html>
- Forbes, Hugh Donald. (1997). *Ethnic conflict: Commerce, culture, and the contact hypothesis*. New Haven, CT: Yale University Press.
- Gibson, James L. & Classen, Christopher. (2010). Racial reconciliation in South Africa: Interracial contact and changes over time. *Journal of Social Issues*, 66, 255-272. DOI:10.1111/j.1540-4560.2010.01644.x
- Harrington, H. J. & Miller, N. (1992). Research and theory in intergroup relations: Issues of consensus and controversy. In James Lynch, Celia Modgil & Sohan Modgil (Eds.),

- Cultural diversity and the schools* (Vol. 2, pp. 159–178). London: Falmer.
- Hasler, Béatrice S. & Yair Amichai-Hamburger. (2013). Online intergroup contact. In Y. Amichai-Hamburger (Ed.), *The social net: Understanding our online behavior* (pp. 220–252). Oxford: Oxford University Press.
- Hu, Li-tze. & Bentler, Peter M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal*, 6, 1–55. DOI:10.1080/10705519909540118
- Huat, Chua Beng. (2003). Multiculturalism in Singapore: An instrument of social control. *Race & Class*, 44, 58–77. DOI:10.1177/0306396803044003025
- Husnu, Senel & Crisp, Richard J. (2010). Imagined intergroup contact: A new technique for encouraging greater inter-ethnic contact in Cyprus. *Peace and Conflict*, 16, 97–108. DOI:10.1080/10781910903484776
- Hooper, Daire; Coughlan, Joseph & Mullen, Michael. (2008). Structural equation modeling: Guidelines for determining model fit. *Electronic Journal of Business Research Methods*, 6, 53–60. Retrieved from <http://arrow.dit.ie/cgi/viewcontent.cgi?article=1001&context=buschmanart>
- Hoter, Elaine; Shonfeld, Miri & Ganayim, Asmaa. (2009). Information and communication technology (ICT) in the service of multiculturalism. *The International Review of Research in Open and Distance Learning*, 10. Retrieved from <http://www.irrodl.org/index.php/irrodl/article/view/601/1207>
- International Association for Migration. (2015). *Key migration terms*. Retrieved from <https://www.iom.int/key-migration-terms#economic-migrant>
- Islam, Mir Rabiul & Hewstone, Miles. (1993). Dimensions of contact as predictors of intergroup anxiety, perceived out-group variability, and out-group attitude: An integrative model. *Personality and Social Psychology Bulletin*, 19, 700–710. DOI:10.1177/0146167293196005
- Jacobs, A. (2012, July 26). In Singapore, vitriol against Chinese newcomers. *New York Times*. Retrieved on 26 August 2012 from <http://www.nytimes.com/2012/07/27/world/asia/in-singapore-vitriol-against-newcomers-from-mainland-china.html>
- Jackson, James S.; Brown, Kendrick T. & Kirby, Daria C. (1998). International perspectives on prejudice and racism., in Jennifer Lynn Eberhardt & Susan T. Fiske (Eds.), *Confronting racism: The problem and the response* (pp. 101–135). Thousand Oaks, CA: Sage.
- Jasinskaja-Lahti, Inga; Liebkind, Karmela; Jaakkola, Magdalena & Reuter, Anni. (2006). Perceived discrimination, social support networks, and psychological well-being among three immigrant groups. *Journal of Cross-Cultural Psychology*, 37, 293–311. DOI: 10.1177/0022022106286925
- Jiang, Qiaolei; Aricat, Rajiv George; Chib, Arul; Chia, Alvin Zhao Yuan; Tan, Sie Mun; Tan, Xin Qi Lisa & Woo, Zhen Wei. (2016). Silent but brewing: Reactive ethnicity and interculturality among Chinese students in Singapore. *Journal of Intercultural Communication*, 40, 1–19.
- Joinson, Adam N. (2001). Self-disclosure in computer-mediated communication: The role of self-awareness and visual anonymity. *European Journal of Social Psychology*, 31, 177–192. DOI: 10.1002/ejsp.36
- Kanas, Agnieszka; Scheepers, Peer & Sterkens, Carl. (2015). Interreligious contact, perceived group threat, and perceived discrimination predicting negative attitudes among religious minorities and majorities in Indonesia. *Social Psychology Quarterly*, 78, 102–126.

DOI:0190272514564790.

- Kenny, David A. & McCoach, D. Betsy. (2003). Effect of the number of variables on measures of fit in structural equation modeling. *Structural Equation Modeling*, 10, 333-351. DOI:10.1207/S15328007SEM1003\_1
- Kim, Nuri & Magdalena Wojcieszak. (2018). Intergroup contact through online comments: Effects of direct and extended contact on outgroup attitudes. *Computers in Human Behavior*, 81, 63-72.
- Kim, Young Yun. (1978). A communication approach to the acculturation process: A study of Korean immigrants in Chicago. *International Journal of Intercultural Relations*, 2(2), 197-224.
- Lee, Jason; Wen Yau Kim; Beaumie Lee; Tuck Leong & Kim, Mi Song. (2012). Uncovering the use of Facebook during an exchange program. *China Media Research*, 8, 62-76.
- Ling, Ding. (2011). Micro-blogging in network society. *6PM Journal of Digital Research & Publishing*. Retrieved from <http://6pmjournal.blogspot.sg/2011/02/micro-blogging-in-network-society.html>.
- Millward, Steven. (2013). *Sina Weibo: We're still seeing growth, now up to 60.2 million daily active users*. Retrieved from [https://www.techinasia.com/sina-weibo-60m-daily-active-users-q3-2013/?utm\\_source=feedly](https://www.techinasia.com/sina-weibo-60m-daily-active-users-q3-2013/?utm_source=feedly)
- Mollov, M. Ben & Schwartz, David G. (2010). Towards an integrated strategy for intercultural dialog: Computer-mediated communication and face to face. *Journal of Intercultural Communication Research*, 39, 207-224. DOI:10.1080/17475759.2010.534905
- Muthén, Linda K. & Muthén, Bengt O. (1998-2011). *Mplus User's Guide (6th Edition)*. Los Angeles, CA: Muthén & Muthén.
- Noh, Samuel; Beiser, Morton; Kaspar, Violet; Hou, Feng & Rummens, Joanna. (1999). Perceived racial discrimination, depression, and coping: A study of Southeast Asian refugees in Canada. *Journal of Health and Social Behavior*, 40, 193-207. Stable URL: <http://www.jstor.org/stable/2676348>
- Park, Namsu; Kee, Kerk F. & Valenzuela, Sebastián. (2009). Being immersed in social networking environment: Facebook groups, uses and gratifications, and social outcomes. *Cyber Psychology & Behavior*, 12, 729-733. DOI:10.1089/cpb.2009.0003.
- Pettigrew, Thomas F. (1986). The contact hypothesis revisited. In Hewstone, Miles, & Brown, Rupert. (Eds.), *Contact and conflict in intergroup encounters* (pp. 169-195). Oxford, England: Basil Blackwell.
- Pettigrew, Thomas F. (1998). Intergroup contact theory. *Annual Review of Psychology*, 49, 65-85. DOI:10.1146/annurev.psych.49.1.65
- Pettigrew, Thomas F. & Tropp, Linda R. (2000). Does intergroup contact reduce prejudice? Recent meta-analytic findings. In S. Oskamp (Ed.), *Reducing prejudice and discrimination: Social psychological perspectives* (pp. 93-114). Mahwah, NJ: Erlbaum.
- Pettigrew, Thomas F. & Tropp, Linda R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology*, 90, 751-783. DOI:10.1037/0022-3514.90.5.751
- Pettigrew, Thomas F.; Wagner, Ulrich & Christ, Oliver. (2010). Population ratios and prejudice: Modelling both contact and threat effects. *Journal of Ethnic and Migration Studies*, 36, 635-650. DOI:10.1080/13691830903516034.

- Paolini, Stefania; Hewstone, Miles & Cairns, Ed. (2007). Direct and indirect intergroup friendship effects: Testing the moderating role of the affective-cognitive bases of prejudice. *Personality and Social Psychology Bulletin*, 33, 1406-1420. DOI:10.1177/0146167207304788
- Preacher, Kristopher J. & Hayes, Andrew F. (2008). Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behavior Research Methods*, 40, 879–891. DOI:10.3758/BRM.40.3.879
- Ramasubramanian, Srividya & Oliver, Mary Beth. (2007). Activating and suppressing hostile and benevolent racism: Evidence for comparative media stereotyping. *Media psychology*, 9, 623-646. DOI:10.1080/15213260701283244
- Ratha, Dilip; Mohapatra, Sanket & Scheja, Elina. (2011). *Impact of migration on economic and social development: A review of evidence and emerging issues*. Retrieved from <https://openknowledge.worldbank.org/bitstream/handle/10986/3328/WPS5558.pdf?sequence=1>
- Rumbaut, Rubén G. (2008). Reaping what you sow: Immigration, youth, and reactive ethnicity. *Applied Developmental Science*, 12, 108-111. DOI:10.1080/10888690801997341
- Ryan, Andrew M.; Gee, Gilbert C. & Laflamme, David F. (2006). The association between self-reported discrimination, physical health and blood pressure: findings from African Americans, Black immigrants, and Latino immigrants in New Hampshire. *Journal of Health Care for the Poor and Underserved*, 17, 116-132. DOI:10.1353/hpu.2006.009
- Sandel, Todd L. (2014). “Oh, I’m here!”: Social media’s impact on the cross-cultural adaptation of students studying abroad. *Journal of Intercultural Communication Research*, 43, 1-29. DOI:10.1080/17475759.2013.865662
- Schwartz, Seth J.; Unger, Jennifer B.; Zamboanga, Byron L. & Szapocznik, José. (2010). Rethinking the concept of acculturation: Implications for theory and research. *American Psychologist*, 65, 237-251. DOI:10.1037/a0019330
- Shi, Jingyuan & Chen, Liang. (2014) Social support on Weibo for people living with HIV/AIDS in China: A quantitative content analysis. *Chinese Journal of Communication*, 7(3), 285-298, doi: 10.1080/17544750.2014.926954
- Shuter, Robert. (2012). Intercultural new media studies: The next frontier in intercultural communication. *Journal of Intercultural Communication Research*, 41, 219-237. DOI:10.1080/17475759.2012.728761
- Skoric, Marko M.; Zhu, Qinfeng; Goh, Debbie & Pang, Natalie. (2015). Social media and citizen engagement: A meta-analytic review. *New Media & Society*, Advance Online Publication. DOI:10.1177/1461444815616221
- Stathi, Sofia & Crisp, Richard J. (2008). Imagining intergroup contact promotes projection to outgroups. *Journal of Experimental Social Psychology*, 44, 943–957. DOI:10.1016/j.jesp.2008.02.003
- Steinfeld, Charles; Ellison, Nicole B. & Lampe, Cliff. (2008). Social capital, self-esteem, and use of online social network sites: A longitudinal analysis. *Journal of Applied Developmental Psychology*, 29, 434–445. DOI:10.1016/j.appdev.2008.07.002
- Tabachnick, Barbara G. & Fidell, Linda S. (2007), *Using multivariate statistics (5th Ed.)*. New York: Allyn and Bacon.
- Taylor, Donald M.; Wright, Stephen C. & Porter, Lana E. (1994). Dimensions of perceived discrimination. In Mark P. Zanna & James M. Olson (Eds.), *The psychology of prejudice:*

- The Ontario symposium* (Vol. 7, pp. 233–255). Hillsdale, NJ: Erlbaum.
- The Canadian Magazine of Immigration (2016). *Chinese immigrants to Canada*. Retrieved from <http://canadaimmigrants.com/chinese-immigrants-to-canada/>
- Thornton, Michael C.; Taylor, Robert Joseph & Chatters, Linda M. (2012). African American, Black Caribbean, and Non-Hispanic White feelings of closeness toward other racial and ethnic groups. *Journal of Black Studies*, 43, 749–772. DOI:10.1177/0021934712456549
- Tropp, Linda R. (2007). Perceived discrimination and interracial contact: Predicting interracial closeness among Black and White Americans. *Social Psychology Quarterly*, 70, 70–81. DOI:10.1177/019027250707000108
- Tropp, Linda R.; Hawi, Diala R.; Van Laar, Colette & Levin, Shana. (2012). Cross-ethnic friendships, perceived discrimination, and their effects on ethnic activism over time: A longitudinal investigation of three ethnic minority groups. *British Journal of Social Psychology*, 51, 257–272. DOI:10.1111/j.2044-8309.2011.02050.x
- Tropp, Linda R. & Pettigrew, Thomas F. (2005). Relationships between intergroup contact and prejudice among minority and majority status groups. *Psychological Science*, 16, 951–957. DOI:10.1111/j.1467-9280.2005.01643.x
- Tsang, Eric W. (2001). Adjustment of mainland Chinese academics and students to Singapore. *International Journal of Intercultural Relations*, 25, 347–372. DOI:10.1016/S0147-1767(01)00010-4
- Turner, R. N.; Crisp, R. J. & Lambert, E. (2007). Imagining intergroup contact can improve intergroup attitudes. *Group Processes and Intergroup Relations*, 10, 427–441. DOI:10.1177/1368430207081533
- Turner, Rhiannon N.; Hewstone, Miles; Voci, Alberto; Paolini, Stefania & Christ, Oliver. (2007). Reducing prejudice via direct and extended cross-group friendship. *European Review of Social Psychology*, 18, 212–255. DOI:10.1080/10463280701680297
- Voci, Alberto & Hewstone, Miles. (2003). Intergroup contact and prejudice toward immigrants in Italy: The mediational role of anxiety and the moderational role of group salience. *Group Processes & Intergroup Relations*, 6, 37–54. DOI:10.1177/1368430203006001011
- Walther, Joseph B. (1996). Computer-mediated communication: Impersonal, interpersonal, and hyperpersonal interaction. *Communication Research*, 23, 3–43. DOI:10.1177/009365096023001001
- Walther, Joseph B. (2007). Selective self-presentation in computer-mediated communication: Hyperpersonal dimensions of technology, language, and cognition. *Computers in Human Behavior*, 23, 2538–2557. DOI:10.1016/j.chb.2006.05.002
- Wen, Zhonglin; Hau, Kit-Tai & Marsh, Herbert W. (2004). Structural equation model testing: Cutoff criteria for goodness of fit indices and chi-square test. *Acta Psychologica Sinica*, 36, 186–194.
- Wheaton, Blair; Muthen, Bengt; Alwin, Duane F. & Summers, Gene. (1977). Assessing reliability and stability in panel models, *Sociological Methodology*, 8, 84–136. Retrieved from [http://www.statmodel.com/bmuthen/articles/Article\\_001.pdf](http://www.statmodel.com/bmuthen/articles/Article_001.pdf)
- Wright, Stephen C.; Aron, Arthur; McLaughlin-Volpe, Tracy & Ropp, Stacy A. (1997). The extended contact effect: Knowledge of cross-group friendships and prejudice. *Journal of Personality and Social Psychology*, 73, 73–90. DOI:10.1037/0022-3514.73.1.73



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An earlier version of this paper won the Top Paper Award at the International 65<sup>th</sup> Annual Conference of the International Communication Association in Puerto Rico.

The authors wish to thank the undergraduate student team of Alvin Chia Zhao Yuan, Tan Sie Mun, Tan Xin Qi Lisa, and Woo Zhen Wei for conducting the Weibo campaign.

## Appendix 1



Figure 1. Weibo Social Media Platform



1. Makan Already? (马来语) 意思: 吃了吗? <http://t.cn/zYWUWbS> 可以去听听怎么说 maaaakkkkaaaaaan already? 🐼

标签: 每日sing语教学 ✎

2月26日 16:36 来自新浪微博 删除 | 置顶 | 👍 | 转发(2) | 收藏 | 评论(7)

🔔 新浪微博社区管理中心举报处理大厅, 欢迎查阅! ✕

🔍

😊 ☐ 同时转发到我的微博 评论

🐼 肥嘟嘟掌门人: 回复@新加坡笑话: 哈哈哈哈哈....Tks yah... (2月26日 16:53) 删除 | 查看对话 | 回复

🌍 新加坡笑话: 回复@肥嘟嘟掌门人: 可以说 YEAH I OFF ALREADY!! 新加坡人特别喜欢星期五下班的时候说TGIF!! (Thank God It's Friday)! (2月26日 16:46) 删除 | 查看对话 | 回复

🐼 肥嘟嘟掌门人: 回复@新加坡笑话: 那如果是要很高兴的表达"下班啦下班啦"咧? (2月26日 16:44) 删除 | 查看对话 | 回复

🌍 新加坡笑话: 回复@肥嘟嘟掌门人: 现在能想到的是"you off already?" 当然不只有一种表达方式! (2月26日 16:43) 删除 | 查看对话 | 回复

🌍 新加坡笑话: 回复@飘云IP: 哎呀哈哈对对! makan是马来语! already是英语! (2月26日 16:41) 删除 | 查看对话 | 回复

🐼 肥嘟嘟掌门人: 想问新加坡人怎么表达"下班"呢? (2月26日 16:40) 删除 | 回复

Figure 2. Singlish Phrases about Eating and Leaving Work

## Appendix 2

### Online Survey Questionnaire (Mandarin)

1. 您有在新浪微博关注【新加坡笑话】帐户吗？

☐ 是

☐ 否

如果您的答案是“是”，请回答以下的题目。

如果您的答案是“否”，感谢您的时间！

2. 您现在是否住在新加坡？

☐ 是

☐ 否

如果您的答案是“是”，请回答以下的题目。

如果您的答案是“否”，感谢您的时间！

以下的问题是关于我们前五周在微博上的活动。请选择最适合的答案。

3. 【新加坡笑话】微博上的内容是否有引起您的注意？请估计。

☐ 无

☐ 一次

☐ 不多 (2-5)

☐ 一些 (6-10)

☐ 很多 (多过10)

4. 您是否有转发【新加坡笑话】的微博？请估计次数。

☐ 无

☐ 一次

☐ 不多 (2-5)

☐ 一些 (6-10)

☐ 很多 (多过10)

5. 您是否评论过【新加坡笑话】的微博？请估计次数。

☐ 无

☐ 一次

☐ 不多 (2-5)

- [ ] 一些 (6-10)  
[ ] 很多 (多过10)

6. 你是否有用手机游览微博帐户【新加坡笑话】的内容？

- [ ] 是  
[ ] 否

请选择最适合的答案。

	非常不同意	不同意	中立	同意	非常同意
7. 【新加坡笑话】已融入我日常生活的一部分。					
8. 我会骄傲的告诉别人我关注【新加坡笑话】的微博。					
9. 如果我一阵子没关注【新加坡笑话】，我会感到很生疏。					
10. 我感觉我是【新加坡笑话】群组的一份子。					
11. 【新加坡笑话】提供的内容很有趣。					
12. 【新加坡笑话】内容提供我在新加坡日常生活里对我有帮助的贴士。					
13. 若【新加坡笑话】帐户不再更新内容，我会感到失望可惜。					
14. 我去新加坡人常去的公共场所饮食。					
15. 我去新加坡人常去的地方逛街。					
16. 我与新加坡人的互动非常愉悦。					
17. 我不主动与新加坡人互动。					
18. 新加坡人曾经为我提供过帮助。（例：为我开着电梯门，把遗失的东西还给我，等）					
19. 在与新加坡人互动时，我视他们与我平等。					
20. 我会有意地与新加坡人互动。					
21. 我与新加坡人的互动没有意义。					
22. 我认为新加坡人因为我是中国人而对我作出不公平的对待。					
23. 我认为新加坡人不接受我。					
24. 我认为新加坡人对我存有偏。					
25. 我曾经因为中国人的身份而被人取笑／侮辱。					
26. 我认为新加坡人接受我。					
27. 我曾经因为中国人的身份而受到威胁／攻击。					
28. 我并没有因为外国人而受到不公平的对待。					
29. 新加坡人对于近年涌进新加坡的中国移民感到不愉快。					
30. 新加坡人在中国移民的环境里觉得不安全。					
31. 虽然有大量的中国移民在新加坡，新加坡人还是能拥有稳当的工作。					
32. 新加坡人在中国移民带来的经济增长中获益。					
33. 新加坡人的薪水不会因为中国移民的存在而受影响。					
34. 我可以想像自己身在一个大多数是新加坡人的聚会。					
35. 我可以想像与新加坡人做朋友。					
36. 有新加坡人在的地方，我觉得舒服。					
37. 我能想像自己长住在新加坡。					
38. 我能想像在新加坡工作。					
39. 我能想像自己与新加坡人结婚。					
40. 新加坡人只顾及自己的利益。					
41. 新加坡人盲目地追求金钱。					
42. 新加坡人很高傲。					
43. 新加坡人的文化习俗很奇怪。					
44. 新加坡人很无趣。					
45. 我觉得新加坡人的语言和口音很奇怪。					
46. 新加坡人工作不努力。					
47. 新加坡人没有能力拿到高学历（比如，博士学位）。					
48. 我常常与新加坡人面对面互动。（每星期多过3次）					
49. 我常常与新加坡人在网上互动。（每星期多过3次）					
50. 我常常通过手机（例：电话，短讯）与新加坡人互动。（每星期多过3次）					

## 个人信息

您的年龄：

您的性别？男 女

您的教育程度？

- ☐ 没上过学
- ☐ 小学未完成
- ☐ 小学
- ☐ 中学/高中未完成
- ☐ 中学/高中
- ☐ 职高/大专未完成
- ☐ 职高/大专
- ☐ 大学本科未完成
- ☐ 大学本科
- ☐ 研究生
- ☐ 不知道

## Online Survey Questionnaire (English)

The following are some questions regarding your activity on Weibo during the last five weeks.

1. Did you follow the Weibo account “Singapore Jokes (新加坡笑话)”?

- ☐ Yes
- ☐ No

If “yes,” please answering the following questions.

If “no,” you are not eligible to take part in this study. Thank you very much for your time.

2. Do you presently reside in Singapore?

- ☐ Yes
- ☐ No

If “yes,” please answering the following questions.

If no, you are not eligible to take part in this study. Thank you very much for your time.

3. In the last five weeks, how many times did you pay attention to or read content from the Weibo account “Singapore Jokes (新加坡笑话)”? Please estimate.

- ☐ None

- ☐ One  
☐ A few (2-5)  
☐ Some (6-10)  
☐ Many (More than 10)

4. How many times did you retweet the content from the Weibo account “Singapore Jokes (新加坡笑话)”? Please estimate.

- ☐ None  
☐ One  
☐ A few (2-5)  
☐ Some (6-10)  
☐ Many (More than 10)

5. How many times did you comment on the tweets of the Weibo account “Singapore Jokes (新加坡笑话)”? Please estimate.

- ☐ None  
☐ One  
☐ A few (2-5)  
☐ Some (6-10)  
☐ Many (More than 10)

6. Did you visit the Weibo account “Singapore Jokes (新加坡笑话)” using your mobile phone?

- ☐ Yes  
☐ No

For the following sets of questions, please indicate the answers that apply best to you.

Five point scale	Strongly disagree	Somewhat disagree	Neutral	Somewhat agree	Strongly agree
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7. The “Singapore Jokes” Weibo account is part of my everyday activity.
8. I am proud to tell people I am following the “Singapore Jokes” Weibo account.
9. I feel out of touch when I have not logged on to the “Singapore Jokes” account for a while.
10. I feel I am part of the “Singapore Jokes” Weibo community.
11. The content on the “Singapore Jokes” Weibo account was interesting.
12. The content of the “Singapore Jokes” Weibo account provided me with useful tips for my daily life in Singapore.
13. I would be sorry if the “Singapore Jokes” Weibo account shuts down.
14. I eat in the public places where Singaporeans eat
15. I shop at the public places where Singaporeans shop

16. In general, my interactions with Singaporeans have been very pleasant
17. I do not take the initiative to interact with Singaporeans
18. Singaporeans have helped me on a personal level (E.g. held the lift open for me, return something that I dropped, etc.)
19. I see Singaporeans as equals in my interaction with them
20. I make an effort to interact with Singaporeans
21. My interactions with Singaporeans are not meaningful
22. I think that Singaporeans have behaved in an unfair or negative way towards me because of my Chinese background
23. I don't feel accepted by Singaporeans
24. I feel Singaporeans have something against me
25. I have been teased or insulted because of my Chinese background
26. I feel accepted by Singaporeans in Singapore
27. I have been threatened or attacked because of my Chinese background
28. I have never been treated unfairly because I am a foreigner
29. Singaporeans are pleased about the influx of Chinese immigrants in Singapore
30. Singaporeans feel unsafe around Chinese immigrants
31. Singaporeans have secure jobs despite the influx of Chinese immigrants
32. Singaporeans benefit from the increased economic activity brought about by Chinese immigrants
33. The salaries of Singaporeans will not be affected by presence of Chinese immigrants
34. I could imagine being in a gathering made up mainly of Singaporeans
35. I could imagine being friends with Singaporeans
36. I feel comfortable around Singaporeans
37. I could imagine staying in Singapore for the long term
38. I could imagine taking on a job in Singapore
39. I could imagine myself marrying a Singaporean
40. Singaporeans only look after their own interests
41. Singaporeans are obsessed with money
42. Singaporeans are arrogant
43. I find Singaporean customs and cultures very strange
44. Singaporeans are a bunch of boring people
45. The way Singaporeans speak is strange to me
46. Singaporeans are not hardworking
47. Singaporeans are not intellectually able to achieve major educational qualifications (eg. PhD)
48. I often interact with Singaporeans face-to-face (more than 3 times a week).
49. I often interact with Singaporeans online (more than 3 times a week).
50. I often interact with Singaporeans via phone (e.g., calls, instant messages) (more than 3 times a week).



**Demographics**

How old are you this year? \_\_\_\_\_ years

What is your gender?

- ☐ Male
- ☐ Female

What is your highest level of education?

- ☐ No schooling
- ☐ Some grade/primary school
- ☐ Completed grade/primary school
- ☐ Some high/secondary school
- ☐ Completed high/secondary school
- ☐ Some technical, community college
- ☐ Completed technical, community college
- ☐ Some university
- ☐ Completed university
- ☐ Post-graduate degree
- ☐ Don't know