

Research Notes

Ethnicity, gender and survey biases in Fiji

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Empirical research can be looked at as a form of social interaction between researcher and subjects. It is remarkable that professional students of social interaction up until recently have ignored the crucial interaction in which they themselves are engaging as they carry out their work. Julius A Roth 1973:3.

Even when extreme care is taken to standardise the procedure and instructions to the subjects, the effect [on survey results] of an imposing-looking male, as opposed to a less-threatening female, cannot be entirely ignored. Frances Clegg, 1988:104.

AT LEAST least two types of bias may be evident in survey situations: interviewer bias, where the interviewer's preconceived, and perhaps unconscious, views influence the collection, interpretation or recording of information; and subject bias, where the responses of some or all of the persons interviewed are influenced, to a lesser or greater (and possibly significant) degree, by the overt characteristics of the interviewer. This short paper considers the role of ethnicity and gender in producing both types of bias in a survey conducted as a class exercise by sixteen USP postgraduate students in August 1994.¹ To my knowledge it was the first examination in Fiji of the possible existence of such survey biases.

The example of subject bias provided above by Clegg supposes that the answers of those interviewed may be influenced by the gender and the threatening or less threatening demeanour of the interviewer. Many

other interviewer-related characteristics may also influence respondent answers, ranging from a desire to please the interviewer or avoid embarrassment, to covert (and even overt) hostility. While different responses may be due to the interviewer's biological, cultural or personal characteristics, they may also be caused by, or become more pronounced because of, political, social or other situational factors that set interviewer and respondent apart. Similar factors may also produce interviewer bias.

Even without the events of 1987 (when the ethnic Fijian army seized power from a multi-ethnic elected government on the grounds that Fijian rights could be undermined by Indians) one might reasonably have expected the ethnicity of interviewers to affect survey results in Fiji, at least on ethnically sensitive issues. This expectation is heightened in a post-coup environment where Fijians 'rule the roost' and where Indians, in their own words, are insecure, second class citizens.

The importance of interviewer and subject bias should be obvious. If opinions solicited on ethnic or gender issues are suspect in a relatively innocuous and anonymous survey situation, one must ask how valid any cross-ethnic (or cross-gender) opinions are, whether expressed in casual conversation, the routine question and answer exchanges of business or work place, the public arena, or in formal surveys seeking answers of fact or opinion.

Methodology

TO TEST the assumptions that the ethnicity and gender of interviewers would influence responses, students (who comprised Fijian, Indian and Other Ethnic males and females) were each asked to put four research statements to ten Indian males, ten Indian females, ten Fijian males and ten Fijian females, to permit analysis of parallel (same ethnic) and cross (different ethnic) interviewer–respondent situations. The Other Ethnic group comprised a ni-Vanuatu, a Tongan, a Part-European and a European. The four possible responses to the statements were: a refusal to answer, agreement, disagreement, and uncertainty. It was expected that parallel and cross ethnic interviewer–respondent situations would produce differences in all four levels of response.

Some 620 pedestrians were interviewed over a period of five days, most in downtown Suva. Students were asked to interview only persons assumed to be aged 20 years and over, walking by themselves (to avoid the influence of companions), and thought to be able to speak English. All interviews were conducted in English to offset bias from speaking (or not speaking) in Fijian or Hindi. Students were not to interview anyone they knew. The sample was, of course, not strictly a random sample—it did not need to be for our main purpose—but it may be taken to be as representative as are surveys conducted by the Tebbutt/Times Opinion Poll or similar surveys in Suva.

Respondents were asked whether they agreed or disagreed with the statements:

1. People who throw wrappers (litter) on the street should be fined on the spot.
2. Rapists should be sentenced to at least ten years' jail.
3. The Sunday Ban (on work) should be lifted.
4. There should be a better ethnic balance in the Army.

It will be noted that the statements were uni-directional, which could have resulted in some respondents 'agreeing' to all statements. This could have influenced the overall results but is unlikely to have affected the research propositions because the focus was not on how respondents answered but whether they answered differently to interviewers of the same and different ethnicity and gender.

Interviewers recorded the following information, which I have arranged according to the type of variable involved. Changes in the independent variables were expected to produce changes in the dependent variables.

Independent variables: the ethnicity and gender of the interviewer and respondent;

Distorter (or 'nuisance') variables, which could distort the relationship between independent and dependent variables and so influence the results: interviewer characteristics (other than ethnicity and gender), the place, day and time of interviews, and the estimated age and stated education level of respondents;

Dependent variables: answers to the four research statements recorded as 'agree', 'disagree', 'uncertain or don't know', and 'refused to answer.'

They also made brief notes on individual respondents as a check on likely reliability and to record respondent comments of special interest.

Of the statements asked, Rape and the Sunday Ban had received considerable media coverage for several months prior to the survey. Litter had received some low key mention. No direct reference had been made to the question of ethnic imbalance in the army. The first statement, on litter, was considered ethnic–gender free and no significant differences in responses were expected. The second statement, on rape, was expected to produce gender-different responses, with women more in support of the statement than men. The third statement, on lifting the Sunday Ban on work, was expected to find Fijian opinion divided and almost total support from Indians. The fourth statement, on a better ethnic balance in the army, was expected to show far less support from Fijians than from Indians. Generally, we expected Fijian and Indian respondents to be more cooperative and forthright with interviewers of the same ethnicity, with Other Ethnic interviewers somewhere in between, and males and females to be more frank with interviewers of their own gender.

Students reported a good response to the survey, with many people lingering on to offer reasons for their responses and several expressing interest in learning of the final results. There were, however, one or two cases of rudeness and overt hostility, not necessarily ethnic or gender related, and several respondents were puzzled by being spoken to in English when the interviewer could speak their language. Ninety-three per cent of those approached agreed to participate. Those considered to have plausible reasons for not being interviewed ('I'm sorry. I'm in a terrible hurry') were not included in the analysis.

Data were checked for coding and transfer accuracy prior to and following data entry on the computer, and interviewers whose procedures or results departed too much from those expected were questioned. This led to several minor entry changes and the removal from the sample of respondents who should not, according to selection criteria, have been

interviewed. The ‘purified’ data set is considered sufficiently robust for the purposes of the enquiry, but the high proportion of students (all of them mature, educated adults, and most holding responsible employment positions) who did not follow instructions to the letter or who made data entry errors, is a matter of wider concern. In retrospect, it could also have been better to allow for degrees of agreement and disagreement. Reliance on ‘uncertain’ and ‘refusal’ responses as variants of ‘agree’ and ‘disagree’ created some unnecessary problems of analysis. These problems may have been largely avoided had circumstances permitted a pilot survey and more than a fleeting attempt at interviewer training.

Data were analysed for this paper by the SPSSpc computer programme using Chi Square tests, and a 0.05 level of significance. The null hypothesis in each case was that interviewer ethnicity and gender would not affect responses to the research statements put to respondents.

The overall results

The distorter variables

Support for the lifting of the Sunday Ban increased with level of education (from 68% of respondents with only primary school education to 76% with post-secondary education). Support for a better ethnic balance in the army was greater among those aged 20–29 years (82%) and less among those aged 40 years and over (76%), but these differences (and those on the other research statements) were not statistically significant. Education and age may therefore be discounted as significant distorter influences.

Some differences occurred in responses obtained at different places, days and times but these almost certainly were due to which interviewers were stationed at what place and what day and time. The question of interviewer bias will be discussed as a separate issue below.

Overall responses on the research statements

There was general support for all four statements, with 84% of respondents supporting instant fines for littering, 78.4% for ten years’ jail for rape, 83.5% for lifting of the Sunday Ban and 78.2% for a better ethnic balance in the army. There were, however, marked differences in the level of support by respondent ethnicity (Table 1) and, to a lesser extent, by respondent gender (Table 2).

Table 1 The research statements and respondent ethnicity
(Percentages agreeing with the statements)

Respondents	Litter	Rape	Sunday	Army
Fijians N = 310	80.3	72.3	51.9	70.6
Indians N= 310	87.7	84.5	83.5	85.8
Total N = 620	84.0	78.4	67.7	78.2
ChiSquare (df=3)	7.361	14.034	82.048	27.799
Significance	0.061	0.003	0.000	0.000

Note: df. Degrees of freedom.

It is evident that, while the majority of Fijian and Indian respondents agreed with the statements, the degree of support was significantly different. On each statement (even that on litter, which was almost statistically significant!) Fijians were less in agreement with the statements than Indians, and the differences were most marked for the Sunday Ban and Army statements. The difference for Rape (which had not been assumed to be ethnically-sensitive), the Sunday Ban and the Army are all statistically significant.

Table 2 The research statements and respondent gender
(Percentages agreeing with the statements)

Respondents	Litter	Rape	Sunday	Army
Males N= 310	82.3	74.2	65.5	77.7
Females N = 310	85.8	82.6	70.0	78.7
Total N = 620	84.0	78.4	67.7	78.2
Chi Square (df=3)	n.s.	10.400	n.s.	n.s.
Significance		0.015		

Note: n.s. Not statistically significant.

The only statistically significant finding in Table 2 was that on rape, where over 83% of women but only 74% of men were in favour of a minimum ten-year jail sentence. Other results, however, though not statistically significant, are of interest in that in each question

males were less inclined to agree than females, just as Fijians, as previously noted, were less inclined to agree than Indians. One can only speculate on a likely cause (if indeed there is a cause), but the differences could be indicative of a sense of Fijian and male assertiveness or dominance in present day Fiji society.

Parallel and cross ethnicity responses

Table 3(a) shows Fijian responses on the Sunday Ban and the Army to be significantly influenced by interviewer ethnicity. On the latter statement, only 56% of Fijians speaking to Fijians welcomed a better ethnic balance in the army, compared with 64% speaking to Other Ethnic interviewers, and an obliging 77% when speaking to Indian interviewers.

Table 3 The research statements and parallel-cross interviewer-respondent responses (Percentages of respondents agreeing with the statements)

(a) Fiji respondents

Statement	Interviewer			C ² df=6	Significance(1)
	Fijian	Other	Indian		
Litter	82.0	81.4	79.5	n.s.	
Rape	70.5	72.9	72.6	n.s.	
Sunday	47.5	61.05	0.51	5.422	0.017
Army	55.7	64.4	77.4	38.153	0.000
Respondent N	61	59	190	310	

(b) Indian respondents

Statement	Interviewer			C ² df=6	Significance (1)
	Fijian	Other	Indian		
Litter	88.3	88.5	87.4	n.s.	
Rape	88.3	78.8	84.81	5.063	0.020
Sunday	76.7	86.5	84.81	7.306	0.008
Army	85.0	80.0	87.4	5.360	0.000(2)
Respondent N	60	52	19	3	10

Notes:

1. Six degrees of freedom: four levels of response and three interviewer ethnicities.
2. The apparent similarity of 'agree' responses shown seems to be at odds with significance. The result is significant due to the high proportion of 'undecided' responses when talking to Fijian interviewers, and the high proportion of 'disagree' when talking to Other Ethnic interviewers. The result is consistent with the proposition that responses are affected by interviewer ethnicity.

Table 3(b) presents a less clear picture of Indian responses. Three of the four statements produced statistically significant differences in association with interviewer ethnicity, but the differences lay more in ‘refusal’ and ‘uncertain’ responses than in ‘agree’ and ‘disagree’, and in ambivalent responses to Other Ethnic interviewers. Responses on the Sunday Ban and, possibly, on Rape seem reasonably clear-cut and can be simply explained; but the responses on the Army, where other evidence (Table 1) points to considerable Indian feeling, are more complex. On this question, over 13% of Indians speaking with Fijians professed uncertainty or declined to answer, while in speaking to Other Ethnic interviewers, none refused and under two per cent were uncertain. Nonetheless, despite the extreme sensitivity of the question and irrespective of the ethnicity of the interviewer, most Indians were prepared to say they ‘agreed’ with a better ethnic balance in the Army, and cross interviewer–respondent differences were not significant.

Parallel and cross gender results

The parallel and cross gender responses to the statement on Rape produced unexpected results (Table 4). In speaking to male interviewers, more male respondents (78%) supported the jail sentence than males responding to female interviewers (71%). Conversely, more females supported the jail sentence in speaking to male interviewers (86%) than in speaking to female interviewers (79%).

Table 4 Parallel–cross interviewer–respondent responses on rape
(Percentages of respondents agreeing with the statement)

Interviewer Respondent	Male Male	Male Female	Female Male	Female Female
% ‘Agree’	77.6	86.0	71.2	79.4
Respondent N	147	150	163	160

This overall result was statistically significant (χ^2 10.312 df = 3 p = 0.016) but responses in cross gender situations alone, though suggestive, were not statistically significant. Further research—even a differently worded statement, or research on a less well publicised

issue—may well produce different results. What is interesting in the results is that while the parallel interview situations (male–male, and female–female) were similar, quite wide differences occurred in the cross interview situations where male and female respondents adopted very different positions. With fewer males (to female interviewers) and more females (to male interviewers) agreeing that rape deserved a ten-year jail sentence, both sexes could well have been striking a pose, marking out, as it were, more territory than they would otherwise claim. This speculative comment could merit attention in further research. Overall, one is left with the impression that outcomes on this highly-emotional topic could well have been different had there been less, or more temperate, coverage in the media over several months prior to the survey.

One other area of interest on the Rape statement was the significant difference of opinion between male and female Fijians (Table 5).

Table 5 **Gender, ethnicity and rape** (Percentages of respondents agreeing with the statement)

Interviewer Respondent	Fijian Male	Fijian Female	Indian Male	Indian Female
% 'Agree'	66.2	78.0	81.8	87.4
Respondent N	151	159	159	151

Table 5 shows that while more females than males of both ethnic groups agreed with the statement, the level of Fijian agreement was lower and the Fijian gender difference was more pronounced. Some 78% of Fijian females stated that rapists should get at least ten years' jail, compared with only 66% of Fijian males. This difference was statistically significant ($\chi^2 8.560$ $df = 1$ $p = 0.036$).

In sum, the proposition that the gender of interviewers significantly influenced responses to this gender-sensitive statement was insufficiently supported by the evidence, but major differences of opinion existed between and within the two major ethnic groups. This finding indicates that both ethnicity and gender should be taken into account in questions and responses on gender-sensitive issues.

The refusal and uncertain responses

As previously indicated, it was not always clear how 'uncertain' and, more especially, 'refusal' responses should be treated, and for this reason it may have been better to ask respondents how much they agreed or disagreed with the statements. It is evident that both responses may have been variants of 'agree' and 'disagree' but the extent and direction of agreement or disagreement could not always be determined.

Refusals and uncertain responses varied little from statement to statement according to the gender of the interviewer, but there were quite large differences on:

- (a) the Rape, Sunday Ban and Army statements when put by Fijian interviewers to Fijians ('uncertain' was typically over 10% of responses);
- (b) to all statements put by Indian interviewers to Fijians ('refusals' were over 10% of responses); and
- (c) on the Sunday Ban and Army statements when put by Fijian interviewers to Indians (8% and 7%, respectively). By contrast,
- (d) Fijian responses to Other Ethnic interviewers typically produced 5% 'refusals' and 5% 'uncertain', to total over 10%; while
- (e) Indian responses to Other Ethnic interviewers produced almost no 'refusals' or 'uncertainties.'

Interpretation of the above responses must, of course, be speculative but the following could be traceable to subject bias:

- Fijian ambivalence when questioned by Fijian interviewers on sensitive matters, evident in (a);
- Fijian unwillingness to cooperate with Indian interviewers, evident in (b);
- Indian 'refusals' on the Sunday Ban and Army when questioned by Fijians, evident in (c); and
- the very different levels of 'refusal' and 'uncertainty' obtained by Other Ethnic interviewers, evident in (d) and (e).

If this interpretation is correct, the effects of subject bias may well be far greater than that disclosed in the previous discussion.

Interviewer bias

The better we can describe the behaviour of social science researchers as they go about their research tasks, the better we will be able to evaluate their products. Julius A. Roth 1973:10.

It will be recalled that interviewer bias is where the interviewer's preconceived, and perhaps unconscious, views influence the collection, interpretation or recording of information. The survey did not set out to explore interviewer bias but the wide range of recorded responses, from one interviewer to another, requires some discussion.

Small differences in 'average' responses recorded by individual interviewers probably arose from chance factors due to the small numbers involved when considering the records of individual interviewers. Larger differences could be due to: (1) the selected respondent groups differing markedly from one interviewer to another, a most unlikely happening; (2) a propensity by some interviewers to register more refusal or uncertain responses than others; (3) some interviewers fabricating responses, a happening not unknown where student interviewers are involved but, in my view, most unlikely in this case; or, finally, (4) interviewer bias.

The data, and relatively small sub-sample sizes, make it difficult to distinguish between these possible causes but (2) was a likely explanation of why some interviewers recorded no refusals or uncertain responses, which accounted for nearly one-fifth of other interviewers' records.

With respect to interviewer bias, almost all Indian interviewers—and no Fijian interviewer—recorded high support for a better ethnic balance in the army. From the same ethnic mix of respondents, Indian interviewers as a whole recorded 95.8% agreement with the statement, compared with only 81% of Fijian interviewers. Although this difference between the two ethnic groups was statistically significant ($\chi^2 = 24.676$ df = 1 $p = 0.000$), my view is that the difference was largely attributable, for reasons previously explained, to subject bias; but the influence of interviewer bias cannot be totally dismissed. Indeed, it seems highly likely in today's hyper-sensitive Fiji that on almost all issues, interviewer bias will be present in survey situations, and that it will act to reinforce subject bias. The same could be true

for gender-sensitive issues, especially of a personal nature, for subject and interviewer bias are but inverse manifestations of the same phenomenon: the capacity of humans to distort, evade and self-deceive.

Conclusions

THE IMPERFECTIONS in survey design identified in the discussion are thought unlikely to have significantly affected the main findings, which are:

- 1) There were major Fijian–Indian differences of opinion on Rape, the Sunday Ban and the Army. Differences were also almost significant on the supposedly ethnically neutral statement on Litter. Significantly different opinions existed between males and females with respect to Rape.
- 2) Subject bias was evident on the ethnically-sensitive statements, with more Fijians being opposed to, or more hesitant to offer support for, either the lifting of the Sunday Ban or a better ethnic balance in the Army when speaking to Fijians, but being more sympathetic to the Indian position when speaking to Indians. Indian responses were also influenced by subject bias but the patterns were not always as clear as those of Fijian respondents. Responses obtained by Other Ethnic interviewers also displayed subject bias and there was a suggestion that Fijians and Indians could be more open with them than with each other. This possibility would be better tested with a more homogeneous group of Other Ethnic interviewers than those involved in the present survey. Cross-gender responses on Rape found both males and females taking stronger positions than in parallel-gender situations. These difference were close to being statistically significant and could merit further enquiry.
- 3) The survey did not set out to search for interviewer bias and no definitive evidence of this bias arising from either ethnicity or gender of the interviewer was found. It was, however, argued that

the conditions that give rise to subject bias also produce interviewer bias. If this view is accepted, those planning surveys in Fiji would do well to assume it exists, and may significantly affect survey results.

- 4) Overall, Fijians and males were more likely to disagree than Indians and females.
- 5) The wide differences between interviewers in the types of response recorded, most especially in the 'refusal' and 'uncertain' categories, could be due to chance, personality differences, interviewer bias, or a failure to follow instructions. Whatever the cause, those conducting surveys using from one to a small number of interviewers and small samples would seem well advised to build in checks to detect and allow for such distorter variables.

Finally, this has been an exploratory paper whose purpose has been to show that the USP postgraduate student survey revealed survey biases, possibilities of biases, and procedural shortcomings that are rarely planned for or mentioned by those conducting surveys or reporting their results. In today's Fiji, perhaps more than in many other countries, such omissions may seriously detract from all information gathering.

For what is true of a survey may also be true of any other situation where opinions are sought and answers recorded. As the poet wrote:

*Oh, what tangled webs we weave,
When first we practise to deceive.*

Note

1. The SE412 students who prepared and conducted the survey, and contributed to many of the ideas in this paper, were: Shaukat Ali, Pio Cakau, Krishna Chand, Mark Fung, Felicia Gibson, Shannon Richards-Green, Tapukitea Lolo, Lata Naidu, Lila Naidu, Nirmala Nath, Sereima Nasilisili, Mukesh Prasad, Satya Samy, Asha Singh, Tara Singh and Lennox Vuti.

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