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CHAPTER SIXTEEN

RELIGIOUS MAJORITY-MINORITY AND GENDER DIFFERENCES IN MODELS OF CROSSED CATEGORIZATION EFFECTS: SOME EVIDENCE FOR SOCIAL DEVELOPMENT

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INTRODUCTION

Without doubt, one of the key figures in the emergence and development of social psychology in India has been Jai B.P. Sinha. It is a privilege to be part of this Festschrift honouring Jai Babu and recognizing his important role in turning Social psychology in India into experimental social psychology.

. Although I had heard about Jai Babu from my mentors at the University of Bihar, Muzaffarpur, I met him only in October 1965. During my tenure at Patna University (1968-1970), I came in close contact with him. He taught me how to (a) write articles for journals, (b) perform experiments, and (c) read Weiner's (1962) Statistical principles in experimental designs before analyzing the data. I had read about the classic experiments in social psychology (Krech & Crutchfield, 1952). However, it was the reprint of his article (Sinha, 1968) in the Journal of Experimental Social Psychology that led me to become an experimental social psychologist. His early encouragement for doing graduate study in experimental social psychology in the United States, subsequent support for professional development in India, and continuing guidance in what should be studied kept me moving ahead and enjoying the thrills of performing experiments (Singh & Bhargava, 1985, 1986; Singh, Gupta, & Dalal, 1979; Singh, Bohra, & Dalal, 1979; Singh, Yeo, Lin, & Tan, 2007).

Among the developmental issues, I found challenges in justice and fairness (e.g., Singh, 1983, 1997; Singh & Lin, 2011; Tetlock *et al.*, 2007, Tetlock, Self, & Singh, 2010) and prejudice and discrimination (e.g., Singh, Choo, & Poh, 1998; Singh, Sharmini, & Choo, 2004; Singh, Yeoh, Lim, & Lim, 1997). In this chapter, I describe *one* experiment that has some implications for social development in India, an area (Sinha, 1981) in which Jai Babu has made significant and enduring contributions.

CROSS CATEGORIZATION

In crossed social categorization experiments, out-group (O) and in-group (I) by one categorization (e.g., nationality) are paired with O and I by another categorization (e.g., religion). Such crossings generate four targets, namely, double out-group (OO), out-group by the first but in-group by the second categorization (OI), in-group by the first but out-group by the second categorization (IO), and double in-group (II). Models of crossed categorization effects are often identified from responses to these four target persons (see, e.g., Crisp & Hewstone, 1999, for a narrative review; Migdal, Hewstone, & Mullen, 1998; Urban & Miller, 1998, for a review and meta-analysis).

The available evidence argues for five models. When crossed categorization altogether eliminates the distinction between O and I (e.g., Deschamps & Doise, 1978), the operative model is supposed to be of equivalence ($OO = OI = IO = -II$). Responding to only one of the two categories ($OO = OI < IO = II$ or $OO < OI = IO < II$) constitutes the model of category dominance (e.g., Hagendoorn & Henke, 1991). When both categories affect evaluation independent of each other, the additive model emerges (e.g., Singh et al., 1997). With two equally important categories, therefore, evaluations of OO and II lie at the two extremes but of OI and IO fall in the middle ($OO < OI = IO < II$) (e.g., Hewstone, Islam, & Judd, 1993). In conjunctive model, one level of either category takes on all the weight. Such weight for O leads to social exclusion ($OO = OI = IO < II$) (Vanbeselaere, 1987) but for I promotes social inclusion ($OO < OI = IO = II$) (e.g., Vanbeselaere, 1991). In the hierarchical ordering model, the secondary category is weighted more at one than other level of the primary category (e.g., Brewer, Ho, Lee, & Miller, 1987). Depending upon whether the secondary category is weighted more at O or I by the primary category, semi-exclusion ($OO = IO < OI < II$) (Singh & Goh, 2006) or semi-inclusion ($OO < OI < IO = II$) (Van Oudenhoven, Judd, Hewstone, 2000) model can hold.

Hagendoorn and Henke (1991) varied religion (Muslim *versus* Hindu) and class (lower *versus* upper) of the participants as well as of the target persons in India. The original expectation was to eliminate the differences between perceptions of the religious groups by classifying the participants according to their class (i.e., monthly income). However, lower class Hindus did not show the typical response of a minority group (i.e., out-group bias), nor did Muslims show the typical response of a majority group (i.e., the additive model). That led the authors to conclude that religion implies status in India: "Hindus have an elevated status as a majority group and Muslims are not only a numerical but also a social minority" (p. 257).

Since religion and class of the participants jointly placed them at the different strata of Indian society, it was natural for Hagendoorn and Henke (1991) to yield evidence for as heterogeneous models as they did. To promote a positive social identity, the lower class Muslims might have equated themselves with the superior groups (Singh *et al.*, 1998). Consequently, the equivalence model held with them. In contrast, the upper class Muslims live in fear of being assimilated with the majority Hindus (A.K. Singh, 1988). To affirm their social identity, therefore, they responded to categorization by religion alone. Evidence for the semi-exclusion form of the hierarchical ordering model with the lower class, high caste Hindus suggests that they responded more strongly to O than I by religion, also an out-group fear (Ng, 1981). Only the upper class, high caste Hindus followed the additive model. Clearly, those of the highest social status used both categories; those of the lowest status used none; and those falling in the middle were driven by out-group fear.

The present author hypothesized that social status of the perceivers determines which of the multiple social categories they will use in judging others. This hypothesis came from the suggestion that "... the type of categorizations people use in a given social context are not only the result of the need optimally to categorize the social world... but also of the personal and social needs of the perceivers themselves" (Hagendoorn & Henke, 1991: 258). The author tested this hypothesis with the majority Hindus and the minority Muslims in India, the same participant population as in Hagendoorn and Henke. His choice for this participant population was also guided by the findings from the neighbouring Bangladesh (Hewstone *et al.*, 1993) that nationality was less important than religion to the minority Hindus, and that religion was more important to the minority Hindus than to the majority Muslims.

Subsequent to Hagendoorn and Henke (1991) and Hewstone *et al.* (1993), only four studies employed natural categories of nationality and race (Singh *et al.*, 1997), nationality, religion, and employment (Van Oudenhoven *et al.*, 2000), race and gender (Crisp & Hewstone, 2001), and religion and gender (Crisp, Hewstone, & Cairns, 2001). All these studies had participants from only the in-group according to all the categories manipulated. Moreover, they employed a between-participants design. It was not possible, therefore, to provide any evidence for the convergent validity of the model identified or shed any light on the merit of the hypothesis.

In Singh and Goh (2006), Chinese men and women in Singapore indicated their attraction towards work groups formed according to race and gender of two members. Participants also indicated their preference for one over the other member of the work groups as a colleague. In both tasks, responses by women supported the model of category dominance by race. For men, however, attraction towards the groups obeyed the additive model but preference for a member obeyed the semi-exclusion form of the hierarchical ordering model (i.e., the gender category was considered with I but not with O by race categorization). Importantly, men were more attracted toward O than I by gender, a result at odds with the extant models of crossed categorization effects (Crisp & Hewstone, 1999; Migdal *et al.*, 1998; Urban & Miller, 1998). As race and gender of both the members were fully crossed in a four-factor design, evidence on the convergent validity of the model employed by women and by men came from the same pattern in their respective Gender × Race of Member A and Gender × Race of Member B effects.

The moderating effect of gender of the participants on use of gender category just reported was predicted on the grounds that men are generally perceived to hold higher status than women (Stewart & Vassar, 2000; Stewart, Vassar, Sanchez, & David, 2000). So, ignoring the gender category allows women to equate themselves to the higher status men. In contrast, more attraction towards O than I by gender may satisfy men's desires for forming new relationships (Baumeister & Leary, 1995) or for maximizing outcome of the interaction (Gaertner & Insko, 2000). In fact, women respond to man and woman at the group level (i.e., social attraction as O and I) but men at the individual level (i.e., interpersonal attraction) (Singh, 2006).

Based on past findings (Hagendoorn & Henke, 1991; Hewstone *et al.*, 1993; Singh, 2006; Singh & Goh, 2006), the present author varied social status of the participants by including men and women from majority Hindu and minority Muslim religious groups. Target persons also differed with regard to the very same gender and religion categories plus nationality. There were four

crossed categorization scenarios based on one 3-category (nationality (N) × religion (R) × gender (G)) and three 2-category (N × R, N × G, and R × G) designs. Since evaluations of target persons described by three categories as well as by two of them were taken, there were three tests of how one category was utilized when it was crossed with another. Table 16.1 lists the predicted category usage by participants of four status levels in each of the crossed categorization designs.

Table 16.1: Predicted Category Usage by Participants from the Four Religions by Gender Groups in the Four Crossed Categorization Designs

Crossed Categorization Designs	Participant Groups			
	Hindu Men	Hindu Women	Muslim Men	Muslim Women
Nationality (N) × Race (R) × Gender (G)	N, R, G	N, R	R	G
N × R	N, R	N, R	R	None
N × G	N, G	N	G	G
R × G	R, G	R	R	G

Muslims played key role in partition of India, and they continue to have ties with and sympathy for the people of Pakistan (Gupta, 1956). Moreover, doubts about the loyalty of Muslims to India have also been raised from time to time (Gupte, 1989; Madhok, 1981, cited in A.K. Singh, 1988). So, the author expected Muslims to equate O with I by nationality. Such equating of national groups would simplify the first three designs to the R × G, R-only, and G-only ones. From evidence for the model of category dominance by religion with the upper class Muslims (Hagendoorn & Henke, 1991), he expected Muslim men to use religion in the first, second, and fourth designs but gender in the N × G design. Muslim women still move veiled in public places, an obvious basis of self-categorization (Hortacsu, 2000). They are not subjected to civil laws concerning divorce either (Gupte, 1989). These societal practices may invoke perception of the self more as a woman than a Muslim. If so, Muslim women would use the model of category dominance by gender in the first, third, and fourth designs but of equivalence in the second design. The equivalence model in the N × R design was predicted because the lower class Muslims did not discriminate between the target persons formed according to religion and class (Hagendoorn & Henke, 1991).

Category woman stands for lower social status (Stewart & Vassar, 2000; Stewart et al., 2000). To elevate their status to that of men, therefore, Hindu women should equate I with O by gender just as Chinese women did in

Singapore (Singh & Goh, 2006). With them, therefore, the first design would be reduced to the second N × R design and the third and fourth designs to N-only and R-only, respectively. In other words, the additive model should hold in the first two designs but the models of category dominance by nationality and by religion in the respective third and fourth designs. Evidence for the additive model with upper class, high caste Hindus (Hagendoorn & Henke, 1991) led to the prediction that Hindu men should use all the categories given. Moreover, they should show greater attraction toward O than I by gender, as did Chinese men in Singapore (Singh & Goh, 2006).

METHOD

PARTICIPANTS

Thirty Hindu and 30 Muslim college students from Allahabad, Uttar Pradesh, India participated. Each religious group had an equal number of men and women (ns = 15; age range: 18-21 years). Paid participation was in response to an appeal by a Hindu female graduate student of psychology.

TARGET PERSONS AND DESIGNS

Twenty target persons were prepared according to four separate crossed categorization designs. Design 1 was a 2 × 2 × 2 factorial, with Pakistani and Indian as the levels of nationality, Muslim and Hindu as the levels of religion, and Woman and Man as the levels of gender. It generated eight target persons. Designs 2, 3, and 4 were 2 × 2 (N × R, N × G, and R × G) factorials and generated 12 target persons. The levels of the categories were the same as in Design 1.

To disguise the manipulations done, another set of 20 filler persons were prepared. They were of different nationality (e.g., Nepalese, Sri Lankan), religion (e.g., Buddhist, Christian), and marital status (e.g., single, married). Experimental booklets presented the filler along with the target persons in completely randomized orders. Descriptions of 10 of these 40 persons appeared in the first part of the booklet and served as practice examples (Anderson, 1982; Singh & Goh, 2006). Such methodological precautions are necessary in a within-participants design that makes hypotheses transparent and judgements relative.

Counterbalancing the orders of presentation of categories in a description generated three versions of the target persons of Design 1 (N-R-G, R-G-N, and G-N-R). Similar counterbalancing resulted in two versions of target

persons of Designs 2 through 4. Such descriptions were given to about equal number of participants from the four status groups.

PROCEDURE

Nearly one year after the demolition of the Babri Mosque in Ayodhya by Hindu fundamentalists (December 6, 1992), a Hindu woman conducted this experiment in small groups of 5 participants at a time. She introduced the experimental task as one of social perception in which several strangers were to be judged on the basis of what they had disclosed about themselves. Written instructions in Hindi informed the participants that the strangers were drawn randomly from a population of delegates to a recent convention of college students from countries forming the South Asian Regional Cooperation (SARC). In one of the sessions of the SARC convention, the delegates had supplied 1 to 3 answers to a "Who am I" survey. Responses of a random sample of 40 delegates were picked up for this study. The task for the participant was to read how the stranger had responded to the "Who am I" survey, and then indicate how much they would enjoy company of that person. This item has been used widely in study of interpersonal attraction (Byrne, 1971; Singh & Ho, 2000; Singh, Ho, Tan, & Bell, 2007).

To make the instructions and the task clearer to the participants, the experimenter conducted a practice session with 10 examples. She urged the participants to read the stranger's self-description, form an impression of that person, and then put a vertical mark along a 100mm horizontal line to indicate how much they would enjoy his or her company. The left and right ends of the scale represented the lowest and highest levels of enjoyment of company, respectively. Participants were encouraged to use the entire scale, for the correct responses were whatever they felt to be right. Responses were anonymous.

After the practice session, the experimenter verbally repeated the main points of the instructions to the participants. She also reminded them that responses were anonymous, and that their true feelings about the target persons were the correct responses to them. Finally, she asked the participants to judge 40 strangers one by one. In each case, the participants wrote the code number of the target person and drew a vertical line on the 100mm horizontal line of the response sheet to indicate their attraction towards him or her. Such measure controls for memory of the previous ratings in a within-participants design (e.g. Singh, 1983, 1996, 1997; Sing & Goh, 2006). The same 40 target persons were rated three times in different randomized

orders (i.e., from two other new booklets) to generate more reliable responses (Anderson, 1982). After the third booklet was completed, the experimenter thanked the participants for their cooperation and paid them Indian Rupees 10 as compensation.

SCORING AND CODING

The vertical marks along the 100mm line were measured from the left to their nearest integer. Hence, the scores ranged from 0 (lowest) to 100 (highest). The higher the score, the greater is the attraction towards the target person. Data from all three trials of judgements were coded. The target persons were coded as O or I contingent upon whether they were from categories that excluded or included the participants themselves. For the Indian Hindu male participants, for instance, Pakistani Muslim woman and Indian Hindu man were coded as triple out-group (OOO) and triple in-group (III), respectively. For the Indian Muslim female participants, Pakistani Hindu man and Indian Muslim woman were OOO and III, respectively.

RESULTS

CATEGORY USAGE BY FOUR GROUPS OF THE PARTICIPANTS

The main goal in data analysis was to find out category usage by participants from the four social groups. Therefore, the data of Design 1 of the four groups of participants were subjected to separate $3 \times 2 \times 2 \times 2$ (trials of judgements $\times N \times R \times G$) analyses of variance (ANOVAs) with repeated measurements on all four factors. The data of Designs 2 through 4 were also analyzed by separate $3 \times 2 \times 2$ ANOVAs with repeated measurements on all three factors. Table 16.2 lists F ratios from the $N \times R \times G$, $N \times R$, $N \times G$, and $N \times R$ designs of the four participant groups.

Table 16.2: Statistically Significant Main Effects in the Four Crossed Categorization Designs of the Four Participants Groups

Crossed Categorization Contexts	Participant Groups			
	Hindu Men	Hindu Women	Muslim Men	Muslim Women
Nationality (N) × Race (R) × Gender (G)	N, R, G	N, R	R	G
N × R	N, R	N, R	R	None
N × G	N, G	N	G	G
R × G	R	R	R	R, G

Evidently, Hindu men used all the given categories in the first three designs but only religion in the R × G design. The interaction effects are absent in three designs, and the N × R effect of the second design is not supported by a similar interaction effect in the first design. It can be said, therefore, that Hindu men obeyed the additive model in the first three designs but the model of category dominance by religion in the R × G design.

Results from Hindu women are precisely as predicted. There are main effects of both the nationality and religion categories in the N × R × G and N × R designs but of nationality only and of religion only in the N × G and R × G designs, respectively. Stated simply, Hindu women used nationality and religion categories but ignored gender category. Consequently, their responses to the first two designs support the additive model and those to the third and fourth designs support the model of category dominance. No use of gender category by Hindu women not only confirms the finding from Chinese women in Singapore (Singh & Goh, 2006s) but also extends it from attraction toward work groups and colleagues to attraction toward total strangers.

Results from Muslim men are also as predicted. The main effect of nationality category is virtually absent. The main effect of the religion category is statistically significant in the N × R × G, N × R, and R × G designs. The main effect of gender category is significant in the N × G design only. Clearly, responses of Muslim men support the model of category dominance. They used religion category whenever it was available, as in Hagendoorn and Henke (1991). The gender category was used only when it was crossed with nationality category.

Results from Muslim women confirm our predictions as well. They used gender category in N × R × G, N × G, and R × G designs, but ignored both the religion and nationality categories in the N × R design. The only exception is that there is a main effect of religion in the R × G design. However, the main effect of religion was just significant (p =.051), and it is inconsistent with the results from the first two designs. So, we retain the model of category dominance by gender. Evidence for the equivalence model in the N × R design of the present Muslim women and in the Class × Religion design of the lower class Muslims (Hagendoorn & Henke, 1991) jointly indicates that some categories do invoke equality of II with OO and crossed groups on the positive side of the response measure in people of lower social status.

IN-GROUP BIAS, OUT-GROUP BIAS, AND NO BIAS

A statistically significant main effect in ANOVA indicates use of a category but does not specify the nature of bias. Tables 16.3, 16.4, and 16.5, therefore,

report mean and standard deviation of attraction toward O and I by the respective category of nationality, religion, and gender.

Table 16.3: Means and Standard Deviations of Attraction Toward Out-group (O) and In-group (I) by Nationality as a Function of the Participant Groups and the Crossed Categorization Designs

Participant Groups		Crossed Categorization Designs					
		N × R × G		N × R		N × G	
		O	I	O	I	O	I
Hindu Men	M	47.02	64.08	40.36	61.97	31.86	75.16
	SD	33.70	28.36	34.82	26.74	28.56	22.18
Hindu Women	M	31.56	62.14	35.68	60.79	25.62	74.6
	SD	29.49	29.64	28.88	31.63	25.25	26.95
Muslim Men	M	60.91	60.39	63.31	60.82	67.19	67.49
	SD	29.04	29.76	29.17	27.57	27.96	24.4
Muslim Women	M	69.63	74.59	69.23	75.78	64.92	78
	SD	27.27	24.09	30.33	23.98	31.77	23.47

Nationality Category. Table 16.3 shows that Muslim men and women were equally attracted towards O and I by nationality. Importantly, their ratings were on the positive side of the response measure. In contrast, Hindu men and women were more attracted towards I than O by nationality in all the three designs. Compared to the nominal neutral point of the response measure (i.e., 50), moreover, their ratings of I were more positive, an in-group bias, but those of O were more negative, an out-group derogation (Singh et al., 1997). Clearly, nationality served as a category for discrimination by Hindus but not by Muslims as predicted.

Religion Category. Table 16.4 indicates a more positive response to I than O by religion. Hindus, regardless of their gender, showed both the in-group bias and out-group derogation in all the three designs. However, Muslim men made a positive distinction from Hindus but did not derogate them. Although the same tendency is present in Muslim women, the in-group bias by religion was significant in only the R × G design. Taken together, then, these results indicate that religion is a more salient category for Hindus than for Muslims.

Table 16.4: Means and Standard Deviations of Attraction toward Out-group (O) and In-group (I) by Religion as a Function of the Participant Groups and the Crossed Categorization Designs

Participant Groups		Crossed Categorization Designs					
		$N \times R \times G$		$N \times R$		$R \times G$	
		O	I	O	I	O	I
Hindu Men	M	38.93	72.18	31.52	70.8	37.46	78.57
	SD	29.39	25.87	27.32	25.37	29.6	20.26
Hindu Women	M	35.32	58.39	35.92	60.54	26.86	72.32
	SD	29.62	32.74	29.31	31.43	24.69	26.03
Muslim Men	M	52.5	68.81	55.81	68.32	48.13	65.66
	SD	28.98	27.5	26.92	28.47	28.57	27.87
Muslim Women	M	70.2	74.03	68.42	76.59	65.48	77.58
	SD	25.31	26.23	29.57	24.67	27.81	24.88

Gender Category. Table 16.5 shows that responses to the gender category were truly diverse. First, Muslim women made a positive distinction from men, an in-group bias, but did not derogate them. Second, Muslim men revealed such an in-group bias only when gender was crossed with nationality. Third, Hindu women did not make any difference between O and I by gender. Finally, Hindu men showed an out-group bias: They were more attracted towards O than I by gender. Such an out-group bias was significant in the $N \times R \times G$ and $N \times G$ designs but not in the $R \times G$ design.

Equality or irrelevance? Mean attraction responses of Hindu women to O and I by gender fluctuate around 50 in Table 16.5. This central tendency implies that the gender category was irrelevant for Hindu women. They did not pay attention to it at all. However, the prediction of the null effect of gender category was based on the logic that Hindu women equate themselves with the higher status Hindu men to promote a positive social identity (Singh & Goh, 2006). To choose between these two possibilities, the author examined the $N \times R \times G$ effect in Design 1 of Hindu women.

Although the triple interaction effect was marginally significant, $F(1, 14) = 4.07$, $p < .063$, $MSE = 333.40$, the patterns in Religion $\times$ Gender effect across O and I by nationality did favour the equality hypothesis over the irrelevance one. Figure 16.1 presents mean attraction as a function of religion (line parameter) and gender (listed on the horizontal axis) of the target persons. The profiles of the Religion $\times$ Gender effects at O and I by nationality are

Table 16.5: Means and Standard Deviations of Attraction toward Out-group (O) and In-group (I) by Gender as a Function of the Participant Groups and the Crossed Categorization Designs

Participant Groups		Crossed Categorization Designs					
		$N \times R \times G$		$N \times R$		$R \times G$	
		O	I	O	I	O	I
Hindu Men	M	62.44	48.67	63.01	43.94	64.62	51.4
	SD	29.26	33.69	29.21	34.76	28.51	35.1
Hindu Women	M	47.58	46.13	46.49	53.73	48.2	.50.98
	SD	33.19	33.37	36.28	34.94	35.62	32.38
Muslim Men	M	59.8	61.51	62.33	72.34	55.87	57.92
	SD	27.08	31.54	27.33	24.08	28.93	30.12
Muslim Women	M	67.84	76.38	64.92	78	63.53	79.52
	SD	26.29	24.68	31.77	23.47	30.04	20.87

shown in the left and right graphs, respectively. Obviously, O and I by gender received equal but highest ratings when the target person was II by nationality and religion (see top line of the right graph). This agrees with the hypothesis that ignoring gender category of the double in-group was a strategy of identity-enhancement (Singh & Goh, 2006) among Hindu women.

Second, separation between two lines of the left graph is less at I than O by gender. In contrast, separation between two lines of the right graph is less at O than I by gender. As the left and right graphs represent O and I by nationality, respectively, a simple interpretation of the three-way interaction is possible. Whenever social categorizations by nationality and gender converged (i.e., OO of the leftmost point and II of the rightmost point), social categorization by religion resulted in a sharper discrimination. However, when two social categorizations diverged (i.e., OI and IO of the two middle points), the role of social categorization by religion was diminished. Apparently, Hindu women paid attention to gender category but ignored it only when motivation to equate themselves with the higher status men (III) was operative.

GENDER DIFFERENCES IN WEIGHTING OF OUT-GROUP AND IN-GROUP

Mean attraction of Hindu men and of Hindu women listed in Tables 16.3 and 16.4 disclose an interesting gender difference in responses to the nationality and religion categories. Compared to 50, the magnitude of in-group bias is always higher than that of out-group derogation in men. In contrast, the magnitude of out-group derogation is stronger than that of in-group bias in women.
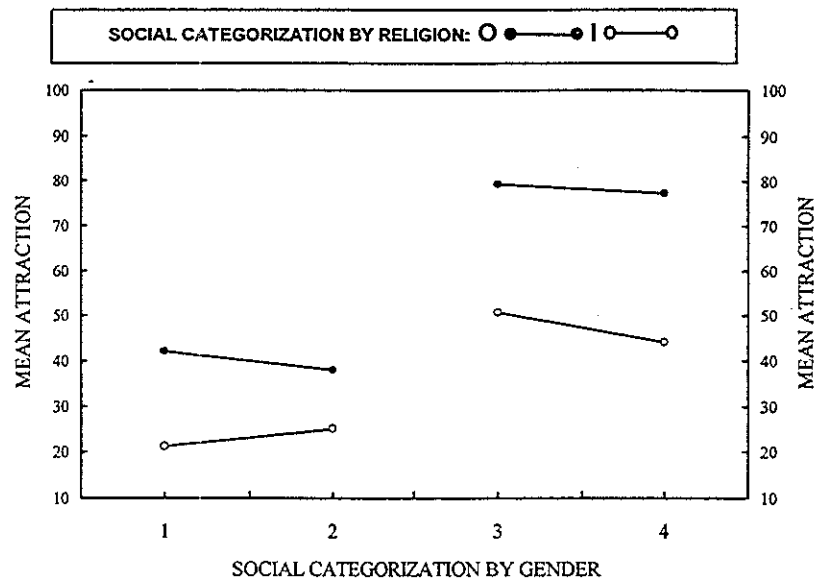
Fig.16.1:   Mean attraction as a function of social categorization by religion (line parameter) and social categorization by gender (listed on the horizontal axis) across O (left graph) and I (right graph) by nationality. Data from Design 1 of Hindu women

To capture the foregoing gender differences, the data of $N \times R \times G$ and $N \times R$ designs were analyzed by including gender of the Hindu participants as a between-participants factor in the ANOVAs. The gender of the participants $\times N \times R$ effect was statistically significant in both the $N \times R \times G$ and $N \times R$ designs, $Fs(1, 28) = 4.68$ and 6.15, respectively, $ps =.03$, MSEs $= 1258.02$ and 786.34. Figure 2 presents mean attraction as a function of nationality (line parameter) and religion (listed on the horizontal axis) of the target persons. The means of Hindu men and Hindu women are shown in the left and right panels; those from their $N \times R \times G$ and $N \times R$ designs are shown in the bottom and top panels.

Two aspects of the results are of interest. First, the bottom and top graphs of men display exactly the same pattern, as do the bottom and top graphs of women. This similarity in patterns across the two designs is important for convergent validation of the model used because the $N \times R$ effect was statistically significant in just one case in the separate ANOVAs of the two gender groups (see Table 16.2).
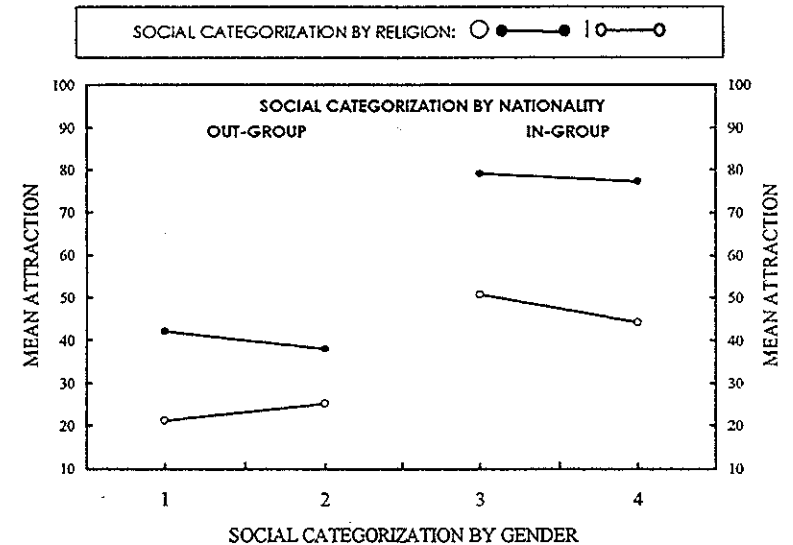

Fig. 16.2:   Mean attraction as a function of social categorization by nationality (line parameter) and social categorization by religion (listed on the horizontal axis). Means of Hindu men and Hindu women are shown in the left and right panels; those from their $N \times R \times G$ and $N \times R$ designs are shown in the bottom and top panels

Second, graphs of Hindu men and Hindu women have seemingly different patterns. In case of men, separation between the upper and lower lines is less at I than O by religion; the slope of the upper line representing I by nationality is shallower than that of the lower curve representing O by nationality. Put simply, I took a greater weight than did O. The two curves of women show exactly the opposite: O took a greater weight than did I. These trends in the three-way interaction effect are no doubt suggestive. Nevertheless, they cast doubt on the additive model (Hewstone *et al.*, 1993; Singh *et al.*, 1997) but argue for the semi-inclusion and semi-exclusion models with Hindu men and Hindu women, respectively.

DISCUSSION

SOCIAL STATUS AS A MODERATOR OF CATEGORY USAGE

Social status of people indeed determines which and how many of the multiple categories of others they use. As predicted, Hindu men of higher social status

generally used all of the given categories, and they also showed more attraction towards O than I by gender. Hindu women of lower social status than Hindu men used religion and nationality but equated I with O by gender. Clearly, men and women from even the majority group of Hindus differed in category usage.

Similar results came from the minority group of Muslims. Muslim men of higher status by gender but lower status by religion used religion whenever it was available and gender only when it was crossed with nationality. Muslim women of the lowest social status primarily relied on gender of others in judging them. Muslims made no discrimination on the basis of nationality (Gupta, 1956). In fact, they equated O with I by nationality on the positive side of the attraction measure.

Taken as a whole, then, these results confirm the hypothesis that social categories have different meanings for people of different social status in India. Moreover, use of a social category is driven by not only people's need to simplify their social world (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987) but also the relevance it has for their immediate self-definition (Hagendoorn & Henke, 1991).

SOCIAL STATUS AND CATEGORIES AS MODERATORS OF THE MODELS

The models of crossed categorization effects are truly moderated by social status of the perceivers as well as by categories that are crossed with each other. Muslim men, for example, followed the model of category dominance by religion in the $N \times R \times G$, $N \times R$, and $R \times G$ designs but the model of category dominance by gender in the $N \times G$ design. Apparently, the gender category, which was ignored in the first and fourth designs, served as a base for affirming a positive social identity in the $N \times G$ design. Muslim women followed the model of category dominance by gender in the $N \times R \times G$ and $N \times G$ designs, the equivalence model in the $N \times R$ design, and the additive model in the $R \times G$ design. Although the model of category dominance by gender held with them, evidence for the equivalence model in the $N \times R$ design and for the additive model in the $R \times G$ design indicate that categories themselves also moderate the models of crossed categorization effects (Van Oudenhoven et al., 2000).

Similar moderating effect of categories on the models employed is illustrated by the results from Hindu women. They employed the additive model with the nationality and religion categories presented together but the model of category dominance by nationality and by religion when they were crossed with gender. Such evidence for additive and category dominance

models with Hindu women emerged because they equated I with O by gender (Singh & Goh, 2000).

Responses of Hindu men to the nationality and gender categories conformed to the prediction of the additive model but those to the nationality and religion categories to the prediction of the hierarchical ordering model. In the $R \times G$ design, they also followed the model of category dominance by religion. In fact, the obtained results for Hindu men and for Muslim women differed from the predicted models in the $R \times G$ design only. Perhaps there is something unique about crossing of gender with religion. Besides, Hindu men were more attracted towards O than I by gender (Goh & Singh, 2002). This finding again questions the existing conceptualizations and models of crossed categorization effects (Crisp & Hewstone, 1999; Migdal et al., 1998; Urban & Miller, 1998).

That the models of crossed categorization effects are moderated by the categories themselves is an important addition to the extant literature. This demonstration has been possible because this experiment crossed each of the three categories with another category at least three times. An advantage of such multiple designs is that it provides both the convergent and divergent validation of the models employed. Future work should, therefore, employ our method to check on whether there is genuine category dominance by race in South Africa or the United States, by religion in Northern Ireland or Bangladesh, and by language in Belgium or Quebec of Canada (Hewstone, 1996) or is an outcome of the other category crossed with.

It should be added that results seemingly supportive of an additive model could actually be manifestations of the underlying hierarchical ordering model. Separate ANOVAs for the data of Designs 1 and 2 of Hindu men and women, for example, led to acceptance of the additive model for the nationality and religion categories. Estimates of in-group bias and out-group derogation relative to the nominal neutral point of the response measure, however, indicated that Hindu men had a stronger in-group bias than out-group derogation, and the reverse was true with Hindu women. When the data of Hindu men and women were analyzed together, gender of the participants did moderate the $N \times R$ effect (see Figure 2). In other words, responses by Hindu men had a tendency for semi-inclusion (i.e., a greater weighting of I than O); Hindu women had a tendency for the opposite semi-exclusion (i.e., a greater weighting of O than I). On this basis, it is proper to accept the hierarchical ordering model as in Brewer et al. (1987) and Hewstone et al. (1993, Experiment 2).

MAJORITY-MINORITY DIFFERENCES

The nationality category was important to the majority group of Hindus but not to the minority group of Muslims in India. Whereas the former had both the in-group bias and out-group derogation, the latter equated I with O by nationality. This result differs from that of Hewstone et al. (1993) who found nationality to be a weak category for the majority Muslims as well as the minority Hindus in Bangladesh.

Why do Hindus assign more importance to nationality than do Muslims in India or Bangladeshi in general? Following Tajfel and Turner (1986), it can be speculated that Indian Muslims as well as Bangladeshi perceive high permeability of national boundary. They desire to have scope for moving from one country to another. It is estimated that 2 to 15 millions of Bangladeshi nationals reside illegally in India (U.S. Department of State, 1994). Of those living in Delhi, only a minority expressed any hope for going back to Bangladesh (Lin & Paul, 1995). For the Indian Hindus, however, the national boundary is impermeable. It generates a feeling of their significant and mighty position in South Asia. It is unsurprising, therefore, that Indian Hindus give much more importance to nationality than do Muslims or other non-Indians in South Asia.

Similar to the results of Hewstone et al. (1993), religion turned out to be more important to Hindus than Muslims of India. This result is of special interest, for Hindus are the majority group in India but the minority group in Bangladesh. Similar responses to the religion category by Hindus of Bangladesh and India indicates that what appeared to be a majority-minority difference in Hewstone et al. may actually be the Hindu-Muslim difference, pointing to a revival of the Hindu fundamentalism in South Asia (Malik & Vajpeyi, 1989).

Because the model of category dominance by religion held with the upper class Muslims of India, the less positive evaluation of Hindus than Muslims was considered as 'a communalized response' by Hagendoorn and Henke (1991: 258). Results caution against this interpretation. Muslim men showed in-group bias by religion but did not reject the out-group Hindu. Even in Hagendoorn and Henke, all the four means were on the positive side of their 3-point response measure. Clearly, perceiving others according to only one category—be it religion or gender—is also a way of simultaneously simplifying the social world (Turner et al., 1987) and preserving a positive social identity (A.K. Singh, 1988) among Muslims.

Results further indicate that responses by Hindu men cannot be viewed as communal either. Evidence for the semi-inclusion form of the hierarchical

model in their Nationality × Religion effects reflects on their positive orientation to all the groups that share at least one social category. The converging pattern in the Nationality × Religion effect of the present Hindu men matched with that in the Nationality × Employment effect of the majority Dutch in the Netherlands (Van Oudenhoven et al., 2000, Figure 3: 292). Perhaps people of the numerical majority groups are favourably inclined toward assuming the responsibility of carrying similar others with them. Such responsibility appears to have been accepted by the majority Hindus in India (Gupte, 1989).

Hewstone et al. (1993, Experiment 2) found evidence for the semi-exclusion form of the hierarchical ordering model in the Nationality × Religion effect in Bangladesh. We found the same with Hindu women of India. As the semi-exclusion form of the hierarchical ordering model implies a disproportionate weight for O than I, it can be said that insecure people of high social status are perhaps afraid of out-groups. As a result, they either reject O or equate I with O. Considered from this angle, Hindu women in India and nationals of Bangladesh may be viewed as still unsure of their identities. Future research should take up this issue.

Models of crossed categorization effects have been receiving so much attention in the literature (Urada, Stentrom, & Miller, 2007) because of the potential that crossed groups initially offered for reducing intergroup bias (Deschanps & Doise, 1978; Hewstone et al., 2002). However, crossing of two categories has not been so successful towards this goal (see, Migdal et al., 1998; Mullen, Migdal, & Hewstone, 2001). The overwhelming evidence for the model of category dominance and some evidence for semi-inclusion and semi-exclusion in the present work raise further doubt on potential of cross categorizations as a bias-reducing intervention. Nevertheless, the high status majority group of Hindu men seem to have assumed the responsibility of carrying some out-groups with them, a healthy sign of social development.

SUMMARY AND CONCLUSION

Attraction towards target persons categorized by nationality, religion, or gender as well as by all of their pairings was studied in a within-participants experiment. The moderating role of the participants' social status in crossed categorization effects was examined by including men and women from the majority Hindu and minority Muslim religious groups in India. As predicted, Muslims ignored categorization by nationality: Responses of men and women displayed category dominance by religion and by gender, respectively. Hindu

women ignored categorization by gender, and Hindu men were more attracted toward the out-group than in-group by gender. Responses of Hindu men conformed to the model of social inclusion; those of Hindu women, in contrast, conformed to the model of social exclusion. Obviously, natural social categories have different meanings for people of different status in India, and cross-categorization is of limited value for social harmony and development.

In conclusion, it may be said that the models of crossed categorization effects are indeed moderated by social status of the perceivers and the categories that are crossed with each other. Interestingly, category usage is generally predictable from knowledge of the religious and gender groups of the perceivers.

REFERENCES

Anderson, N.H. (1982). *Methods of information integration theory*. New York: Academic Press.

Baumeister, R.F. and Learly, M.R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, 117, 497-529.

Brewer, M.B., Ho, H., Lee, J., and Miller, N. (1987). Social identity and social distance among Hong Kong school children. *Personality and Social Psychology Bulletin*, 8, 393-400.

Byrne, D. (1971). *The attraction paradigm*. New York: Academic Press.

Crisp, R.J., and Hewstone, M. (1999). Differential evaluation of crossed category groups: Patterns, processes, and reducing intergroup bias. *Group Processes and Intergroup Relations*, 2, 307-333.

Crisp, R.J., and Hewstone, M. (2000). Crossed categorization and intergroup bias: The moderating roles of intergroup and affective context. *Journal of Experimental Social Psychology*, 36, 357-383.

Crisp, R.J. and Hewstone, M. (2001). Multiple categorization and implicit intergroup bias: Differential category dominance and the positive-negative asymmetry. European *Journal of Social Psychology*, 31, 45-62.

Crisp, R.J., Hewstone, M., and Cairns, E. (2001). Multiple identities in Northern Ireland: Hierarchical ordering in the presentation of group membership. *British Journal of Social Psychology*, 40, 501-514.

Deschamps, J.C., and Doise, W. (1978). Crossed category memberships in intergroup relations. In H. Tajfel (Ed.), *Differentiation between social groups* (pp. 141-158). Cambridge: Cambridge University Press.

Gaertner, L. and Insko, C.A. (2000). Intergroup discrimination in the minimal group paradigm: Categorization, reciprocation, or fear? *Journal of Personality and Social Psychology*, 79, 77-94.

Gupta, R. (1956). Caste rankings and intercaste relations among the Muslims of a village in north-western UP. *Eastern Anthropologist*, 10, 30-42.

Gupte, P. (1989). *India: The challenge of change*. London: Methuen.

Hagendoorn, L. and Henke, R. (1991) The effect of multiple category membership on intergroup evaluations in a north Indian context: Class, caste, and religion. *British Journal of Social Psychology*, 30, 247-260.

Hewstone, M. (1996). Contact and categorization: Social psychological interventions to change intergroup relations. In C.N. Macrae, C. Stangor and M. Hewstone (Eds.), *Stereotypes and stereotyping* (pp. 323-368). New York: Guildford Press.

Hewstone, M., Islam, M.R., and Judd, C.M. (1993). Models of crossed categorization and intergroup relations. *Journal of Personality and Social Psychology*, 64, 779-793.

Hortacsu, N. (2000). Intergroup relations in a changing political context: The case of veiled and unveiled university students in Turkey. *European Journal of Social Psychology*, 30, 733-744.

Krech, D., and Crutchfield, R.S. (1952). *Theory and problems in social psychology*. New York: McGraw-Hill.

Lin, S.G., and Paul, M.C. (1995). Bangladeshi migrants in Delhi: Social insecurity, state power, and captive vote banks. *Bulletin of Concerned Asian Scholars*, 27, 3-20.

Madhok, B., (1983). India's Muslim minority-persecuted or pampered? *The Illustrated Weekly of India*, pp. 8-10.

Malik, Y.K., and Vajpeyi, D.K. (1989). The rise of Hindu militancy: India's secular democracy at risk. *Asian Survey*, 29, 308-325.

Migdal, M.J., Hewstone, M., and Mullen, B. (1998). The effects of crossed categorization on intergroup evaluations: A meta-analysis. *British Journal of Social Psychology*, 37, 303-324.

Mullen, B., Migdal, M.J., and Hewstone, M. (2001). Crossed-categorization vs. Simple categorization and intergroup evaluations: A meta-analysis. *European Journal of Social Psychology*, 31, 721-736.

Ng, S.H. (1981) Equity theory and the allocation of rewards between groups. *European Journal of Social Psychology*, 11, 439-444.

Singh, A.K. (1988). Intergroup relations and social tensions. In J. Pandey (Ed.), *Psychology in India: The state-of-the-art* (Vol. 2, pp. 159-224). New Delhi: Sage.

Singh, R. (1983). Leadership style and reward allocation: Does least preferred co-worker scale measure task and relation orientation? *Organizational Behaviour and Human Performance*, 32, 178-197.

Singh, R. (1996) Subtractive versus ratio model of "fair" allocation: Can group level analyses be misleading? *Organizational Behaviour and Human Decision Processes*, 68, 123-144.

Singh, R. (1997). Group harmony and interpersonal fairness in reward allocation: On the loci of the moderation effect. *Organizational Behaviour and Human Decision Processes*, 72, 158-183.

Singh, R. (2006). Gender among multiple categories: Social attraction in women but interpersonal attraction in men. In R. Crisp and M. Hewstone (Eds.), *Multiple categories and cross-categorizations: Processes, models, and applications* (pp. 189-208). East Sussex: UK: Psychology Press.

Singh, R; and Bhargava, S. (1985). Motivation, ability, and exam performance: Tests of hypotheses of cultural difference and task difficulty. *Journal of Experimental Social Psychology*, 21, 466-479.

Singh, R; and Bhargava, S. (1986). Constant-weight versus relative-weight averaging in the prediction of exam performance. *Journal of Experimental Social Psychology*, 22, 547-566.

Singh, R., Bohra, K.A., and Dalal, A.K. (1979). Favourableness of leadership situations studied with information integration theory. *European Journal of Social Psychology*, 9, 253-264.

Singh, R., Choo, W.M., and Poh, L.L. (1998). In-group bias and fair-mindedness as strategies of self-presentation in intergroup perception. *Personality and Social Psychology Bulletin*, 24, 147-162.

Singh, R., and Goh, H.Y. (2006). Gender and group versus individual target as moderators of the models of crossed categorization effects. *Psychology and Developing Societies*, 18, 139-166.

Singh, R., Gupta, M., and Dalal, A.K. (1979). Cultural difference in attribution of performance: An integration-theoretical analysis. *Journal of Personality and Social Psychology*, 37, 1342-1351.

Singh, R., and Ho, S.Y. (2000). Attitudes and attraction: A new test of the attraction, repulsion and similarity-dissimilarity asymmetry hypotheses. *British Journal of Social Psychology*, 39, 197-211.

Singh, R., Ho, L.J., Tan, H.L., and Bell, P.A. (2007). Attitudes, personal evaluations, cognitive evaluation, and interpersonal attraction: On the direct, indirect, and reverse-causal effects. *British Journal of Social Psychology*, 46, 19-42.

Singh, R; and Lin, X. (2011). The severity effect on the compensation and imprisonment recommendations: Deterrence as a mediator in Singapore. *Asian Journal of Social Psychology*, in press.

Singh, R., Sharmini, Chew, I. (2004). Intergroup perception as a compromise between in-group bias and fair-mindedness. *Journal of Social Psychology*, 104, 373-387.

Singh, R. Yeo, S.E., Lin, P.K.F., and Tan, L. (2007). Multiple mediators of the attitude similarity-attraction relationship: Dominance of inferred attraction and subtlety of affect. *Basic and Applied Social Psychology*, 29, 61-74

Singh, R., Yeoh, B.S.E., Lim, D.I., and Lim, K.K. (1997). Cross categorization effects in intergroup discrimination: Adding *versus* averaging. *British Journal of Social Psychology*, 36, 121-138.

Sinha, J.B.P. (1968). The n-Ach/n-Cooperation under limited/unlimited resource condition. *Journal of Experimental Social Psychology*, 4, 233-248.

Sinha, J.B.P. (1981). In search of research identity. In J. Pandey (Ed.), *Perspectives on Experimental Social Psychology in India* (pp. 241-252). New Delhi: Concept.

Stewart, T.L., and Vassar, P.M. (2000). The effect of occupational status cues on memory for male and female targets. *Psychology of Women Quarterly*, 24, 161-169.

Stewart, T.L., Vassar, P.M., Sanchez, D.T., and David, S.E. (2000). Attitude toward women's societal roles moderate the effect of gender cues on target individuation. *Journal of Personality and Social Psychology*, 79, 143-157.

Tajfel, H; and Turner, J.C. (1986). The social identity theory of intergroup behaviour. In S. Worchel and W. Austin (Eds.), *Psychology of Intergroup Relations* (pp. 7-24). Chicago: Nelson-Hall.

Tetlock, P.E., Self, W.T., and Singh, R. (2010). The punitiveness paradox: When is external pressure exculpatory—And when a signal just to spread blame? *Journal of Experimental Social Psychology*, in press.

Tetlock, P.E., Visser, P., Singh, R., Polifroini, M. Scott, A., Elson, B., and Mazzocco, P. (2007). People as intuitive prosecutors: The impact of social-control goals on punitiveness and attributions of responsibility. *Journal of Experimental Social Psychology*, 43, 195-209.

Turner, J.C., Hogg, M., Oakes, P., Reicher, S., and Wetherell, M. (1987). *Rediscovering the social group: A self-categorization theory*. Oxford: Basil Blackwell.

Urada, D., Stenstrom, D., and Miller, N. (2007). Crossed categorization beyond the two-group model. *Journal of Personality and Social Psychology*, 92, 649-664.

Urban, L.M., and Miller, N.M. (1998). A meta-analysis of crossed categorization effects. *Journal of Personality and Social Psychology*, 74, 898-908.

U.S. Department of State (1994). *Indian human rights practices*, 1993. http://www.cpsr.org/cpsr/privacy/priva...tate_dept_human-rights_guide/India.txt.

Vanbeselaere, N. (1987). The effects of dichotomous and crossed social categorizations upon intergroup discrimination. *European Journal of Social Psychology*, 17, 143-156.

Vanbeselaere, N. (1991). The different effects of simple and crossed categorizations: A result of the category differentiation process or of different category salience? In W. Stroebe and M. Hewstone (Eds.), *European review of social psychology*, (Vol. 2, pp. 247-278). Chichester, England: Wiley.

Van Oudenhoven, J.P., Judd, C.M., and Hewstone, M. (2000). Additive and interactive models of crossed categorization in correlated social categories. *Group Processes and Intergroup Relations*, 3, 285-295.

Winer, B.J. (1962). *Statistical principles in experimental designs*. New York: McGraw-Hill.