

Perceived social structural relations and group stereotypes: A test of the Stereotype Content Model in Malaysia

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Using data from two studies, the current research tests the Stereotype Content Model (SCM) within a Malaysian context using Chinese and ethnic Malay participants. The aim of the research is to examine the theoretical underpinnings of the SCM in a new context by investigating the role of aspects of the perceived social structure that have not been considered previously. In line with the SCM it is found that the two dimensions of warmth and competence underlie in-group and out-group stereotypes in Malaysia. In addition, the in-group was evaluated more positively than the out-group on both dimensions. Furthermore, perceived economic social status rather than cultural or power status was related to out-group competence (Study 1), and to out-group warmth (Studies 1 and 2). Higher perceived economic competition was weakly and not consistently associated with less out-group warmth, and political competition was not related to warmth.

Key words: Malaysia, social structure, stereotypes.

The question of why ethnic groups are stereotyped in certain ways has theoretical and practical importance. Theoretically the content of social stereotypes can be expected to reflect social structural realities, and practically an answer to this question contributes to the understanding of interethnic tensions and conflicts. Theories about stereotype content adopt a more functional (e.g. Alexander, Brewer & Hermann, 1999; Jost & Banaji, 1994) or social-structural approach (Sidanius & Pratto, 1999), with the Stereotype Content Model (SCM; Fiske, Cuddy, Glick & Xu, 2002) being a prominent example of the latter. The aim of our research is to investigate the theoretical underpinnings of the SCM in a new context, by examining the role of aspects of the perceived social structure that have not been considered previously.

According to the SCM, ‘warmth’ and ‘competence’ are two fundamental stereotype dimensions that derive from perceptions of intergroup competition and perceived differences in social status, respectively. Most studies on the SCM have been conducted in societies where one group has a dominant social position with a higher economic status (i.e. majority–minority). However, in some countries the situation is more complex. In Malaysia, for example, the ethnic Malays are dominant politically, whereas the Chinese are more dominant economically. Furthermore, social status determines the ability to control power and

economic resources but in a multi-ethnic society there are also ethnic group differences in cultural resources (Hermann, 1985). This raises the question of how different forms of perceived competition (economic, political) as well as different aspects of perceived social status (economic, cultural) are related to group stereotypes.

This question is investigated in two studies among Malay and Chinese participants’ stereotype attributions towards their in-group, the related out-group and Malay Indians as another out-group. Study 1 tests the principles of the SCM with three forms of perceived social status (economic, power and cultural resources) and with perceived competition as a single construct. The second study makes a distinction between two types of perceived competition: economic and political. The two studies together contribute to a further understanding of interethnic relations in Malaysia.

The Malaysian context

There are three major ethnic groups in Malaysia: the ethnic Malays or *bumiputera* (65.1% of the population), the Chinese (26.0% of the population) and the Indians (7.7% of the population), and each has its respective religion, culture and language (Shamsul Haque, 2003). As a consequence of the past colonial rule of the British, who implemented a ‘divide and rule’ policy that separated the groups among labour lines (Noor, 2009), the economy reflected a sharp division of labour after Malaysia became independent in 1957. Most ethnic Malays, living in rural areas, depended on agriculture, whereas most Chinese, living in urban areas, controlled commerce (Esman, 1987), and the Indians were

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employed in the plantation sector (Shamsul Haque, 2003). To improve the economic situation of the ethnic Malays, and to manage ethnic tensions, in 1969 the Malaysian government implemented the 'New Economy Policy'. This policy had some success (e.g. in increasing the representation of Malays in education and administration) but has resulted in inequalities within the Malay community, and a growing dissatisfaction among non-Malays (Shamsul Haque, 2003). The relatively poor Indians were excluded from the affirmative action programs, and because of the focus on the ethnic Malays the policy tended to be regarded as discriminatory by Chinese and Indian citizens (Embang, 2001; Hefner, 2001).

Malaysian society remains rather divided along ethnic lines (Verkuyten & Khan, 2012; Wan Norhasniah, 2011). There are, for instance, strong reservations about interethnic marriages among the various groups (Embang, 2001). The ethnic Malays are dominant in the political domain, with the UMNO (the United Malays National Organization) being Malaysia's largest and leading political party (Shamsul Haque, 2003). The Chinese remain the economically more dominant group: 53.9% of Chinese are employed in high-income professions such as accounting, law and engineering, in comparison to only 28.9% of ethnic Malays and 15.5% of Indians. Furthermore, the average Chinese income is MYR 2896, compared to MYR 1600 for ethnic Malays.

The stereotype content model

Some theories about stereotype content focus on the functions that stereotypes serve in maintaining and justifying existing relations between groups (e.g. Alexander *et al.*, 1999; Jost & Banaji, 1994), while other theories describe how social structural conditions influence stereotypes. A prominent example of the latter is the SCM, which proposes three general, cross-cultural principles of stereotyping: first, the dimensions of warmth and competence underlie group stereotypes; second, most out-groups will be evaluated positively on only one dimension, while the in-group will be evaluated positively on both dimensions; and third, these two dimensions result from the perception of the social structure with competence being predicted by perceived social status and warmth by perceived competition.

Fundamental dimensions of stereotyping

The SCM posits 'warmth' and 'competence' as two fundamental dimensions of group stereotypes (Fiske *et al.*, 2002). It is argued that, upon encountering others, people ask themselves two basic questions: Do they *intend* to harm me?; and Are they *capable* of harming me? These two questions are answered by the two stereotype dimensions.

The warmth dimension captures traits that are related to perceived intent, such as friendliness, helpfulness, sincerity, trustworthiness and morality. The competence dimension captures traits that are related to perceived ability, such as intelligence, skilfulness, confidence and efficacy. Supporting evidence for this distinction between the two dimensions comes from various countries including Japan, Hong Kong and South Korea, but to our knowledge there has been no research conducted in Malaysia (Cuddy, Fiske & Glick, 2006, 2008; Cuddy *et al.*, 2009; Guan, Deng & Bond, 2010). In line with the SCM our first prediction is that the two groups of participants (ethnic Malays and Chinese) will make a distinction between 'warmth' and 'competence' stereotypes (Hypothesis 1). Furthermore, in agreement with the well-known phenomenon of in-group favouritism (Tajfel & Turner, 1979), research has shown that the in-group is typically evaluated positively on both dimensions (see Cuddy *et al.*, 2008). Therefore, and in line with the SCM, it is expected that ethnic Malays and Chinese will evaluate their in-group most positively on both the competence and warmth dimensions (Hypothesis 2).

Social structure: social status

According to the SCM, the two stereotype dimensions follow from the perceived social structure with perceived social status being positively associated with perceived competence (Caprariello, Cuddy & Fiske, 2009; Cuddy *et al.*, 2008). Groups with higher social status tend to have more power and therefore are more capable of controlling economic and cultural resources. When a group is overrepresented in high-status positions or prestigious jobs, people may attribute this situation to the group's perceived competence. There is strong correlational and experimental evidence that higher social status results in favourable competence stereotypes (Cuddy *et al.*, 2008, 2009; Fiske *et al.*, 2002). However, the existing research has examined social status only in economic terms and did not consider cultural resources, nor has it considered the distinction between status and power as proposed by image theory (Alexander *et al.*, 1999). Having relatively high status does not always correspond with having more power.

We expected perceived social status to positively relate to out-group competence (Hypothesis 3). In testing this prediction, in Study 1 we examined whether social status based on economic, power or cultural resources is important for the perception of out-group competence. Furthermore, within Malaysian society, ethnic Malays and Chinese are relatively high status groups and Indians have low status. Malays have higher status because as the numerical majority they are able to regulate power and cultural resources, and the Chinese have relatively high status because they occupy relatively high economic positions and jobs. Therefore, we expected that Malays would evaluate Chinese as

more competent than Indians, and that Chinese would evaluate Malays as more competent than Indians (Hypothesis 4).

Social structure: competition

According to the SCM, competition predicts warmth stereotypes. Competition pits the desired resources of one group against another whereby both groups try to maximize their own resources over those of the other. A high or low-status out-group that is perceived as competing for the same resources suggests that members of that group have negative intentions towards the interests of the in-group, which makes them cold, unfriendly and untrustworthy. In contrast, perceiving an out-group as cooperative suggests positive intentions towards the in-group. The empirical evidence for the relation between competitiveness and warmth is weaker and less consistent across samples and countries than for the status–competence relation (Cuddy *et al.*, 2008; Fiske *et al.*, 2002). For example, in a cross-national study the correlation ranged between -0.48 and -0.02 (Cuddy *et al.*, 2009). One possible reason was that the focus had been on economic competition whereas symbolic and political competition might be more important predictors of warmth in some contexts.

Perceived competition is expected to relate negatively to warmth (Hypothesis 5). Following previous research this latter prediction is tested in Study 1 using a measure of economic competition. In Study 2 a distinction between perceived economic and political competition is made. This allows us to examine further the inconsistent relation between competitiveness and warmth in a context in which the economic and political interdependencies of ethnic Malays and Chinese differ. It is likely that the aspect on which the out-group is the stronger competitor is most strongly related to perceived warmth. Thus, it is expected that for Chinese, perceived political competition is the strongest predictor of warmth judgements of ethnic Malays, whereas perceived economic competition is the strongest predictor of warmth judgements that ethnic Malays have about Chinese (Hypothesis 6). Furthermore, because there is little competitiveness with Indians, perceived economic and political competition are probably not associated with the warmth ratings of Indians. In addition, Malays can be expected to evaluate Chinese as less warm than Indians, and Chinese can be expected to consider Malays as less warm than Indians (Hypothesis 7).

Study 1

Sample

Data from 495 students at the University of Kuala Lumpur were analyzed. Of these students, 405 described themselves

as ethnic Malays and 90 as Chinese.¹ The Malay participants were between 17 and 51 years old ($M = 21.67$, $SD = 2.948$) and 70% female; the Chinese participants were between 18 and 44 years old ($M = 21.49$, $SD = 3.452$) and 69% female. The two ethnic groups did not differ significantly in gender and age ($p_s > 0.05$). The question ‘Compared with other families in Malaysia, how wealthy do you think your family is?’ was used as an indicator of participants’ socio-economic background. Answer categories varied from ‘very poor’ (1) to ‘very wealthy’ (7), and Malay participants had higher SES ($M = 4.12$, $SD = 0.73$) than Chinese participants ($M = 3.83$, $SD = 0.99$), $F(1,493) = 9.75$, $p = 0.002$. Part of the data that were not related to the current questions were analyzed and presented elsewhere (Verkuyten & Khan, 2012).

Dependent variables

To measure the two stereotype dimensions of *warmth* and *competence*, six items adapted from Fiske *et al.* (2002) were used: ‘As viewed by society, how *capable/competent/skillful/friendly/warm/good-natured* are the Malays/Chinese/Indians?’ Answer categories varied on a five-point scale from ‘not at all’ (–2) to ‘extremely’ (2). The first three items (capable, competent and skillful) were intended to measure ‘competence’, and the other three (friendly/warm/good-natured) were intended to measure ‘warmth’.

Independent variables

The independent variable *perceived social status* was measured with six survey questions that reflected the perceived position of the groups in society. The questions were: ‘How prestigious are the jobs typically achieved by the Chinese/Malays/Indians?’; ‘How economically successful have the Chinese/Malays/Indians been?’; ‘How powerful are the Chinese/Malays/Indians?’; ‘How influential are the Chinese/Malays/Indians?’; ‘In public life, how culturally dominant are the Chinese/Malays/Indians?’; and ‘In public life, how religious dominant are the Chinese/Malays/Indians?’ The answer categories varied on a five-point scale from ‘not at all’ (1) to ‘extremely’ (5). The first two items represent the common way of measuring perceived social status in research on the SCM (Fiske *et al.*, 2002), and the items measuring the power (Items 3 and 4) and cultural (Items 5 and 6) aspects of social status have also been used before (e.g. Fiske, Cuddy & Glick, 1999).

Two Confirmatory Factor Analytic models were set up in MPlus to compare a one-factor model with a three-factor model (with the economic, power and cultural aspect of social status). All fit measures of the one-factor model indicate bad model fit (see Table 1, Model 1a). For the three-factor model, fit statistics indicate reasonable to good model fit (see Table 1, Model 1b) with items loading

Table 1 Model fit statistics for the measurement models: Study 1

	Df	X ²	<i>p</i>	CFI	TLI	RMSEA	90% C.I.	SMSR
Perceived social status								
Model 1a	274	1691.898	<0.001	0.635	0.592	0.145	0.138–0.151	0.222
Model 1b	192	402.511	<0.001	0.946	0.914	0.067	0.057–0.076	0.050
Model 1c	198	349.761	<0.001	0.961	0.940	0.056	0.046–0.065	0.037
Model 1d	190	349.297	<0.001	0.959	0.934	0.058	0.049–0.068	0.049
Perceived competition								
Model 2a	36	96.500	<0.001	0.934	0.898	0.083	0.063–0.103	0.074
Model 2b	34	105.126	<0.001	0.923	0.873	0.092	0.073–0.113	0.060
Model 2c	35	83.799	<0.001	0.947	0.915	0.075	0.055–0.096	0.064
Warmth and competence								
Model 3a	278	2307.228	<0.001	0.524	0.476	0.172	0.165–0.178	0.150
Model 3b	244	685.939	<0.001	0.896	0.870	0.086	0.078–0.093	0.069
Model 3c	236	512.630	<0.001	0.935	0.916	0.069	0.061–0.077	0.056

significantly on the proposed factors. A comparison of the one- and three-factor models shows that the three-factor model fits the data significantly better than the one-factor model, $X^2_D(82) = 1298.387$, $p < 0.001$. Therefore, in Study 1, perceived social status was used as a three-dimensional concept, with an economic, power and cultural aspect.

To assess whether strict measurement invariance can be assumed across the two ethnic groups, a comparison was made with a model that did not assume measurement invariance (Table 1, Model 1c). This model fits significantly better than the previous model, $X^2_D(6) = 52.75$, $p < 0.001$. Thus, strict measurement invariance does not hold. To improve the model, modification indices suggested releasing the constraint on the intercept of one of the items measuring perceived economic social status of Malays and of one of the items measuring perceived cultural social status of Chinese. Fit statistics of this new model indicate good model fit (Table 1, Model 1d). Therefore, it can be assumed that there is partial measurement invariance, that is, some of the factor loadings vary across groups, but the values of most do not (Kline, 2005). To assess the reliability of the three scales, reliability scores ρ were calculated for both participant groups: these scores vary from 0.62 to 0.93, with most scores above 0.80, indicating reliable scales.

For each group, the independent variable *perceived competition* was measured by three survey items taken from Fiske *et al.* (2002): 'If members of the Chinese/Malays/Indians get special breaks (such as preference in hiring decisions), this is likely to make things more difficult for people like me'; 'Resources that go to members of the Chinese/Malays/Indians are likely to take away from the resources of people like me'; and 'The more power members of the Chinese/Malays/Indians have, the less power people like me are likely to have.' The answer categories varied on a five-point scale from 'not at all' (1) to

'extremely' (5). Two models were compared to test for measurement invariance across the two participant groups. In the model that assumes strict measurement invariance, items loaded significantly on the proposed factor and there is reasonable model fit (Table 1, Model 2a). For the model that does not assume measurement invariance, all fit statistics except the SMSR are worse than those of the invariant model, although they also indicate reasonable fit (Table 1, Model 2b). A comparison of chi-square statistics of these two models indicates that the model with measurement invariance fits the data better, $X^2_D(2) = 8.626$, $p = 0.013$. To improve the model, modification indices suggest that the constraint on the intercept of the second item measuring perceived competition of Malays should be released. In this new model all fit statistics except the chi-square indicate reasonable to good model fit (Table 1, Model 2c). Reliability scores vary from $\rho = 0.70$ to 0.87, indicating reliable scales.

Results

Warmth and competence. To investigate our first hypothesis about the distinction between 'warmth' and 'competence' two CFA models in MPlus6 were tested. In the first model, the six stereotype traits load on a single factor. The fit statistics of this model indicate a bad model fit (Table 1, Model 3a). In the second model a distinction is made between the items that are supposed to measure warmth and those that are supposed to measure competence. The items all load significantly on the proposed factor and the two-factor model fits the data significantly better than the one-factor model, $X^2_D(34) = 1621.289$, $p < 0.001$. However, the fit statistics of this model indicate a not-so-good fit (Table 1, Model 3b). Fit statistics of a model that does not assume measurement invariance (Table 1, Model 3c)

indicate good model fit. This model also fits the data significantly better than the one with strict measurement invariance, $X^2_D(4) = 157.757$, $p < 0.01$. The reliability scores ρ indicate reliable scales: for competence $\rho = 0.78$ to 0.94 , for warmth $\rho = 0.85$ to 0.94 .

Table 2 shows the correlations of the two dimensions for the three target groups and the two respondent groups. The correlations are positive and significant for all groups except for Chinese evaluating Indians. However, the correlations are low to moderate, further indicating that in line with Hypothesis 1 a distinction can be made between the two stereotype dimensions of competence and warmth.

In-group and out-group stereotypes. Table 3 shows the means of the warmth and competence ratings. As expected the mean scores on both dimensions are most positive for the in-group. Wald tests statistics of mean differences indicate that Malay participants evaluate their in-group as significantly more warm than Chinese and Indians (Wald = 196.47, $p < 0.001$, and Wald = 179.24, $p < 0.001$, respectively), and also as more competent than Indians (Wald = 108.86, $p < 0.001$), but not significantly more competent than Chinese (Wald = 3.39, $p > 0.05$). Chinese participants evaluate their in-group as significantly more competent than Malays and Indians (Wald = 32.29, $p < 0.001$, and Wald = 50.92, $p < 0.001$, respectively), but only as warmer than Indians (Wald = 13.30, $p < 0.001$). Hence, Hypothesis 2 is confirmed in so far as the two groups tend to evaluate their in-group most positively on both dimensions, although not always significantly.

It was expected that Malays would evaluate Chinese as more competent than Indians, but Indians as more warm than Chinese. Further, Chinese were expected to evaluate

Malays as more competent than Indians, but Indians as more warm than Malays. Malays participants did indeed evaluate Chinese as significantly more competent than Indians (Wald = 51.77, $p < 0.001$), and although Indians are seen as more warm than Chinese (Table 3), this difference is not significant. Unexpectedly, Chinese participants evaluated Malays as significantly more warm than Indians (Wald = 13.300, $p < 0.001$), and not as more competent. This pattern of findings means that Hypothesis 4 is partly confirmed and that Hypothesis 7 has to be rejected.

Perceived social status and perceived competition. Regression analysis was used to test the predictions that perceived (economic, cultural and power) social status is positively related to competence and that perceived competition is negatively related to warmth. As shown in Table 4, perceived economic status is indeed in all cases positively and significantly related to competence. The power aspect of social status is not related to competence for any of the groups, and cultural social status is only positively related to competence of Indians as rated by Chinese participants. Furthermore, perceived competition is negatively related to competence for Chinese participants evaluating Malays.

As shown in Table 5, perceived competition is negatively related to warmth for the different target groups, but this relation is only marginally significant for Malay participants' evaluation of Indians. Furthermore, economic social status is significantly and positively related to warmth for all groups except for Malay participants evaluating Chinese. The power aspect of perceived social status is not related to warmth for any of the groups and the cultural aspect is only related to Malays' warmth evaluation of Chinese.²

Discussion

The results of Study 1 support the central proposition of the SCM that 'warmth' and 'competence' are two general dimensions of stereotyping, and that on both dimensions the in-group tends to be evaluated more positively than out-groups. Furthermore, Chinese participants perceived Malays and Indians as more warm than competent, and Malay participants had a similar differential perception of Indians. However, Malays also found Chinese as more competent than warm. The economic aspect of perceived

Table 2 Correlations of the latent variables warmth and competence: Study 1

Target groups:	Malays	Chinese	Indians
Evaluated by:			
Malays	0.326***	0.185*	0.423***
Chinese	0.210**	0.461***	-0.017

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$, all p -values are two-sided.

Table 3 Mean scores and standard deviations of warmth and competence: Study 1

Target groups:	Malays		Chinese		Indians	
	Warmth	Competence	Warmth	Competence	Warmth	Competence
Evaluated by:						
Malays	<i>1.13 (0.32)</i>	<i>0.64 (0.33)</i>	0.42 (0.48)	0.56 (0.42)	0.48 (0.44)	0.22 (0.43)
Chinese	0.71 (0.42)	0.22 (0.55)	<i>0.77 (0.41)</i>	<i>0.80 (0.34)</i>	0.39 (0.42)	0.18 (0.38)

Notes: range -2 to 2, and in-group scores in italics.

Table 4 Standardized regression coefficients predicting stereotype competence: Study 1

Evaluated by:	Malays		Chinese	
	Chinese	Indians	Malays	Indians
Age	-0.015	-0.073	-0.136	-0.725**
Female	0.009	0.027	-0.042	0.028
SES	-0.025	0.013	-0.035	-0.135
Perceived economic social status	0.801***	0.531**	0.527***	0.457**
Perceived political social status	-0.239	-0.063	-0.169	-0.219
Perceived cultural social status	0.158	0.080	0.052	0.656*
Perceived competition	0.040	0.067	-0.236*	0.037

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$, all p -values are two-sided.

Table 5 Standardized regression coefficients predicting stereotype warmth: Study 1

Evaluated by:	Malays		Chinese	
	Chinese	Indians	Malays	Indians
Age	-0.058	0.042	-0.302**	-0.666*
Female	-0.021	0.073	-0.019	0.002
SES	-0.019	-0.071	-0.009	-0.098
Perceived economic social status	0.002	0.708**	0.476**	0.381*
Perceived political social status	0.094	-0.223	-0.205	-0.421
Perceived cultural social status	0.445**	0.126	0.258	-0.330
Perceived competition	-0.006	-0.128 [‡]	-0.061	-0.110

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$; [‡] $p = 0.057$, all p -values are two-sided.

social status, rather than political and cultural social status, was positively related to competence in all cases. This finding indicates that the SCM proposition about the relation between social status and competence applies to economic advantages and achievements rather than to the power or cultural aspect of social status. Interestingly and surprisingly, however, higher perceived economic status was also related to evaluating the out-group as more warm. Furthermore, perceived competition was negatively but not significantly related to out-group warmth. These results for out-group warmth add to the inconsistent findings reported in the SCM literature (Cuddy *et al.*, 2008). Therefore, we investigated the relation between competition and warmth further in Study 2 by making a distinction between economic and political competition.

Study 2

Taking into account the structure of Malaysian society, where ethnic Malays are politically more dominant and Chinese more economically dominant, it could be that distinguishing between perceived *political* and perceived *economic* competition provides an answer to the unexpected findings for out-group warmth. Thus, in Study 2 we

tested whether perceived economic competition is a more important predictor of warmth stereotypes about Chinese, whereas perceived political competition is a more important predictor of warmth stereotypes about Malays.

Furthermore, Study 2 involved a more equal number of Malay and Chinese participants, and they came from another part of Malaysia. Additionally, the SCM argues that a group's position on the stereotype dimensions is predicted from their perceived social structural position *relative* to other groups in society. Therefore and following previous research (Cuddy *et al.*, 2008) in Study 2 we used items that make an explicit in-group and out-group comparison. Finally, because the focus in Study 2 was on the warmth dimension we used an additional item for measuring warmth.

Sample

Data were collected from students of the government universities of Melaka and Johor Bahru, two cities in the southern part of Malaysia. Of the 448 students, 243 described themselves as ethnic Malays and 205 as Chinese. The ethnic Malays were between 19 and 53 years old ($M = 29.72$, $SD = 6.42$) and 52% were female. The Chinese were between 18 and 55 years old ($M = 29.18$,

$SD = 6.80$) and 57% were female. Similar to Study 1, the Malay participants had higher SES ($M = 4.76$, $SD = 0.61$) than the Chinese participants ($M = 4.16$, $SD = 1.23$), $F(1,446) = 45.98$, $p < 0.001$.

Dependent variable

One additional item, 'honest', was used to measure the stereotype dimension of *warmth*.³ To assess whether these four items formed an underlying construct, a CFA was conducted in MPlus. For this model the fit was not satisfactory. Although all items loaded significantly on the proposed factor, 'warmth' had a low factor loading for Chinese participants evaluating their in-group and the two out-groups. Deleting this item improved the model fit considerably, $X^2_D(58) = 233.975$, $p < 0.001$. To test for measurement invariance this model was compared to a model that does not assume measurement invariance and this model fit significantly better than the previous one, $X^2_D(2) = 77.252$, $p < 0.001$. Thus, strict measurement invariance cannot be assumed. To have a model with partial measurement invariance, based on the modification indices, the constraint on the intercept of the item 'good' about Chinese was set free, and the items 'honest' and 'friendly' about Malays were allowed to correlate. Model fit statistics of this new model indicate reasonable to good model fit, CFI = 0.972, RMSEA = 0.071 (LO = 0.052, HI = 0.090), and the squared multiple correlations were well above the minimum recommended value of 0.3 for all the items. The chi-square test was significant, 115.79, $df = 47$, $p < 0.001$, but this is often the case with relatively large samples (Kline, 2005). Reliability scores ρ varied from 0.61 to 0.97, indicating reliable scales.

Independent variables

Three survey items on relative social status were used to measure *perceived social status*: 'What is the social status difference between [A] and [B]?', comparing Chinese and Malays, Chinese and Indians, and Indians and Malays. The answer categories varied on a five-point scale from '[A] have a much higher status than [B]' (1) to '[B] have a much higher status than [A]' (5). For the comparison between Malays and Chinese and between Malays and Indians, a higher score indicates a relatively higher status of Malays. For the comparison between Chinese and Indians, a higher score indicates a higher status of Chinese.

Perceived political competition was measured in the same comparative way using three items: 'Groups in society tend to compete for power. What is the political power difference between [A] and [B]?' The answer categories varied on a five-point scale from '[A] have much more political power than [B]' (1) to '[B] have much more political power than [A]' (5). Again, for the comparison

between Malays and Chinese and between Malays and Indians, a higher score indicates relatively more perceived political power of Malays and therefore lower political competition with the respective out-group. For the comparison between Chinese and Indians a higher scores indicates more perceived power of Chinese indicating lower perceived political competition.

Likewise, *perceived economic competition* was measured with three items comparing the economic dominance of the three groups: 'Groups in society tend to compete economically. What is the economic power difference between [A] and [B]?' Answer categories varied on a five-point scale from '[A] have much more control over the wealth and economic system than the [B]' (1) to '[B] have much more control over the wealth and economic system than the [A]' (5). For the comparison between Malays and Chinese and between Malays and Indians, a higher score indicates relatively more economic power of Malays and therefore less out-group competition. For the comparison between Chinese and Indians a higher score indicates more perceived economic power of Chinese. Higher relative in-group dominance indicates lower perceived economic competition.

Results

In-group and out-group stereotypes. Table 6 shows the mean scores of warmth for the three target groups and for the Malay and Chinese participants. In agreement with Hypothesis 2 both the Malay and Chinese participants consider their in-group as significantly more warm than the two out-groups (Wald test statistics, $p_s < 0.001$). In addition, and in support of Hypothesis 7, Malay participants evaluate Indians as significantly more warm than Chinese (Wald = 51.69, $p < 0.001$), and Chinese evaluate Indians as significantly more warm than Malays (Wald = 57.60, $p < 0.001$).⁴

Perceived political and economic competition. We tested whether perceived political competition is a more important predictor of warmth judgements about Malays, while perceived economic competition is a more important predictor of warmth judgements about Chinese. As expected, the results shown in Table 7 indicate that higher economic

Table 6 Mean scores and standard deviations of warmth: Study 2

Target groups:	Malays	Chinese	Indians
Evaluated by:			
Malays	1.03 (0.89)	-0.42 (0.79)	0.19 (1.18)
Chinese	-0.29 (1.63)	1.23 (0.30)	0.52 (0.71)

Note: range from -2 to 2.

Table 7 Standardized regression coefficients predicting warmth: Study 2

Evaluated by:	Malays		Chinese	
	Chinese	Indians	Malays	Indians
Age	0.220**	-0.075	-0.067	-0.156
Female	0.045	0.093	-0.106	-0.030
SES	0.145*	-0.081	0.228***	-0.070
Perceived economic competition	-0.128*	0.110	0.061	0.057
Perceived political competition	-0.002	0.032	0.041	0.014
Perceived social status	0.040	0.037	-0.292**	0.191**

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$, all p -values are two-sided.

competition is associated with lower out-group warmth for Malays evaluating Chinese. The less dominant Malays perceive themselves to be economically in comparison to Chinese, and therefore the more they consider Chinese competitors, the less warm they consider the Chinese. Perceived political competition is not significantly associated with out-group warmth for any of the out-groups. Additionally and similar to Study 1, perceived relative out-group social status is significantly and positively related to out-group warmth among Chinese participants.⁵

Discussion

Similar to Study 1, in Study 2 the in-group was evaluated as more warm than the out-groups, and the Indian out-group was evaluated as more warm than the other out-group (Malays/Chinese). Although in Study 2 we assessed relative social status and relative economic and political dominance as two indicators of group competition, the results are comparable to Study 1. Again, higher perceived social status was associated with higher warmth for Chinese participants evaluating ethnic Malays and Indians. The evidence for the expected relations with perceived (economic and political) competition were again weak: only for Malay participants there was the expected association between economic competitiveness and warmth judgements about Chinese. Perceived political competition had no significant effects on out-group warmth.

General discussion

The current study investigated the SCM (Fiske *et al.*, 2002) in the Malaysian context and among ethnic Malay and Chinese participants. In agreement with the SCM, the results of Study 1 show that in Malaysia stereotypes can be distinguished according to the two proposed dimensions of warmth and competence. Furthermore, the in-group was evaluated more positively than out-groups, which were perceived differently by the two groups of participants. Malay participants evaluated Chinese as more competent than

Indians, and Indians as more warm. Chinese participants' evaluations of Malays differed between the two studies. In Study 1 Malays were evaluated as warmer than Indians, whereas in Study 2 they were evaluated as less warm. These stereotype differences for competence and warmth (except in Study 1) are in agreement with the different structural positions of the ethnic groups in Malaysian society.

A main contribution of our research relates to a further examination of the perceived social structure that according to the SCM determines out-group stereotypes. In Study 1 we examined three social status domains – economic, cultural and power – and found that perceived economic status is the most important predictor of competence perceptions. This supports the focus in the SCM on defining status in terms of economic positions in society. Cultural and political status differences do not seem to be a basis for assessing abilities and capabilities of groups to achieve and regulate resources.

Surprisingly, higher economic status was also related to higher perceived out-group warmth. This was found in both studies for Chinese participants evaluating Malays and Indians, and for Malay participants evaluating Indians (not significantly in Study 2), but not for their evaluation of Chinese. Thus, in Malaysia social status does not only seem to indicate competence but also warmth-related identities, especially for Chinese. The reason for this is not fully clear but there is a suggestion that higher social status might not only indicate the ability to regulate resources but may also reflect goodness, trustworthiness and social acceptance. System justification theory (Jost & Banaji, 1994) proposes that people tend to defend and justify the status quo. High status groups can justify their advantage by viewing it as fair, and low status groups may endorse this because it explains their own disadvantage (see Brandt, 2013). Groups with higher status will be viewed as deserving and therefore might be evaluated more positively on both dimensions of competence and warmth. In addition, the *Bangsa Malaysia* or 'Malaysian Nation' policy emphasizes a shared national identity and unity and this political ideal might influence how favourably citizens perceive out-groups (Mandal, 2001).

Research on the SCM has demonstrated that the negative association between perceived competition and warmth is not very strong and somewhat inconsistent (Cuddy *et al.*, 2008). In Study 1 we used a general measure of perceived competition and did consistently find the expected negative associations but these were weak and not significant. In Study 2 we made a distinction between political and economic competition and only found the expected association for economic competition and warmth evaluation of Chinese among Malay participants. Thus, in general we found no strong evidence for the proposition that perceived competition underlies warmth judgements. One reason for this might be that in Malaysia symbolic, value-driven competition is more important than political or economic competition. Although the *Bangsa Malaysia* was introduced to emphasize national unity, it has been argued that this policy ensured that the Malay identity became the national identity, and that non-Malays by default have to assimilate (Noor & Leong, 2013). Thus, it might be that Chinese and Indians experience cultural competition with Malays because they fear that they have to give up their own cultural values and norms, whereas Malays fear that their cultural dominance is threatened by these two minority groups (Wan Norhasniah, 2011). Future research should examine whether perceptions of cultural value trade-offs are more important predictors of warmth judgements in Malaysia than perceived economic or political competition.

To summarize, the present study shows partial evidence for the main principles of the SCM. First, the two dimensions of competition and warmth can also be found in the Malaysian context. Second, on both stereotype dimensions the in-group tends to be evaluated more positively than out-groups. Third, out-group competence appears to be related to perceived economic social status rather than cultural or power status. Furthermore, economic social status is not only related to competence judgements but also to out-group warmth stereotypes. The evidence for the relation between competitiveness and out-group warmth is less strong and convincing but perceived economic competition seems more important than political competition.

Future studies should examine the SCM and Malaysian interethnic relations using non-student samples. We used

data from three universities and the use of student participants is quite common in this research (Cuddy *et al.*, 2009). It has to its advantage that differences in, for example, educational level, age and urban setting cannot explain the findings. However, these and other factors are important to consider, and the use of student samples has various limitations (Henry, 2008). Thus, to form an even better understanding of the intergroup relations in Malaysia and a more elaborate test of the SCM, future studies should use larger, non-student samples and include Indian participants as well. Furthermore, in testing the SCM among different ethnic groups, it might be worth considering factors that might influence the associations between social structural relations and warmth and competence judgements, such as interethnic contact and perceptions of in-group threat.

End notes

1. The data set also contained the responses of 53 Indian participants but because of their relatively small number we do not consider them here.
2. Because it can be argued that evaluations about out-groups are always made in comparison to one's in-group, additional regression analyses were conducted with so called in-group bias scores (in-group evaluation minus out-group evaluation). The findings were similar to the ones reported and are available from the authors on request.
3. In addition to warmth, competence was also measured. However, our theoretical focus in Study 2 was on warmth and preliminary analysis in MPlus6 indicated many measurement problems with the competence traits, for example, negative variances in some of the competence items, and very low variance in the latent variable competence. This made it impossible to also examine competence stereotypes.
4. The mean scores for in-group warmth and warmth judgements of Indians are quite similar to Study 1. However, the out-group warmth scores (Malays or Chinese) are lower compared to Study 1. This is not due to leaving out the item 'warmth' in Study 2 because the scores on the other items were also lower. A possible reason is that the data from Study 2 were collected in two main cities in the southern regions of Malaysia.
5. Similar to Study 1, analyses with in-group bias scores instead of out-group scores yielded the same results.

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