

1996

## Peer pressure : its effect on survey results

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### Publication details

Bull, A, Walo, M & Breen, H 1996, 'Peer pressure : its effect on survey results', in G Prosser (ed.), *Australian Tourism and Hospitality Research Conference*, Coffs Harbour, NSW, 5-8 February, Bureau of Tourism Research, Canberra, ACT. ISBN: 0642244847

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## **Peer Pressure : Its effect on survey results**

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The aim of this study was to investigate the relationship between special events expenditure and "social bravado" or peer pressure effects. The special event was the Northern Conference University Games (NCUSA games) held at Southern Cross University (SCU), Lismore, 2-6 July, 1995. Specifically the purpose of the study was to compare the results of recalled expenditure survey data using group vs individual interviews, with a view to establishing the extent to which "social bravado" or peer pressure affects the results.

Research by Faulkner and Raybould (1995) found the diary recall method more accurate than interview recall when investigating expenditure at a special event, the 1994 Australian University Games (Brisbane). Food and beverage expenditure recorded in diaries was found to be less than with recall interviews. As well, expenditure by females was less than males. They suggested this was possibly due to a "social bravado" effect when males reported this expenditure in the presence of their peers. This research team replicated Faulkner and Raybould's methodology during the 1995 NCUSA University Games. We explored the "social bravado" factor using expenditure survey data, collected singly and in groups, to determine if peer pressure affects survey results.

Results and discussion in the paper will: compare the diary and recall survey methods to check on their reliability for special events research; compare collected diary survey to return post diary survey methods; evaluate the "social bravado" or peer pressure effect from single and group recall interviews; build on the body of knowledge of special event impacts in local areas; provide visitor numbers and expenditure data for comparison with other special events.

**Peer Pressure -  
Its Effect on Survey Results :**

**A case study of monitoring  
visitor expenditure**

by

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## Abstract

The aim of this study was to investigate the relationship between special events expenditure and "social bravado" or peer pressure effects. Specifically the purpose of the study was to compare the results of recalled expenditure survey data using individual vs individual but within group interviews, with a view to establishing the extent to which "social bravado" or peer pressure affects the results.

This research replicated Faulkner and Raybould 's methodology during the 1995 NCUSA University Games. They found the diary recall method more accurate than interview recall; food and beverage expenditure recorded in diaries was found to be less than with recall interviews and expenditure by females was less than males. They suggested this was possibly due to a "social bravado" effect when males reported this expenditure in the presence of their peers. We explored the "social bravado" factor using expenditure survey data, collected singly and singly but within groups, to determine if peer pressure affects survey results.

Results and discussion in the paper confirmed previous findings about the effects of memory decay and peer pressure.

**Key Words:** events, economic impacts, methodology.

# **Peer Pressure - Its effect on survey results :**

## **A case study of monitoring visitor expenditure**

### **Introduction**

Hallmark events, according to Ritchie's definition are : "one-time or recurring events of limited duration, developed primarily to enhance the awareness, appeal and profitability of a tourism destination in the short and/or long term" (Ritchie, 1984:2).

While international hallmark or special events tend to attract huge marketing fees and dominate media time, by contrast, local sports carnivals and festivals generally arise from community initiatives for culturally diverse reasons. They attract little in marketing fees and have a low media profile. Nevertheless, these local celebrations are special events, "in relation to their regional and local significance" (Hall, 1989:264).

While the historical purpose of a local special event might remain intact, "there is clearly a trend to exploit them for tourism" (Getz, 1989). A local special event is expected to bring social, physical, economic and some intangible benefits to the host community. The anticipation of tourists and increased expenditure in the destination area is a common feature of any special event (Murphy and Carmichael, 1991). Visitor spending is presumed to contribute significantly to the local economy.

As special events have increasingly been "targeted as a deliberate part of tourism planning and marketing strategies" (Prosser, 1993) there has been a corresponding growth in requests for event support. To justify this support, public and private organisations generally require evidence documenting the presumed benefits and costs of the event. This demand creates a need for effective and systematic monitoring of events and their impacts (Faulkner, 1993).

Event monitoring generally involves retrieving information from visitors, local residents and businesses, participants, sponsors, governments and others. Visitor surveys are often based on recall or diary questionnaire techniques, where reliability and cost effectiveness is a delicate balance. Research by Faulkner and Raybould (1995) questioned the reliability of recall questionnaires and found significant differences with gender responses, possibly related to peer pressure or social desirability.

A local special event, the 1995 Northern Conference University Games (NCUSA) in Lismore, NSW, was a chance to replicate the 1995 Faulkner and Raybould research. With the support of the NCUSA committee, a visitor expenditure survey was carried out. Recall and diary questionnaire techniques were compared to ascertain whether the 'social bravado' effect or peer pressure affected survey results. As well, gender responses were investigated to see any apparent variations in the results.

This paper begins with a review of the reliability of recall and diary questionnaire techniques. This will lead in to a description of the 1995 NCUSA Games and this research effort. Discussion on the results and implications will follow.

### **Review of Recall and Diary Questionnaire Techniques**

Event tourism is the "systematic planning, development, and marketing of festivals and special events as tourist attractions, development catalysts, and image builders for attractions and destination areas" (Getz, 1991). It is important that assessments of event impacts are reliable and valid, given the "immaturity of event-related research" (Getz, 1994). Thus rigorous research methods are essential for the measurement and evaluation of event impacts.

Event assessments often begin with an estimation of visitor numbers and their expenditure. A common method of estimating visitor expenditure is through surveying a probability sample of visitors. Two popular techniques used are exit interviews and daily expenditure records entered in a diary, during the visit.

An assumption implicit in exit interviews is that the visitor can accurately recall their spending, suffering no memory decay. However researchers have found that some visitors cannot recall their activities or expenditures reliably, casting some doubt on the use of this popular technique (Pearce P., 1981; Pearce D., 1988; Howard, Lankford, and Havitz, 1991; Frechtling, 1994; Faulkner and Raybould, 1995).

Recall bias or error during an exit interview, seems to fall into two types; omission (under reporting) and telescoping (over reporting). Omission tends to increase as the complexity of transactions increases and the length of time between the event and the interview increases (Rylander, Propst and McMurtry, 1995). The telescoping effect includes over reporting during the recall period, possibly due to memory decay and/or prestige bias (Frechtling, 1994). The status of an activity contributes to its prestige bias and social desirability. The effect of prestige bias is somewhat similar to the effect of peer pressure. Their common goal is social desirability.

Potential recall bias due to peer pressure would partly depend on interview technique distinctions, particularly between individual interviews and individual but within group interviews. Latham (1991) suggested that it was important to maintain random selection for individual interviews within a group, as the unspoken leader or loudest member will often select themselves. Bias can be introduced if this member is not representative of the group.

Veal (1992 p. 146) suggested that the validity of interview questionnaires was a "constant source of concern". In order to overcome potential recall bias difficulties found in visitor expenditure estimates during an interview, some previous researchers have used a visitor diary, where daily activities and expenditure were recorded during the visit (Mak, Moncur and Yonamine, 1977; Pearce, D., 1998; Howard, Lankford and Havitz, 1991; Rylander, Propst and McMurtry, 1995). Diary records of visitors' activity and expenditure can



assist in addressing this validity concern, although commitment by the record keeper is vital. Generally diary records are mailed back to the research team when the visit is completed.

Resources can be consumed if multiple follow up contacts with respondents are necessary, to get the diary returned. A low response rate from mailed back diaries is likely to produce a non-response bias ( Frechtling, 1994). This bias is sometimes adjusted by either socio-demographic weighting and/or wave analysis (Rylander, Propst and McMurtry, 1995). Follow up mailings are often referred to as waves. Wave analysis is a surrogate procedure for estimating non-response bias. Using wave analysis, Rylander, Propst and McMurtry (1995) found only 6 significant differences between respondents and non-respondents among 172 variables. However they cautioned that these variables could be critical and that generalisation was inappropriate.

Nevertheless in the travel industry, Shaw and Ling (1992) found that negligible differences existed between respondents and non-respondents (within a homogeneous group of agents) and suggested that resources used to follow up non-respondents could be better utilised. Depending on the nature of the respondent population, non-response bias from diary returns, seems to pose fewer problems than significant visitor under-estimations found through memory decay and recall bias at interview (Faulkner and Raybould, 1995).

Early research by Pearce, P. (1981) suggested that gender differences had little effect in recall of visitor perceptions. Response bias and wave analysis of mailed surveys were investigated by Langford, Buxton, Hetzler and Little (1995) who found that significantly more females than males made up the non-respondent group.

Faulkner and Raybould (1995) in their event study reported that average visitor expenditure by males was higher than females. While for both genders, diary expenditure records for visitors' entertainment and shopping exceeded that from recall interview, but with food and beverage expenditure, the evidence was opposite. This was particularly the case for male respondents who reported the highest expenditure. The research team speculated that this could stem from the social desirability of reporting high food and in particular, beverage expenditure in the presence of peers, calling it the 'social bravado' effect.

Our research attempted to combine research techniques, to compare the accuracy and reliability of visitor responses through recall at exit interviews with diary records. The aim of this study was to investigate the relationship between visitor expenditure at events and "social bravado" or peer pressure effects.

Specifically the purpose of the study was to compare the results of recalled expenditure survey data using individual interviews with those from individual but within-group interviews. These were then both compared with

results from diary expenditure records, with a view to establishing the extent to which "social bravado" or peer pressure affects the results. It was hypothesised that male respondents would overestimate their recalled food and beverage expenditure at a within-group interview, as a result of peer pressure.

### **The 1995 Northern Conference University Games (Lismore)**

The 1995 Schweppes Northern Conference University Games (NCUSA) were hosted by Southern Cross University (SCU) Lismore, 2-6 July, 1995. About 1600 people attended the Games. Of these, 1300 were participants in 14 sports while approximately 300 acted as officials, volunteers and supporters. Sports facilities at Southern Cross University were used along with local sports fields.

The main objective of the research was to obtain visitor expenditure on: accommodation, entertainment, food and beverage, shopping/souvenirs and local transport, by four parallel survey methods to compare the results. The four survey methods were: individual recall interview; individual recall interview within a group; diary collected on the final day of the Games; and mail-back diary.

There were two stages of data collection. The first stage was the selection of a random sample of every fourth visitor registering at the accreditation desk on the first day of the event. After explanation and agreement, the participant's demographic details were collected and expenditure diary distributed. Every

second diary was to be returned by mail, while the other was to be collected by the research team, on the final day of the Games. Demographic details were coded to be paired with the diary response on return. An incentive prize of fashionable sunglasses (x 2) was offered, and a reply paid envelope was distributed to the participants.

The second stage of data collection was the selection of a random sample of every fourth visitor (excluding those with diaries) at the entrance to the sports venues used on the final day of the Games. Each participant was asked to recall his/her individual expenditure during the Games. Every second interview was held alone, apart from colleagues, while the other was held within a group of colleagues. From the sample of 150 individual recall interviews, 69 were conducted alone while 81 were conducted within a group of colleagues or peers. All interview questionnaires (100%) were useable. At the same time, attempts were made to collect those diaries which were to be returned on the final day of the Games.

The interview and diary questionnaires used for all participants were the same. The demographic details were also recorded in the same way. Thus variations in responses could not be due to instrument bias.

The study assumed that being a reasonably homogeneous student group, there would be no significant variations in the ages and spending patterns of the visitors. The response rate for the combined recall interviews was 150 (100%) compared with the combined diary records of 83 (32.5%). On day one,

110 diaries were distributed and participants were advised these would be collected on the last day. Only 32 of these diaries were ready for collection, achieving a 29% response rate. Of the 140 diaries distributed for mail back, 51 were returned giving a response rate of 33%.

It is recognised that the response rate for diary returns was low, but it is within the modal response rate for mail surveys (Green, Tull and Albaum, 1988). In all, 48 diaries were returned in the first wave. Follow up mailing only managed to increase responses by 3, making a total of 51 diaries returned.

Secondary data were derived from media reports, financial and work records and the NCUSA final report.

## **Results**

As Faulkner and Raybould (1995) noted, response bias may occur due to attrition with the diary technique. This can be tested by comparing the demographic profiles of those first approached with those who returned diaries. There was no statistically significant difference between the means or proportions of demographic data between those who were approached and those who returned diaries.

There was one exception, accommodation, where the results may overemphasise those staying in University accommodation at the expense of those staying in hotels and motels. Of the diaries issued, 48% were given to

those staying in University units and 57% of these were returned. By contrast, 36% of diaries issued were given to those staying in local hotels and motels but only 25% were returned. Thus bias (if any) will be towards those staying in University accommodation and away from those staying in hotels and motels, but expenditure between those two groups shows no significant difference in any category. No other evidence of response bias was found.

Demographic data was obtained from survey participants for both the diary and recall interview methods.

**Demographic Profile of Respondents : Gender, Age, Place of Residence, Accommodation Used and Type of Involvement.**

<b>Table 1 Demographics by Gender, Age, Place of Residence, Accommodation Used and Type of Involvement.</b>			
<b>Demographic</b>		<b>Frequency 400 total</b>	<b>Percent %</b>
<b>Gender</b>	Female	186	46.5
	Male	214	53.5
<b>Age Group</b>	15 - 20 years	250	62.5
	21 - 30 years	130	32.5
	Over 30 years	20	5.00
<b>Place of Residence</b>	Northern NSW	43	10.8
	Northern QLD	42	10.5
	Southeast QLD	257	66.8
	Other	48	12
<b>Accommodation</b>	Caravan	24	6.0
	Hotel	143	35.8
	Rented Unit	12	3.0
	University	170	42.5
	VFR (Visiting friends and relatives)	36	9.0
	Other	15	3.8
<b>Type of Involvement</b>	Competitors	351	87.8
	Supporter	28	7.0
	Official	21	5.3

Table 1 provides a demographic profile of the survey participants. Of the 400 respondents 46.5% were female and 53.5% male. As could be expected with a university based sports event, the majority of respondents were under 21 with a total of 380 all under 30 years of age. The mean age was 21.32. In addition, 87.8% of respondents were participants of the Games.

The visitor survey found that over three quarters of respondents either stayed at the university or used Lismore's hotels/motels for accommodation.

The remainder were distributed between visiting friends and relatives (VFR) (9%), caravans (6.0%), rented units (3.0%) and others (3.8%).

While some participants were involved in several sports, most were only involved with one sport. The highest proportion were participants from team sports - touch football, rugby union, netball and soccer.

### Mean Visitor Expenditure

Table 2 shows the mean total expenditure by total, per day, and type.

Expenditure Item	Total Exp	Per Day	Competitor	Official	Supporter
	\$Mean	Exp \$ Mean	\$ Mean	\$ Mean	\$ Mean
Accommodation	82.29	20.57	85.24	111.56	27.50
Entertainment	9.99	2.49	9.29	16.83	10.60
Food & Beverage	113.89	28.47	117.45	110.44	82.65
Souvenirs	13.02	3.25	11.60	29.17	12.10
Local Transport	13.86	3.46	10.29	49.39	16.30
<b>Total</b>	<b>233.05</b>	<b>58.26</b>	<b>231.83</b>	<b>317.39</b>	<b>149.15</b>

The NCUSA Games were held over 4 days. The expenditure per day was calculated by dividing total mean expenditure of respondents by 4.

Respondents were asked to estimate their expenditure on accommodation, entertainment, food & beverage, souvenirs/shopping and local transport. The average spending was \$233.05 with almost half being spent on food and beverages.



A comparison (using ANOVA) between competitors, officials and supporters revealed that officials significantly outspent competitors and supporters in all categories except food and beverage and entertainment. Some of their food/beverage and entertainment was complimentary, which would explain the change of pattern.

### Mean Expenditure By Gender

Table 3 provides a comparison of mean expenditure in each category by gender.

Table 3 Mean Expenditure by Gender		
Expenditure Item	Female n = 115 \$	Male n = 118 \$
Accommodation	83.21	81.37
Entertainment	8.07	11.93
Food/beverage	89.04	138.96
Shop/souvenirs	13.53	12.49
Transport	13.63	14.10
<b>Total</b>	<b>207.49</b>	<b>255.62</b>

As seen in table 3 there was a significant difference (largely attributable to reported food/beverage spending) between the mean total expenditure by males (\$256) and that of females (\$207) ( $t = 3.07$   $p = .002$ ). There was no significant difference between female and male expenditure on any other item.

## Mean Expenditure By Survey Method

Table 4 provides a comparison of mean expenditure in each category by each of the survey methods.

Expenditure Item	Individual Recall Alone  n = 69 \$	Individual Recall Within- group  n = 81 \$	Mail Back Diary  n = 51 \$	Collect Diary  n = 32 \$
Accommodation	82.71	70.34	90.08	94.22
Entertainment	6.60	9.54	13.80	13.34
Food/beverage	105.13	117.71	116.24	123.97
Shop/souvenirs	10.94	10.14	17.71	16.84
Transport	17.16	10.03	11.90	16.88
<b>Total</b>	<b>222.53</b>	<b>213.16</b>	<b>247.76</b>	<b>265.25</b>

As shown in table 4, the mean of total spending reported by the diary method \$255, significantly exceeded that reported by both recall interview methods \$218 ( $t = 2.2$ ,  $p = 0.029$ ). This under-estimated recall expenditure is probably due to memory decay, even though the time period was short and the trip ( a packaged university sports trip) was not very complex.

## Mean Expenditure on Accommodation by Survey Method

Table 5 provides a comparison of the mean expenditure on accommodation by each of the survey methods.

Table 5 Comparison of Mean Expenditure on Accommodation by Survey Method		
Survey Method	Accommodation \$	Test for significance at 95% level
Collected diary	94.22	No
Mailed-back diary	90.08	No
Mean diary	92.00	Yes
Individual recall alone	82.71	No
Individual recall within- group	70.34	Yes
Mean Interview	77.00	Yes

There was a significant difference between the diary mean \$92, and the interview mean \$77 ( $t = 2.27$ ,  $p = 0.024$ ). There was also a significant difference between the mean from the within-group interviews (\$70.34) and that reported for all other methods ( $t = 2.65$ ,  $p = 0.009$ ). It appears that respondents at recall interviews under reported accommodation expenditure, particularly those interviewed within their group of colleagues.

With package tours, visitors cannot always attribute expenditure to specific items, having paid one fee for many items (Frechtling, 1994). As accommodation was included in the students' package trip, perhaps the under estimated recall was due to their not knowing exactly what the accommodation cost was. Since, there was no actual physical spending on

accommodation at the Games, the under estimation could also indicate memory decay.

### Mean Expenditure on Entertainment by Survey Method

Table 6 provides a comparison of the mean expenditure on entertainment by each of the survey methods.

Table 6 Comparison of Mean Expenditure on Entertainment by Survey Method		
Survey Method	Entertainment \$	Test for significance at 95% level
Collected diary	13.34	No
Mailed-back diary	13.80	No
Mean diary	13.62	Yes
Individual recall alone	6.60	No
Individual recall within- group	9.54	No
Mean Interview	7.95	Yes

Table 6 reveals that there was a significant difference between the diary mean \$13.62, and the interview mean \$7.95 ( $t = 2.16$   $p = 0.032$ ). Entertainment is a category where there is some scope for variation. Reported diary expenditure is greater than that based on recall at interview. Again, this under-estimated recall expenditure could be due to memory decay, even though the time period was short.

### Mean Expenditure on Food and Beverage by Survey Method

Table 7 provides a comparison of the mean expenditure on food/beverage by each of the survey methods.

Survey Method	Male \$	Female \$	Mean \$
Collected diary	141.19	91.09	123.97
Mailed-back diary	134.46	102.48	116.24
Mean diary	137.02	98.02	117.52
Individual recall alone	127.30	86.05	105.13
Individual recall within-group	152.83	80.45	117.71
Mean Interview	140.92	83.06	111.99
<b>Overall Mean</b>	138.96	89.04	113.89

Table 7 reveals that there was a significant difference between mean spending reported generally by females \$89.04 and by males \$138.96 ( $t = 4.98$ ,  $p = 0.000$ ). There were no significant differences between the means reported by different methods overall (using ANOVA,  $F = .5524$ ,  $p = .6470$ ).

There were conflicting findings in respect of expenditure reported by males. There was a significant difference between the mean spending reported by male within-group interviews \$152.93, and the mean for *all* other categories (of both genders) \$106.74 ( $t = 3.19$ ,  $p = 0.002$ ). This lends support to the hypothesis of 'social bravado' or peer pressure effects.

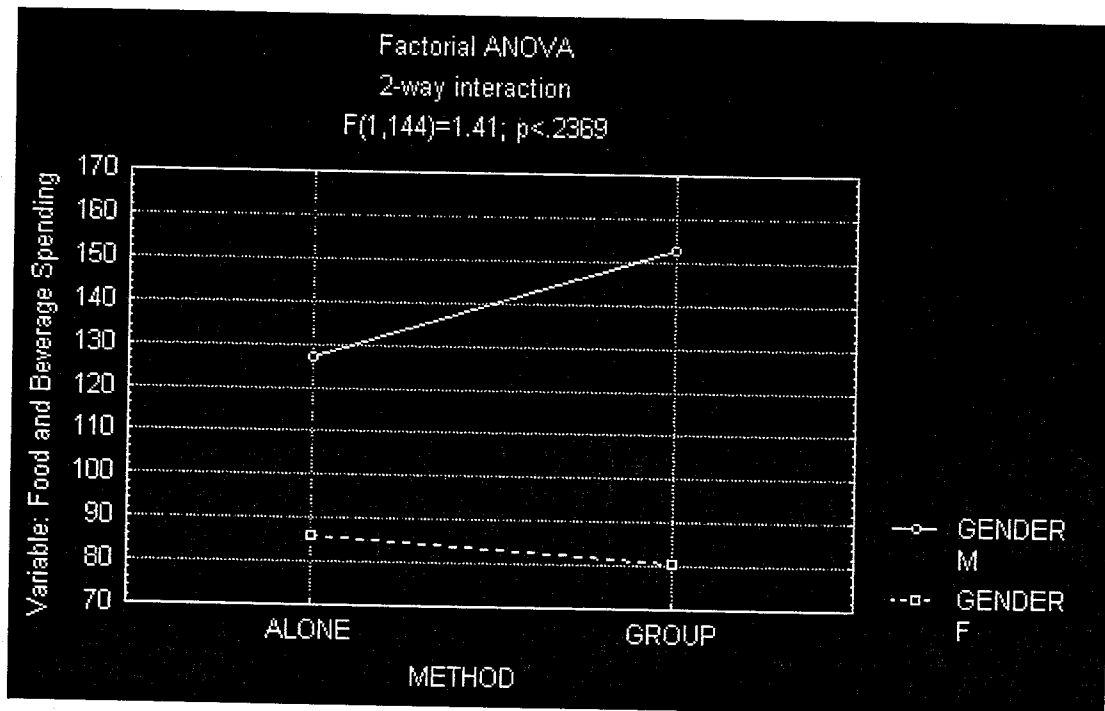
Interestingly, there was *no* significant difference between the mean from male within-group interviews \$152.93, and that reported by all other *males* \$132.89 ( $t = 1.11, p = 0.269$ ). This probably just confirms that males generally report higher food and beverage spending. However the male to female food and beverage spending ratio for within-group interviews is 1.9:1, whereas for other methods, the ratio ranges between 1.3:1 and 1.55:1. This could be attributed to the 'social bravado' effect amongst males within their peer group compared with females in their peer group.

In particular, the effect of peer pressure may be further examined by a factorial ANOVA to investigate the effect of gender and different interviewing methods on reported food and beverage expenditure. This test was conducted, omitting all diary responses, and thus leaving a 2-way 2x2 level interaction. The test results were:

	<u>F</u>	<u>p-level</u>
<u>Gender</u>	18.8015	0.00003
<u>Method</u>	0.5790	0.44800
<u>Gender by method</u>	1.4106	0.23691

A plot of the 2-way interaction is given in Figure 1, below. The results confirm that while the interaction exists, it is primarily males who report higher expenditure, and especially groups. This is not the case for females.

Figure 1.



**Summary of the Mean Visitor Expenditure By Gender And By Survey Method**

Table 8 provides a summary of the mean expenditure in each category by gender and by each of the survey methods.

<b>Table 8 Summary of Mean Expenditures by Gender and by Survey Method</b>				
<b>Expenditure Item</b>	<b>Single Interview  n = 69 \$</b>	<b>Within Group Interview  n = 81 \$</b>	<b>Mail Back Diary  n = 51 \$</b>	<b>Collect Diary  n = 32 \$</b>
<b>FEMALE</b>				
<b>Accommodation</b>	89.60	58.79	97.38	94.09
<b>Entertainment</b>	6.56	8.70	9.28	8.91
<b>Food/beverage</b>	86.05	80.45	102.48	91.09
<b>Shop/souvenirs</b>	9.07	10.21	20.10	23.64
<b>Transport</b>	16.97	9.45	11.76	18.00
<b>Total</b>	<b>208.24</b>	<b>167.60</b>	<b>241.00</b>	<b>235.73</b>
<b>MALE</b>				
<b>Accommodation</b>	74.70	81.23	80.45	94.29
<b>Entertainment</b>	6.65	10.34	19.77	15.67
<b>Food/beverage</b>	127.30	152.83	134.36	141.19
<b>Shop/souvenirs</b>	13.11	10.07	14.55	13.29
<b>Transport</b>	17.38	10.57	12.09	16.29
<b>Total</b>	<b>239.14</b>	<b>265.04</b>	<b>261.22</b>	<b>280.73</b>

Table 8 shows major differences between males and females and between survey methods. On note, females significantly under reported accommodation expenditure and both genders marginally under reported travel expenditure at within-group interviews.



## Conclusions

With regard to diary non response bias caused by low diary returns, this study echoes Faulkner and Raybould's (1995) findings that bias does not seem to be a problem, possibly due to a single stratum of relatively homogeneous respondents.

This research confirms previous findings suggesting that the recall interview technique may result in under estimation of visitor expenditure in certain key areas owing to memory decay. This seems to be true in the reporting on accommodation and entertainment.

There were no significant differences reported between those who had their diary collected on the final day of the Games and those who returned their diary by mail. It appears that 'social bravado' or peer pressure only affected males within group interviews, and only in over estimated reporting of food and beverage expenditure. Further analysis, factorial ANOVA, found that it is predominantly males who report higher expenditure, particularly in groups.

These findings add weight to that of Faulkner and Raybould's 1995 research. The findings suggest the need for some specific research on how males recall and record expenditure on items where status with the peer group may be involved. Furthermore, results based on survey methods used at special events need to be viewed critically due to the potential for response bias.

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