Mutual perceptions of Chinese and German students at a German university:
Stereotypes, media influence, and evidence for a negative contact hypothesis

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Abstract

In recent years, China and Germany have become invaluable partners in business, politics, and science. However, psychological research indicates that the countries’ large-scale affinity does not translate onto the individual level, with many Germans expressing more reservations towards China than vice versa. Previous content analyses have connected this effect to imbalances in media tonality, as German media mostly criticize Chinese politics, contrasting with idealized portrayals from the other direction. Acknowledging the particularly high number of Chinese exchange students in Germany, we investigate mutual stereotypes (both explicit and implicit) in the context of a German university, while also exploring students’ perceptions of media tonality. Despite observing mostly positive explicit stereotypes, we find that both groups strongly prefer their country of origin on an implicit level, matching their generally sparse contact in university life. Based on our results, we discuss implications for students, educators, and decision-makers in the media.

Keywords: international students, media tonality, implicit attitudes, ethnic stereotype, Sino-German relations
Mutual perceptions of Chinese and German students at a German university: Stereotypes, media influence, and a potential twist on the contact hypothesis

If assessed merely from economical and political perspectives, there is little doubt on the intense bond between the People’s Republic of China and Germany as it has grown throughout recent decades. Crowning a thriving industrial relationship, German media reported in early 2017 that China had just overtaken the United States as Germany’s most important trading partner (Wurzel, 2017); an achievement that falls in line with the particularly high number of diplomatic visits between both countries, as well as an abundance of joint academic ventures. According to recent statistics, German and Chinese universities cooperate in more than 1000 research projects, with Germany’s Federal Ministry of Education and Research expending its highest funds for bilateral cooperation on China (BMBF, 2015).

However, in stark contrast to the countries’ political amicability, cross-cultural research indicates that, on a societal level, Sino-German interactions are often impeded by mutual reservations. Even more so, studies hint at an asymmetrical aversion, as most Germans’ negative attitudes towards China are usually met with a much friendlier approach from the other direction. According to a large-scale poll conducted by BBC World Service in 2014, Germany’s view on China ranked among the strongest anti-Chinese sentiments in the world, while many Chinese participants reported a positive impression of Germany. Although a recent replication of the survey (BBC, 2017) has shown a noteworthy “warming up” among Germans towards their important trading partner, the data still indicate that the bigger part of the German society regards China as a negative global influence—in contrast to 84% of Chinese participants perceiving Germany in a positive light. As such, the BBC’s findings concur with results from the bi-annual “Huawei studies” (a joint project of Chinese company Huawei, the German Institute of Global and Area Studies, and University Duisburg-Essen), which have repeatedly reported a noteworthy
imbalance between both countries’ mutual perceptions (2012, 2014, 2016). In their function as an extensive ‘opinion compass’, the Huawei studies have revealed that Germans tend to associate mostly unpleasant topics with China—e.g., idea theft, low environmental standards, human rights violations—whereas Chinese participants usually recall Germany’s strong economy, its valuable automotive industry, or successful soccer teams (Huawei, 2016). According to the project’s authors, this connects to the strong negative tonality in German media reports on China, which constantly resort to (and foster) widespread stereotypes. Yielding similar results, a meta-analysis conducted by Thimm and colleagues (2014) has come to the conclusion that China-related coverage in German media appears overwhelmingly negative—especially in regard to domestic politics and environmental issues—with an unfavorable tonality embedded in both textual and visual motives. Lastly, other content analyses have noted a strong “elite focus” and lack of context information in China-related German media (Bieber, 2011; Richter & Gebauer, 2010). In contrast to this, the overwhelming majority of Chinese news reports on Germany have been found to feature a positive, often idealized perspective; emphasizing the quality of German products, as well as high educational and environmental standards (Huawei, 2014; Neidhart, 2015).

**Stereotypes and media influence**

While the presented findings might seem controversial from a journalistic viewpoint alone, they also pose critical questions for the field of cross-cultural psychology; after all, it is a well-established theory among social psychologists that media exert an immense influence on people’s in- and out-group concepts (i.e., their psychological identification and non-identification with certain social criteria), their prejudices, and stereotypes (Appel, 2008; Mastro, 2009). Even more so, some authors have suggested that mass media constitute the communication channel “by which most stereotypes are transmitted” (Stangor & Schaller, 1996, p. 12). Although stereotypes, in their minimalistic definition as ‘generalized trait attributions’, do not have to be negative per se
(Brigham, 1971; Greenwald et al., 2002), they usually focus on undesirable dispositions and serve to denigrate selected out-groups. As such, research shows that mass media either feature highly distorted depictions of cultural and ethnic minorities, or ignore them altogether (Scharrer & Ramasubramanian, 2015). In consequence of this constant perpetuation of racial stereotypes, studies have observed negative long-term effects on both explicit (i.e., conscious) and implicit (i.e., subconscious) attitudes, with an even stronger influence on the latter (Arendt & Northup, 2015). For instance, a content analysis of the most watched US-American television shows during the last two decades has noted a “severe underrepresentation” of various ethnic groups, connecting it to negative racial attitudes among viewers (Tukachinsky, Mastro, & Yarchi, 2015). Similar results exist for the West European television context (ter Wal, d'Haezens, & Koeman, 2005), US-American newspaper coverage (Mastro, Tukachinsky, Behm-Morawitz, & Blecha, 2014), and also specifically for media portrayals of Asians and Asian Americans (Lee & Joo, 2005; Shah, 2003; Zhang, 2010). Lastly, in light of the on-going reformation of global media landscapes, which sees more and more people switching from traditional mass media to Internet-based forms of entertainment, research has also uncovered equivalent effects for YouTube videos (Guo & Harlow, 2014) and social networks (Awan, 2014). While some findings indicate that these platforms and their emphasis on user-generated content could actually provide an opportunity for minorities to challenge systematic prejudice (Guo & Lee, 2013), critical observers note the unfortunate perseverance of racist portrayals in new forms of media (Cisneros & Nakayama, 2015; McCormick, 2017).

Psychologically, two theoretical approaches have provided an explanation for the well-replicated relationship between mass media and stereotypes. First, theories of media priming highlight the increased accessibility of stereotypical cognitions through the media’s continuous activation of specific stimuli (Arendt, 2013; Schemer, 2013). In synergy with the media
consumers’ selective exposure to content that matches their attitudinal repertoire (Zillmann & Bryant, 1985), this may result in a ‘vicious circle’ of self-sufficient stereotyping. Secondly, cultivation theory has linked the impact of mass media to the basic human desire to homogenize one’s world view with the opinions of a perceived cultural in-group (Gerbner & Gross, 1976).

Thus, if a certain image is repeatedly presented by preferred news or entertainment providers, recipients might want to integrate it into their own worldview. Despite their different focus, however, both theories are unanimous in their conclusion that stereotypical depictions of culture are not just a question of good or bad taste, but truly affect the collective mind. Eventually, media might all but determine how a minority is viewed—and disregarded—by the society it is a part of. While this certainly poses a tremendous problem for permanent immigrants, who face the established prejudices every day, it also has consequences for temporary sojourners, who usually travel alone to the host country and face stereotypical expectations all by themselves. To shed more light onto their particular situation, the perceptions of a particular sojourner community has therefore been turned into the subject of this study.

The Chinese student community in Germany

Chinese students constitute the largest group of sojourners at German universities, having quadrupled in numbers over the course of hardly two decades (Warnecke, 2016; Zhang & Knerr, 2015). Intuitively, one might assume that these impressive statistics are nurtured by positive experiences of returned Chinese exchange students, who share their favorable impressions as some form of “advertisement” with the next generation of prospective sojourners. However, previous research paints a more pessimistic picture, as it indicates that cultural separation is by far the most common acculturation strategy among the Chinese exchange student community in Germany—fueled by the intensive networking between the Chinese themselves, as well as frequent rejections by native students (Guan, 2007). Even more so, a more successful
acculturation (i.e., cultural integration) is often impeded by the negligible language requirements stipulated by most German universities, allowing exchange students to enroll with only marginal knowledge in the country’s native language. With language barriers and a high cultural distance as accumulative obstacles, many Chinese exchange students eventually turn to the well-organized sojourner community for guidance, comfort, and friendships (Yu & Wang, 2011).

**The Current Study**

Acknowledging the large Chinese sojourner community in German universities, we strive to investigate the interactions between this particular cultural group and the native German students. Additionally, we aim at exploring whether the students’ perception of mutual media portrayals contributes to the generally reserved intergroup contact (e.g., by supporting negative subconscious attitudes).

In the first step, our study broadly examines conscious attitudes that both cultural groups hold towards each other (*explicit stereotypes*). We seek to gain insight from a mostly exploratory perspective, with a special interest in the question whether German students indeed hold a negative view on China as implied by recent literature. Using a separate assessment of both groups’ autostereotype (AS; view on the own culture) and heterostereotype (HS; view on the respective other), we conduct several comparisons to answer the following research questions.

**RQ1:** What are the strongest explicit stereotypes between German students and Chinese exchange students?

**RQ2:** As how similar do both groups consider each other (Chinese AS × Chinese HS / German AS × German HS)?

**RQ3:** Do both groups have similar concepts of typical “Chinese traits” (Chinese AS × German HS) and typical “German traits” (Chinese HS × German AS)?
Generally, media portrayals have been shown to strongly influence the conception of stereotypes, in particular their implicit components (Arendt & Northup, 2015). Whereas a growing body of literature has illustrated these effects for the representation of Asians in the US-American media context (Lee, 1999; Zhang, 2010; Zhu & Christie, 2009), little such research exists for other countries. To overcome this shortcoming, we focus the second part of our study on Chinese and German media perceptions. Assuming that our participants’ impressions of the media match the tonality effects uncovered by objective content analyses (e.g., Thimm, Bürger, & Kuhn, 2014), we hypothesize that German students perceive native-speaking reports on China as negative, whereas Chinese students should have a more positive perception of Germany-related coverage in Chinese media.

**H1a:** German students perceive German media on China as negative.

**H1b:** Chinese students perceive Chinese media on Germany as positive.

Based on these assumptions, we further hypothesize that the perception of media tonality—as a function of exposure to ethnic stereotypes—will emerge as a significant predictor for implicit attitudes.

**H2:** The more negative a person perceives native-speaking media about the out-group, the less they will favor the out-group.

**Methods**

**Participants**

Having prepared invitation materials in both German and Simplified Chinese, we recruited a total of 88 participants at the local German university: 44 exchange students who self-identified as Chinese (12 female, 32 male; age $M = 26.09$ years, $SD = 2.11$) and 44 native-speaking German students (31 female, 13 male; age $M = 23.55$ years, $SD = 4.16$). Both groups
consisted of students enrolled in various study programs, such as engineering, psychology, and media studies. As compensation for their time, every participant could choose between €5 or partial course credits. Informed consent was obtained prior to each participation.

Since we had invited all Chinese exchange students regardless of their duration of stay in Germany, the sojourn time of these participants ranged between a few months and six years. However, (a) spending the majority of one’s life in Chinese-speaking territories, and (b) having Chinese (e.g., Mandarin) as a first language were the two requirements to be included in the sample.

Measures

Explicit stereotypes. For the study’s first goal—providing a broad ‘mapping’ of explicit stereotypes between Chinese and German students—we made use of the attribute list method, a well-established procedure for exploratory research. Instead of a single scale that is averaged from multiple items, attribute lists present participants with a large collection of qualitatively distinct traits, asking them to decide whether or not each of these dispositions matches a target culture. While early uses of the procedure were restricted by their dichotomous item structure (hence preventing any interpretation of stereotype intensity), later modifications have turned the listed attributes into unipolar scales (e.g., Zhu & Christie, 2009) or bipolar semantic differentials (e.g., Gardner et al., 1972; McAndrew et al., 2000). Furthermore, attribute lists may vary vastly in size, often due to compromises between practicability and comprehensiveness. Although a shortening of the measure may increase the probability to miss out on potentially important attributions, authors such as Willnat, Zhou, and Hao (1997) suggest that even short adjective lists still yield better results than just asking participants for an unstructured recollection of attitudes.

Taking all of this into account, we balanced the objective of economical data collection with our intention to provide many relevant items for potential stereotypes between East Asian
and West European participants. This resulted in a medium-scope questionnaire constructed from a variety of sources. First, we entered 35 adjectives that had proven useful in three previous stereotype studies (Gardner et al., 1972; Katz & Braly, 1933; Zhu & Christie, 2009), including the items that had appeared most frequently in descriptions of Chinese or German culture. To cover more current developments as well as regional influences, we then consulted with colleagues from both cultures, leading to the addition of five adjectives. As such, our complete explicit stereotype questionnaire comprised of 40 items, all of them presented as unipolar 7-point ratings (1 = “does not apply to this culture at all”; 7 = “fully applies to this culture”). Lastly, the measure was translated from German into Simplified Chinese, and then back-translated by specialist translators from Chinese into German. Doing so, the source and target versions showed semantic equivalence (Brislin, 1970).

Implicit stereotypes. Despite their descriptive value, explicit stereotype measurements may suffer from various biases, including social desirability, response patterns, and priming effects. Researchers often attempt to circumvent these problems by focusing on the attitudes that are formed without people’s awareness—i.e., implicit stereotypes. These measurements, however, often pose their own challenges. Throughout recent years, the Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998) has remained the most popular procedure for measuring implicit attitudes. In this computer-based response time test, participants have to press different keys to sort stimuli into two target categories (e.g., “foreigners” versus “natives”) as quickly as possible. Following a learning phase, the target categories are then paired with valence categories (e.g., “good” versus “bad”), which are displayed directly below—as illustrated by Figure 1. After all stimuli have again been sorted correctly, the combination of target categories and adjectives is switched and a second trial block commences. Comparing both runs, the test’s rationale assumes that participants show faster response times in the category-adjective combination that matches
their implicit preferences. Although the IAT has been called into question by several authors (e.g., Azar, 2008; Singal, 2017), many studies argue for its unwavering predictive utility, especially when investigating ethnic stereotypes (e.g., McConnell & Leibold, 2001; Fiske & North, 2015). Also, as the IAT’s psychometric qualities have been shown to excel those of the other implicit paradigms offered by literature (Bar-Anan & Nosek, 2014), we chose this specific procedure to assess implicit stereotypes.

So far, a large number of different IATs have emerged from previous experiments, yet no existing version of the test addressed our specific goal of comparing China- and Germany-related attitudes. We therefore developed our own IAT modification, using the openly available software FreeIAT (Meade, 2009). Table 1 shows the block order of the final test version including all training and trial phases; it has to be noted, however, that only the trials 3 and 5 are of relevance for the final implicit attitude score.

As stimuli for the target categories “China” and “Germany”, we decided to use images instead of verbal cues, in line with previous culture-related IATs. Specifically, we took three images per country from the “Project Implicit” materials provided by Nosek and colleagues (2007), and chose an additional two pictures per culture by means of a pretest, in which eight Chinese and German colleagues rated multiple images on their representativeness for each country. The stimuli for the adjective discrimination, on the other hand, were completely obtained from the “Project Implicit” materials. Table 2 lists the resulting sets of stimuli for all four categories.

**Media perceptions.** To measure participants’ perceptions of media tonality, we asked them to rate their general impression of native-speaking media coverage about the opposite country on a 7-point scale (-3 = “very negative”, +3 = “very positive”). In this section of the questionnaire, we did not focus on any particular form of media, but asked participants to think of
“the whole native-speaking media landscape”. Inspired by previous studies on Sino-German news coverage (Bieber, 2011; Thimm, Bürger, & Kuhn, 2014), we also included exploratory questions about the extent to which participants experienced reports on the other culture as “subjective–objective” and “one-sided–diverse”, again presented as 7-point semantic differentials. Lastly, we inquired participants about their impression of regional variety when thinking of media reports about the other country. This question had to be answered on an unipolar 5-point scale (1 = “very few different regions”, 5 = “very many different regions”).

Demographics. The final part of our questionnaire addressed several demographic variables such as age, gender, and religion, as well as the subjective importance of four different media forms (TV, radio, Internet, newspapers). The latter was measured for descriptive purposes, but also to monitor the sample for potential outliers—people with little interest in any media would have had to be excluded from data analysis. However, no significant deviations occurred within our sample, as all participants reported a high importance of at least one media form.

Lastly, we added several questions to the German questionnaire to learn more about the native students’ interest in Chinese culture. This included the dichotomous items “I don’t have personal contacts with Chinese people”, “I have friends from China”, “I would consider working for a Chinese firm”, “I have been to China”, and “I plan to visit China in the near future”.

Results

Explicit Stereotypes

Descriptive data. We identified the strongest explicit stereotypes of Chinese and German students by extracting the mean ratings that diverged most from the scale center (the value of 4). Table 3 gives an overview of the five highest and five lowest rated items among both groups of participants, for auto- as well as heterostereotypes.
We found that neither Chinese nor German participants reported unfavorable trait attributions about their in- or the respective out-group. Instead, the highest scores were observed for positive or neutral adjectives (e.g., “intelligent”, “practical”), whereas the lowest means occurred almost exclusively for negative adjectives (e.g., “dirty”, “deceitful”). The item “eco-friendly” marked a notable exception, as both groups rated the Chinese’s environmental friendliness similarly low ($M = 2.95$ in both samples). Moreover, we note that the answers of our Chinese participants led to more extreme values for both auto- and heterostereotypes; while the German ratings deviated only up to 1.5 units from the scales’ midpoint, the averaged Chinese attributions turned out significantly stronger with values as far as 2.1 units from the neutral value, indicating more pronounced stereotypical cognitions among individuals in this group.

**Perceived similarities between both cultures.** As an illustration of our participants’ perceptions of similarity between Chinese and German culture, Figure 2 plots each group’s autostereotype against its heterostereotype. In order to explore these response patterns statistically, we conducted repeated measures MANOVAs, using the ratings from each of the two groups in separate analyses.

A first repeated measures MANOVA with the responses from the Chinese students yielded a highly significant main effect of rated culture, $F(1,43) = 30.41, p < .01$, Wilk’s $\lambda = .59$, $\eta_p^2 = .41$. This means that the autostereotype pattern of Chinese participants differed very strongly from their heterostereotypes about German culture. In light of this initial finding, we conducted follow-up dependent t-tests for each of the 40 adjectives—applying Holm-Bonferroni correction against inflation of type I error—to find out exactly how many (and which) of the traits were attributed differently. This more detailed comparison of Chinese auto- and heterostereotypes uncovered significant differences in 22 of 40 adjectives, with especially large discrepancies for “eco-friendly” ($M_{AS} = 2.95$, $M_{HS} = 6.09$; $t(43) = 10.81, p < .01$), “democratic” ($M_{AS} = 3.30$, ...
Chinese and German Students’ Mutual Perception

As a final exploration of the measured explicit stereotypes, we addressed potential similarities in both groups’ views on Chinese culture (Chinese AS × German HS), as well as their views on German culture (Chinese HS × German AS). Figure 3 depicts these comparisons, plotting the respective ratings against each other. To investigate the research question statistically, we conducted MANOVAs that were followed by
independent t-tests, again controlling for inflated type I error by means of Holm-Bonferroni correction.

Entering both groups’ views on Chinese culture into the first MANOVA, we examined a significant main effect of group, $F(40,47) = 3.65, p < .01$, Wilk’s $\lambda = .24$, $\eta^2_p = .76$. As we applied Holm-Bonferroni correction in the follow-up independent t-tests, however, significant differences remained for only four of 40 trait attributions. Both groups perceived the Chinese as unequally “business-like” ($M_{CN} = 2.80, M_{GER} = 5.00; t(86) = 7.55, p < .01$), “network-oriented” ($M_{CN} = 6.14, M_{GER} = 4.77; t(86) = 4.93, p < .01$), “loud” ($M_{CN} = 5.09, M_{GER} = 3.73; t(86) = 3.76, p = .01$), and “deceitful” ($M_{CN} = 4.09, M_{GER} = 2.95; t(86) = 3.50, p = .02$); however, they strongly agreed on most of the other traits, especially on how they saw the Chinese as rather “friendly” ($M_{CN} = 5.25, M_{GER} = 5.25; t(86) = 0.00, p > .05$) but not “eco-friendly” ($M_{CN} = 2.95, M_{GER} = 2.95; t(86) = 0.00, p > .05$), and only moderately “individualistic” ($M_{CN} = 3.95, M_{GER} = 3.91; t(86) = 0.04, p > .05$). In light of these observations, we note highly equivalent ideas of typical “Chinese traits” across the two inquired groups.

Lastly, we investigated how our Chinese and German participants’ views on German culture compared to each other. The according MANOVA revealed a significant main effect of group, $F(40,47) = 5.95, p < .01$, Wilk’s $\lambda = .17$, $\eta^2_p = .83$. Subsequent independent t-tests with Holm-Bonferroni correction resulted in significant differences for 19 of 40 traits—meaning that the two groups ascribed roughly one half of the presented attributes to German culture in a notably different way. We observed particularly strong disagreements on the adjectives “polite” ($M_{CN} = 5.68, M_{GER} = 3.86; t(86) = 7.80, p < .01$), “direct” ($M_{CN} = 5.93, M_{GER} = 3.86; t(86) = 7.40, p < .01$), “eco-friendly” ($M_{CN} = 6.09, M_{GER} = 4.50; t(86) = 5.72, p < .01$), and “strict” ($M_{CN} = 6.00, M_{GER} = 4.55; t(86) = 5.57, p < .01$). On the other hand, the ratings for “individualistic” ($M_{CN} = 4.84, M_{GER} = 4.93; t(86) = 0.27, p < .01$), not “dirty” ($M_{CN} = 2.55, M_{GER} = 2.70; t(86) = 0.46,
p < .01), and “business-like” ($M_{CN} = 5.09, M_{GER} = 4.89; t(86) = 0.73, p < .01) yielded very similar means. Summarizing these results, we find that a relatively divergent understanding of the “typical German character” emerges from the responses of the Chinese and German students.

 Implicit stereotypes

Each participant’s IAT score was calculated following the “D scoring” algorithm suggested by Greenwald, Nosek and Banaji (2003). The resulting score distribution, which is shown by Figure 4, revealed a clear preference for the respective native country in both cultural samples. With positive test scores indicating a preference for China and negative scores indicating the same for Germany (due to the order of IAT trials), we indeed found both samples strongly favoring their cultural in-group, $M_{CN} = 0.49 (SD = 0.26)$ and $M_{GER} = -0.37 (SD = 0.28)$. As expected, an independent t-test highlighted the statistical significance of this difference, $t(86) = 15.08, p < .01$. Among all 88 participants, only one Chinese and four German students deviated from their group’s average orientation by showing a subtle out-group preference. Using the conventional IAT score cutoffs for “slight” (0.15), “moderate” (0.35), and “strong” (0.65) preferences, we report a relatively high percentage of moderate (73% of Chinese participants, 57% of German participants) and strong results (34% of Chinese participants, 16% of German participants).

In addition to this main analysis of IAT scores, we compared the Chinese students’ implicit attitudes depending on their duration of stay in Germany. However, due to the relatively low number of Chinese participants who had stayed less than a year ($n = 3$), we limited this step to a descriptive comparison. Doing so, we observed that newcomers showed a much weaker disregard of the German out-group ($M = 0.22, SD = 0.13$) than students who had studied in Germany for more than a year ($M = 0.51, SD = 0.25$).

 Media Preference
Being asked about their perception regarding the importance of different types of media (Tab. 4), participants from both cultures showed a clear preference for the Internet, with the respective ratings close to the maximum of the used 5-point scale ($M_{CN} = 4.80$, $M_{GER} = 4.84$). In contrast to this, the three other media forms—TV, radio, and newspapers/magazines—achieved a below-average value, thus being mostly disregarded by our sample. A MANOVA on all four ratings did not result in significant group differences, $F(1,43) = 0.29$, $p = .88$, Wilk’s $\lambda = .99$, $\eta^2_p = .01$. As such, we report highly similar patterns of media use between young Chinese and German adults from a statistical perspective.

**Media Tonality Perceptions**

Regarding the 7-point rating of media tonality in native-speaking reports about the opposite culture (-3 = "very negative", +3 = "very positive"), we observed that Chinese students indeed perceive Chinese media on Germany as rather positive ($M = 1.50$, $SD = 1.30$), whereas German students report an impression of moderately negative tonality in China-related media ($M = -0.68$, $SD = 1.01$). A subsequent independent t-test yielded a highly significant result when comparing both groups’ evaluation, $t(86) = 8.79$, $p < .01$, with a large effect size of $d = 1.87$. As such, we accept our hypotheses H1a and H1b: The data collected in our sample reflected the large tonality differences that have been illustrated by previous content analyses on Chinese and German media.

Following an exploratory investigation of media objectivity (-3 = “very subjective”, +3 = “very objective”) and media diversity (-3 = “very one-sided”, 3 = “very diverse”), we observed that Chinese students rated Germany-related reports as slightly subjective ($M = -0.59$, $SD = 1.47$) and one-sided ($M = -0.48$, $SD = 1.50$), corresponding to similar perceptions among German participants for China-related media ($M = -0.16$, $SD = 1.52$ for subjectivity; $M = -0.64$, $SD = 1.40$ for on-sidedness). A lack of a statistical significance in the subsequent independent t-tests
indicated that the two groups experienced the mutual media portrayals similarly, at least in terms of objectivity and diversity—with slightly negative views on both criteria.

**Media influence on stereotypes**

To investigate a possible link between the perceived media tonality and implicit attitudes (H2), we conducted linear regression analyses with participants’ tonality ratings as a predictor and their IAT results as a criterion. A first analysis with the data of the Chinese participants did not result in a significant regression equation, \( F(1,42) = 0.06, p = .81 \). However, exploring the German participants’ data, a second regression analysis yielded a significant result, \( F(1,42) = 4.38, p < .05 \). We found that these students’ perceptions of media tonality significantly predicted their IAT result, \( \beta = -.31, p < .05 \), explaining 9.4% in variance. Connecting the negative beta value with the orientation of the IAT, we have to reject our hypothesis H2: A more negative impression of media tonality among German students actually related to a more positive IAT score (indicating a more favorable view on China).

**Discussion**

According to official statistics by the German Academic Exchange Service (DAAD, 2016), the number of Chinese exchange students at German universities exceeded 30,000 for the first time in 2015—with three times as many students coming from China than from the second most frequent country of origin, India. Yet, the interaction between this impressively large (and growing) community and the German natives remains heavily under-researched, with only a few publications hinting towards problematic acculturation processes, as well as strong reservations between the two groups (Guan, 2007; Yu & Wang, 2011). To overcome this research gap, our study addressed the mutual perceptions of Chinese exchange students and German natives at a German university, encompassing both explicit and implicit stereotypes. According to previous
insights into the unbalanced media portrayals between both cultures, we further examined how students’ impression of media tonality eventually related to their subconscious attitudes.

During a rather broad ‘mapping’ of explicit stereotypes, we observed a very positive tenor in both groups: Among other favorable traits, Chinese participants described Germans as especially “scientifically-minded” and “practical”, just as German participants rated Chinese people as very “industrious” and “polite”. The only exception occurred with the trait “eco-friendly”, which both groups ascribed to the Chinese to only a little extent. However, as environmental problems resulting from the rapidly growing Chinese economy have received a lot of international attention, both in popular media and scientific publications (e.g., Carter & Mol, 2013; Huawei, 2016; Kan, 2009), this unanimity did not surprise us. In fact, we found it more difficult to interpret the many positive heterostereotypes, as they clearly contradicted our daily-life experiences of lacking intercultural contact, let alone friendships, between Chinese and German students at our university. More specifically, not a single Chinese participant recalled his or her active integration into German society during our informal debriefing sessions; instead, the exchange students told us that they preferred—or felt the necessity—to remain situated within the ‘safe’ microcosm of the Chinese-speaking community. Equally, only one third of the German participants mentioned any personal contacts with Chinese individuals, with even smaller percentages reporting actual friendships or considering the possibility to work in a Chinese firm. On the other hand, we also have to consider that young university students (especially those interested in cultural psychological studies or, in case of the Chinese sample, studying abroad) present an open-minded and well-educated population that probably holds much less racial prejudice than other parts of society—an effect that has been discussed by previous literature (Hjerm, 2010). In light of this, we would not suggest any broader generalizability of the obtained stereotype data, but have to assume that a self-selection bias has strongly influenced the explicit
stereotypes observed in our study. Additionally, literature warns that explicit measurements of
sensitive topics—including ethnic stereotypes—are vulnerable to social desirability, so that
controversial attitudes have been found to be systematically underreported (Corstange, 2009).
Even though we requested participants to answer honestly in our anonymous questionnaire and
made sure to always assign study conductors of matching ethnicity, the empirical reality of
constant cultural separation just speaks to less positive attitudes than were found in this study.

Indeed, the score distribution obtained from our China–Germany IAT paints a notably
different picture. Measuring the implicit preference between the two countries, we found that both
groups clearly favored their own culture over the other. Even more so, using conventional IAT
cutoff margins, roughly two thirds of the measured scores emerged as “moderate”, “strong”, or
“extreme” preferences for the respective in-group. These tendencies were even more prevalent
among Chinese participants: Every third IAT result in this sub-sample turned out in strong favor
of China. To us, there are three explanations that might account for this result. Firstly, the stronger
implicit in-group preference might be a function of patriotism; in fact, Hail (2015) suggests that
many Chinese exchange students develop particularly strong patriotic tendencies after being
exposed to the intense China criticism common in Western host countries. In close connection to
this stands a second explanation, after which the high in-group preference of our Chinese students
may simply stem from home sickness—a state that is, unsurprisingly, typical among sojourner
communities. However, there is also a third, more pessimistic interpretation of our findings. As
several participants reported instances of rejection and social exclusion during our informal
debriefing sessions, it is possible that they have actually acquired a negative outlook on their host
country—paving the way for stronger China preferences within this specific, cultural
juxtaposition.
As final part of our study, we investigated both samples’ impressions of mutual media portrayals. Doing so, we found that our students indeed replicated the results of previous content analyses: Chinese students’ positive perceptions of Germany-related reports clashed with the strong negativity ascribed to China-related coverage by the German students. When connecting these evaluations to our implicit attitude measure, we examined that only German participants’ IAT scores were predicted by media perceptions: The more negative German students considered media reports on China, the less ‘extreme’ was their in-group preference. In all probability, this indicates that young media consumers actually question the media’s objectivity while forming attitudes about its content—the participants who rated China-related reports as very negative seem to see the reality in a less grim light. Of course, the significant negative prediction could just as well mean that students who perceived the coverage on China as rather positive suspect the reality to be even more problematic than the media suggests.

The data from our Chinese participants, on the other hand, did not suggest a connection between media perceptions and implicit attitudes. In our opinion, this shows how the circumstance of actually living in a foreign country may strongly reduce, or even ‘overwrite’, the media’s influence on its evaluation. Whereas the German students possess little other information than what is provided by television, newspapers, and the Internet, Chinese exchange students really experience Germany for themselves; based on this, the positive portrayals in their home country’s media may lose most of its significance for the construction of attitudes.

From a more critical perspective, however, our results could also be read as a worrisome twist on Allport’s well-established “contact hypothesis” (1954), which usually suggests that increased intergroup contact alleviates prejudice and stereotypes. Indeed, the intensity of our Chinese participants’ in-group preferences suggests that this optimistic assumption also works the other way around: A highly glorified view, as perpetuated by the media, might be a breeding
ground for inevitable disappointment, once real-life interactions with the media’s subject cannot fulfill the heightened expectations. In fact, this assumption is further supported by our finding that newly arrived sojourners showed a notably milder preference for their home country than students who had stayed for more than a year. Taken together, our study therefore corroborates previous publications, which have already documented the increasing “disillusionment” of exchange students that remain culturally isolated within an unwelcoming environment (Barlow et al., 2012; Paolini, Harwood, & Rubin, 2010).

**Implications and Conclusion**

Exploring the sensitive context of intercultural encounters at a large German university, we obtained several results that allow for cautious optimism. Despite highly problematic media perceptions, both German students and Chinese exchange students described each other in positive terms; it is our earnest hope that these indications of openness and acceptance pave the way for many interactions that enrich the life of both involved parties. At the same time, we have to acknowledge the empirical reality of cultural separation between the Chinese and German students, which we found mirrored by strong in-group preferences in our implicit attitude measurement. Even more worryingly, the obtained data supported our personal observations that our international students’ view on their host country became less favorable the longer they lived in it.

For the pedagogical and organizational practices of the universities that invite foreign students, this carries some compelling implications—it basically suggests a lack of “sustained integration”. Although educational institutions in Germany often expend commendable efforts to welcome international students and to make their arrival as uncomplicated as possible (e.g., by providing affordable dorm rooms, multilingual websites, and intercultural welcome evenings during the start of a semester), the initial enthusiasm tends to be short-lived; eventually, many
exchange students go on to seek guidance from their cultural peers. On the one hand, experience shows that Chinese sojourners are often very apt to form and access networks with other members of their home culture, thereby fostering the success of their stay. On the other hand, this aptitude can hardly compensate for missing assistance from the educational system—especially since the students’ personal networking rarely has positive effects on their integration into the host society. Instead, the disillusionment of the international student community often becomes self-sustaining, as previous sojourners share their negative experience and attitudes with newcomers, who have little reason to believe otherwise.

Acknowledging these problems, we offer the findings of this study as a plea to all parties involved, most of all to the decision-makers and lecturers at universities, who have the opportunity to motivate students from different cultural backgrounds to interact with each other (beyond the first few weeks of a study year). At the same time, we would like to point out that the positive trait attributions observed in our study may encourage both native students and sojourners to actively approach one another—in the end, integration can only succeed if responsibility is already assumed at the individual level, even if it involves stepping out of one’s initial comfort zone. Ultimately, we would argue that any personal effort is likely to result in a variety of rewards: Not only does internationalization bring countless benefits to a country’s educational system, including knowledge trade, economic growth, and the establishment of future bilateral relationships (Chandler, 2018; Knight, 2015; Vickers & Bekhradnia, 2007), it has also been shown to foster the educational success of native students (Luo & Jamieson-Drake, 2013).

Last but not least, we want to conclude by highlighting the responsibility of the media, which are most vital to the success of intercultural communication. While it is certainly admirable if reporters call attention to a country’s shortcomings—as many China-related news in Germany do—or optimistically underscore the strengths of a society—as is common in Chinese reports on
Germany—every culture deserves to be presented in a way that strives for nuanced and diverse portrayals. This way, it might eventually be avoided that negative tonality diminishes the interest in another culture, or that idealized concepts are shattered when confronted with a more balanced reality.
References


Knight, J. (2007). Internationalization brings important benefits as well as risks. *International Higher Education, 46*.


Nosek, B. A., Smyth, F. L., Hansen, J. J., Devos, T., Lindner, N. M., Ranganath, K. A., ...


Table 1. *Trial Blocks of the China–Germany IAT*.

<table>
<thead>
<tr>
<th>Block</th>
<th>Type of judgment</th>
<th>Left key (“E”)</th>
<th>Right key (“I”)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Culture discrimination (training)</td>
<td>China</td>
<td>Germany</td>
</tr>
<tr>
<td>2</td>
<td>Adjective discrimination (training)</td>
<td>Good</td>
<td>Bad</td>
</tr>
<tr>
<td>3</td>
<td>China-favoring combination</td>
<td>China / Good</td>
<td>Germany / Bad</td>
</tr>
<tr>
<td>4</td>
<td>Reverse culture discrimination (training)</td>
<td>Germany</td>
<td>China</td>
</tr>
<tr>
<td>5</td>
<td>Germany-favoring combination</td>
<td>Germany / Good</td>
<td>China / Bad</td>
</tr>
</tbody>
</table>

*Note.* The trials that are used for calculating the IAT’s result are highlighted in grey.

Table 2. *Stimulus Sets of the China–Germany IAT*.

<table>
<thead>
<tr>
<th>Category</th>
<th>Stimuli</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>flag, country outline, Mao Zedong, Great Wall, Tiananmen Square</td>
</tr>
<tr>
<td>Germany</td>
<td>flag, country outline, Angela Merkel, Brandenburg Gate, Neuschwanstein Castle</td>
</tr>
<tr>
<td>positive</td>
<td>happy, peace, pleasure, wonderful, love, laughter, joy, glorious</td>
</tr>
<tr>
<td>negative</td>
<td>agony, hurt, failure, evil, terrible, horrible, disgusting, awful</td>
</tr>
</tbody>
</table>
Table 3. *Strongest Trait Attributions of Both Cultural Groups.*

<table>
<thead>
<tr>
<th></th>
<th>Chinese participants (n = 44)</th>
<th>German participants (n = 44)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Chinese stereotype</td>
<td>German stereotype</td>
</tr>
<tr>
<td></td>
<td>network-oriented (M = 6.14)</td>
<td>scientifically-minded (M = 6.11)</td>
</tr>
<tr>
<td></td>
<td>industrious (M = 5.82)</td>
<td>eco-friendly (M = 6.09)</td>
</tr>
<tr>
<td></td>
<td>intelligent (M = 5.77)</td>
<td>practical (M = 6.07)</td>
</tr>
<tr>
<td></td>
<td>reserved (M = 5.66)</td>
<td>strict (M = 6.00)</td>
</tr>
<tr>
<td></td>
<td>performance-oriented (M = 5.52)</td>
<td>direct (M = 5.93)</td>
</tr>
<tr>
<td>lowest mean ratings</td>
<td>democratic (M = 3.30)</td>
<td>loud (M = 3.07)</td>
</tr>
<tr>
<td></td>
<td>insensitive (M = 3.07)</td>
<td>sly (M = 2.84)</td>
</tr>
<tr>
<td></td>
<td>eco-friendly (M = 2.95)</td>
<td>superstitious (M = 2.82)</td>
</tr>
<tr>
<td></td>
<td>straightforward (M = 2.93)</td>
<td>straightforward (M = 2.77)</td>
</tr>
<tr>
<td></td>
<td>businesslike (M = 2.80)</td>
<td>dirty (M = 2.55)</td>
</tr>
</tbody>
</table>

*Note.* Items are unipolar and range from 1 to 7, with a neutral point of 4.
Table 4. *Perceived Importance of Different Media Forms.*

<table>
<thead>
<tr>
<th></th>
<th>Chinese participants</th>
<th>German participants</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>M</strong></td>
<td><strong>SD</strong></td>
</tr>
<tr>
<td>TV</td>
<td>2.57</td>
<td>1.17</td>
</tr>
<tr>
<td>radio</td>
<td>2.18</td>
<td>1.00</td>
</tr>
<tr>
<td>Internet</td>
<td>4.80</td>
<td>0.46</td>
</tr>
<tr>
<td>newspapers/magazines</td>
<td>2.32</td>
<td>0.93</td>
</tr>
</tbody>
</table>

*Note.* Scale anchored at 1 (“not important at all”) and 5 (“extremely important”).
Figure 1. Screenshot of the self-developed China–Germany IAT (Chinese version). Depicted is the test’s first discrimination task, in which the target categories “China” (left) and “Germany” (right) are paired with the attributes “good” and “bad”, respectively. Participants have to press the displayed keys to sort various stimuli into these paired categories.
Figure 2. Both groups’ perceptions of mutual similarities and differences.
Figure 3. Both groups’ perceptions of “typical Chinese” and “typical German” traits.
Figure 4. IAT score distribution of Chinese and German participants.