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ACCIDENT RESEARCH CENTRE

INVESTIGATION OF AUDIENCE PERCEPTIONS OF TRANSPORT ACCIDENT COMMISSION ROAD SAFETY ADVERTISING

Warren A Harrison
Teresa M Senserrick

January 2000

Report No. 185

MONASH UNIVERSITY ACCIDENT RESEARCH CENTRE

REPORT DOCUMENTATION PAGE

Report No:	Report Date:	ISBN:	Pages:
185	January, 2000	0 7326 1484 8	85

Title:
Investigation of Audience Perceptions of Transport Accident Commission Road Safety Advertising

Authors:
Harrison, W.A.
Senserrick, T.M.

Type of Report and Period Covered:
GENERAL REPORT, 1999

Sponsoring Organisation:

Transport Accident Commission
222 Exhibition St
MELBOURNE Vic 3000

Abstract:
The perceptions of the Transport Accident Commission (TAC) road safety public education program held by 90 drivers were investigated. Participants provided ratings of the general approach used by the TAC, their recollection of how they had responded to selected TAC advertisements in the past, and their responses to TAC advertisements viewed during the assessment session. The results indicated that the participants were generally positive towards the TAC program, that their perceptions or attitudes were largely driven by the style of advertising (emotive vs. enforcement), and that advertisements judged to be effective tended to be rated as strongly emotive and highly informative or original. The results are discussed in terms of their implications for future development of new advertisements and for future research in this area.

Key Words:
Public education, driver behaviour, highway safety

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Monash University Accident Research Centre
Wellington Rd, Clayton, Vic, 3800, Australia
Telephone: +61 3 9905 4371
Facsimile: +61 3 9905 4363

EXECUTIVE SUMMARY

The Transport Accident Commission (TAC) asked the Monash University Accident Research Centre to investigate the effectiveness of its road safety advertising campaign. This campaign has involved high-intensity placement of over forty television advertisements since 1989 with associated material in other media.

This project had the following aims:

1. To investigate audience perceptions of the TAC television advertising material;
2. To identify groups of advertisements perceived to be similar by the audience;
3. To measure attitudes to TAC advertisements based on a psychologically appropriate model of attitudes incorporating emotional, cognitive, and behavioural components;
4. To collect data from specific audience target groups to identify responses to theme areas that addressed potential high-risk behaviours in those target groups; and
5. To investigate self-reported changes in responses to advertising material over time.

The important findings arising from this study were:

1. Attitudes to the TAC approach were generally positive, suggesting a general acceptance of the approach in spite of the perception that the approach is tough, frightening, and emotional.
2. Six types of responses were identified. Two represented reactions to the positive and uncomfortable emotional content of the advertisements respectively. The remaining four were more cognitive in nature, representing reactions to the seriousness of the content, the simplicity of its delivery, content that included an element of irresponsibility, and the originality of the advertisement and its information content.
3. The likelihood of an advertisement resulting in a behaviour change was associated with its originality or information content and its ability to evoke uncomfortable emotions.
4. The cluster analysis suggested that emotional content in advertisements is an important perceptual dimension for drivers, with advertisements dividing into two groups - enforcement advertisements and emotive advertisements.
5. The advertisements included in the emotive cluster were generally perceived to be more serious, less pleasant, and more emotional than those in the enforcement cluster. They were also perceived to be more effective (in terms of self-reported behaviour change) and were generally more relevant and credible.

Recommendations included:

1. The continued development of the combined emotive/instructive style of advertisement was recommended as the data suggest that this combination is the most likely to prove effective.
2. The TAC should continue to maximise the credibility and relevance of their advertisements. This could be achieved by developing advertisements that are perceived to be emotional, informative, and serious.
3. It was suggested that the current level of emotive intensity is probably appropriate.
4. Additional research could target the use of the method developed here as part of the tracking program used by the TAC, and could aim to develop a better understanding of the underlying processes that link exposure to the TAC advertisements and behaviour change.

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INTRODUCTION

Background

The Transport Accident Commission asked the Monash University Accident Research Centre to investigate perceptions of its road safety advertising campaign. This campaign has involved high-intensity placement of over forty television advertisements since 1989 with associated material in other media.

The Transport Accident Commission's (TAC) development and placement of road safety advertising material has been a major component of its investment in road safety in Victoria since 1989. Advertisements have targeted specific safety problems (such as drink-driving, speeding, and restraint non-use) and specific target groups (such as younger and novice drivers, older drivers, and rural drivers). They have also used a range of styles, including advertisements oriented towards the provision of information about specific issues or enforcement programs and advertisements with strong emotive content incorporating graphic crash scenes and the potential consequences of crash involvement. The advertising material is a component of a larger state-wide program incorporating legislation, engineering treatments, local activity, and intensive traffic enforcement that has had a significant impact on the road toll in Victoria.

Apart from the research that is used as the basis for the development of new material and tracking surveys of advertising awareness that accompany each new advertisement, there has been little research concerned with the reactions of the audience to the advertising material. While the advertisements are generally discussed in terms of the themes (e.g. drink-driving, speeding) and style (e.g. emotive, informative), it is uncertain how audience members perceive the material.

Outline of Report

The report is presented in a number of sections. The remainder of the Introduction provides a brief review of relevant literature and a general discussion of some important issues, followed by a general overview of the project aims and method. The next section details the method used to collect data concerning audience perceptions of advertising material. The Results section is divided into an analysis of perceived similarities between the advertisements and a presentation of the more detailed analysis of audience perceptions. The Discussion section then presents a discussion of the results and their implications for the development of future advertising material and methods to track the effectiveness of road safety advertising.

General Issues

Public Education

Public education programs seek to influence attitudes and behaviours. An important difference between public education and commercial advertising is that public education often seeks to

influence attitudes and behaviours away from those currently held by the audience towards those that may not be perceived as desirable by them. While commercial advertising seeks to make use of currently existing attitudes and motivations, public education content may be quite inconsistent with these.

Road safety public education campaigns targeting behaviours such as drink driving and speeding, for example, seek to encourage attitudes and behaviours of target groups that are likely to be inconsistent with those they already hold. Unsafe driving behaviours are also often habitual and may relate to factors that are not generally under the conscious control of the driver (e.g. Cale, 1992; Elander, West, & French, 1993; Mayer & Treat, 1977; Sivak, 1981). Public education campaigns do not seek, therefore, to modify choice behaviour in the basic sense often portrayed in relation to advertising or marketing, but must seek to modify the factors associated with complex, often automated behaviour.

The difference between advertising and public education is critical in the development of (and evaluation of) a successful road safety public education strategy. Methods used to advertise and market a commercial product, when applied to road safety, may result in good recall of the material, but it is somewhat less certain that they will result in actual changes in behaviour. Evaluations of road safety public education materials need to use more sophisticated tools than measures of awareness or recall.

Behaviour as a Target

The focus of public education campaigns in road safety is the behaviour of the road user. Behaviour is best considered in its context. The causes of behaviour are complex, having their effect through mechanisms in the biological, motivational, social, cultural, and cognitive domains. The context in which behaviour occurs includes a number of causal chains that form logical targets for intervention by public-education programs.

Behaviour could be changed by targeting the precursors to unsafe road user behaviour such as social norms, expectancies, personal values, the behaviour of others in the context of the decision, or the attitudes of the road user in so far as these have a causal role in behaviour. Public education campaigns often target social norms, for example, and in some respects drink driving campaigns have used this approach (e.g. Homel, 1988), although the TAC has tended not to target precursors directly.

The likely consequences of unsafe road use behaviour could also be targeted in public education programs with the ultimate aim of reducing the likelihood of specified unsafe behaviours in future. The frequency of some behaviours is largely under the control of contingencies in the environment external to the driver, and modification of drivers' perceptions of these contingencies may change the likelihood of unsafe behaviours. It has been suggested, for example, that many unsafe driving behaviours result from learning (early in the experience of the driver) that these behaviours produce positive consequences and that they rarely, if ever, result in hazardous situations or other negative consequences for the driver (Lewin, 1982; Näätänen & Summala, 1976). Driving above the speed limit, for example, may be a learned behaviour of this sort. Public education campaigns may act to change perceptions of the likely consequences of unsafe behaviour which in turn would act in opposition to earlier learning about the positive consequences (or absence of negative consequences) of the behaviour. This type of approach has been used in a number of Victorian campaigns.

The focus on precursors and consequences is shown in Figure 1.

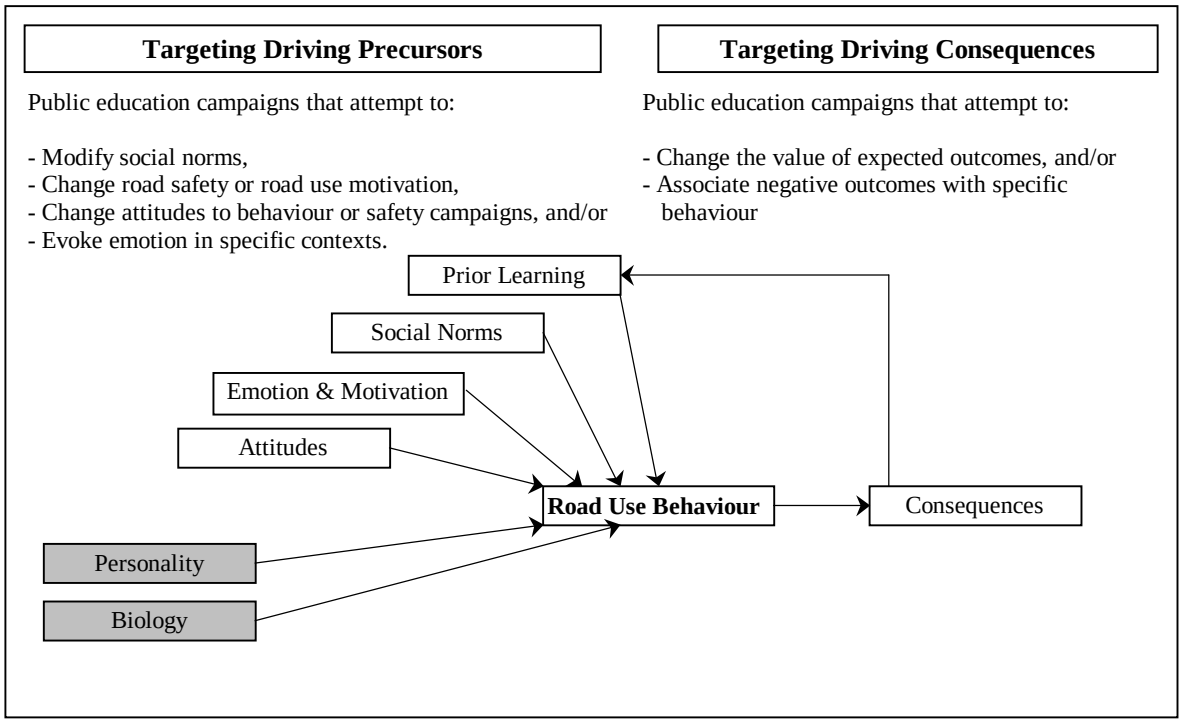


Figure 1: Public Education Campaigns and Road Use Behaviour

Public education, therefore, can seek to modify either:

- The social, cognitive, or motivational precursors to unsafe road use behaviour, and/or
- The perceived consequences of unsafe road use behaviour.

It is important to note that the actual behaviour, which may be more or less automatic, may not be amenable to direct behaviour change strategies that rely on conscious control of behaviour. For this reason, the focus on precursors and consequences in public health and road safety campaigns is likely to prove more successful.

In the current context, one significant implication of this view of road safety public education is that any assessment of audience reactions must be broader than a simple analysis of awareness and recall. There is no reason to believe that awareness and recall of road-safety related material are necessarily related to driver behaviour, whereas there is substantial evidence that the factors outlined above are. Assessment of the impact of TAC advertising on attitudes, emotions, and motivation (for example) would provide a better measure of the likely effect of advertisements on driving behaviour than an assessment based on conscious factors such as awareness or recall. Such a suggestion is consistent with the broader literature on attitudes and attitude change.

This issue is especially important. The complex factors and processes that control road-use behaviours are, for the most part, not available to conscious awareness. Influencing these processes using public education materials will require cognitive processing of the material when it is presented, and the effects of exposure to the material may continue long after

exposure. Thus, it is conceivable for public education material to have an impact on driver behaviour that is independent of ongoing recall or awareness of the material. This is a problem for recall-based assessment of the effects of public education material and led, in part, to the methods used here.

In support of this, it is reasonable to pre-empt findings from another current investigation of the TAC advertising program which shows that recall/awareness measures of TAC advertising are not well correlated with driver behaviour (measured as crash involvement), while measures of the intensity of advertising (with a half life that is assumed to account for falling recall but which may account for other declining effects on behaviour control processes) are well correlated with driver behaviour. The importance of this finding for assessment of the ongoing effects of road safety advertising are discussed in the General Discussion section of the report.

Attitudes and Assessment

The assessment of TAC public education material presented in this report focuses on an assessment of attitudes towards the material, with attitudes more carefully defined than is generally the case in road safety research.

At a general level, attitudes may be viewed as a positive or negative evaluation of an attitude object (usually a thing, a behaviour, or a person). A general definition such as this leads to an assessment method based on scales that measure responses such as good/bad, positive/negative, and like/dislike. In general, such a definition of attitude (and the consequent measurement) provides little information about the underlying structure of attitudes or the processes that result in a general evaluation of an attitude object. In the TAC advertising context, measuring a general reaction to an advertisement would provide little information about the potential effect of the advertisement or the mechanism of any effect on driving behaviour.

The general evaluative attitude noted above is more-accurately viewed as the summation of a large number of different responses to an attitude object. These responses may be categorised as:

- Cognitive responses: These are finer levels of judgement about the attitude object, such as evaluations of it in terms of its logic, reasonableness, importance, or effectiveness.

- Emotional responses: These are responses to the attitude object that have an emotive aspect, including fear, anxiety, happiness, or sadness.

- Behavioural responses: These are the actual behaviours resulting from exposure to the attitude object. They might include approach behaviours, avoidance, or changes in behaviour consistent with the attitude object.

An attitude object that evoked, for example, positive cognitive, behavioural, and emotional responses would be evaluated positively in general terms. Stronger and weaker, positive and negative general evaluations or attitudes would be the result of different combinations of positive and negative responses in these three areas.

This concept of attitude is discussed by Eagly and Chaiken (1998) in their review of literature relating to attitude structure and function, and is discussed by Petty and Wegener (1998) in their review of literature relevant to attitude change. The latter authors view this three-part structure as critical to understanding the way in which persuasion variables in advertising and public

education influence attitude change. Their view is that affective, cognitive, and behavioural processes or responses underlie changes in attitude and behaviour.

One implication of this view of attitudes for the present study is clear. To assess the attitudes of audience members to TAC advertising material, it is necessary to measure their responses in three areas – their cognitive response to the material, any behavioural changes resulting from exposure to the material, and any emotional responses. An assessment of audience reactions to the TAC material conducted in this way would allow conclusions to be drawn concerning the broader impact of the material.

It is important to note, given that one aim of the present study was an assessment of the effectiveness of the advertising program, that this model of attitudes incorporates emotional, cognitive, and behavioural responses to the advertising material. Thus the assessment of attitudes towards the TAC material is not restricted to cognitive responses, but includes measures of emotional and, to some extent, behavioural responses that may together provide an assessment of the effectiveness of the material.

Overview of Project

This project had two primary aims:

1. An investigation of audience perceptions of the Transport Accident Commission television advertising material; and
2. The identification of groups of advertisements perceived to be similar by the audience.

These aims were met by collecting data from a group of drivers who volunteered to view TAC television advertisements and to make ratings of the material concerning their emotional, cognitive, and behavioural responses to each advertisement. Appropriate statistical analyses of the data collected in this way were planned to investigate audience perceptions in general and to cluster the advertisements according to audience responses.

The project also had a number of additional aims:

3. Measurement of attitudes to Transport Accident Commission television advertisements based on a psychologically appropriate model of attitudes incorporating emotional, cognitive, and behavioural components;
4. The collection of data from specific audience target groups to identify responses to theme areas that addressed potential high-risk behaviours in those target groups; and
5. Investigation of self-reported changes in responses to advertising material over time.

The third aim was met through the development of a measurement instrument that included items in each of the three components of attitude. The development of the instrument involved the selection of items from a number of sources and a pilot process that ensured that items were appropriate for participants.

The fourth aim was met by recruiting participants on a quota basis into four identified groups – restraint non-users, speeders, potential drink-drivers, and other drivers who did not fit into these categories. The selection of advertisements to be viewed and rated by each participant was manipulated to ensure that advertisements targeting particular behaviours were more likely to be

seen by participants in the appropriate group. The procedures used to ensure this are described in the Method section.

The fifth aim was met by having participants recall each of the advertisements they were to view prior to viewing them, and having them respond to the recalled advertisement using the same measurement instrument as that used for the actual advertisement, basing their responses on how they remembered reacting when they first saw the advertisement. This is described in the Method section.

METHOD

Participants

Participants were 90 drivers between 24 and 69 years of age recruited through advertisements placed in school newsletters in schools in the South-Eastern suburbs of Melbourne. Potential participants were invited to ring the second author (TS) and were assigned to groups based on the following set of questions:

Has there ever been an occasion when you have driven without wearing a seatbelt?	Respondents who answered YES, and who responded to further probes by indicating that they had done so a few times or regularly, were assigned to the Restraint Non-Use group.
Has there ever been an occasion that you have driven when you weren't 100% sure that you were under the .05 limit?	Respondents who answered YES, and who responded to further probes by indicating that they had done so a few times or regularly, were assigned to the Drink-Driving group.
Has there ever been an occasion when you have driven 10-15 km/h or more over the speed limit?	Respondents who answered YES, and who responded to further probes by indicating that they had done so a few times or regularly, were assigned to the Speeding group.

Respondents who replied no to all items were assigned to the fourth group. Group assignment occurred in the order presented above, so respondents who could have been assigned to more than one group were assigned to first group for which they met the criteria. It was not possible, however, to assume that the groups were entirely independent. The Drink-Driver group, for example, may have included restraint non-users and speeders who were also drink-drivers. Potential participants were screened to exclude those who had recently been involved in a serious crash or who had lost a close friend or family member in a crash.

A quota system was used, so the sample of 90 participants was composed of:

Restraint Non-Use Group	15 participants
Speeding Group	30 participants
Drink-Driving Group	30 participants
Other Drivers	15 participants

The sample characteristics are shown in Table 1. Participants were paid $40 to cover any costs or inconvenience resulting from participation in the study.

Table 1: Sample Characteristics

	Sex		Mean Age	Mean Driving Hours per Week	Mean Minutes of TV per Day	Mean No. of Crashes as a Driver
	Male	Female				
Restraint Non-Use Group	5	10	45.5	19.8	108.0	2.7
Speeding Group	12	18	40.6	10.6	160.5	2.2
Drink-Driving Group	23	7	42.9	15.8	106.3	3.7
Other Drivers	2	13	42.1	10.5	142.1	2.0
TOTAL SAMPLE	42	48	42.5	13.8	130.6	2.8

Advertising Material

Thirty TAC advertisements were selected for inclusion in the study. The Transport Accident Commission requested that the advertisements specifically targeting younger or novice drivers and those targeting older drivers be excluded from the study. The need to balance the presentation of advertisements led to a decision to remove some extra advertisements in consultation with TAC. Table 2 shows a summary of the styles and themes of advertisements used in the study, and the titles, themes, advertising style, and year of launching each advertisement used in the study are shown in Table 3. (Notably, part-way through the study, an additional advertisement was released by the TAC and, therefore, was presented to a subset of participants. The results for this advertisement have not been included.)

Table 2: Themes and Styles of Advertisements Used in the Present Study

	Drink Driving	Speed	Fatigue	Restraint Use	TOTALS
Emotive	7	6	2	2	17
Enforcement	4	3		1	8
Combined Emotive and Enforcement	2	1			3
Combined Emotive and Instructive	1	1			2
TOTALS	14	11	2	3	30

Table 3: Specific Advertisements used in the Present Study

No.	Title	Style	Theme	Launch
1	Girlfriend	Emotive	Drink-Driving	1989
2	Beach Road	Emotive	Speed	1990
3	Speed Camera	Enforcement	Speed	1990
4	Tracy	Emotive	Speed	1990
5	Booze Bus	Enforcement	Drink-Driving	1990
6	Bones	Emotive	Restraint Use	1992
7	Joey	Emotive	Drink-Driving	1992
8	6 O'clock News	Emotive	Speed	1993
9	Glasses (metro)	Emotive/Instructive	Drink-Driving	1993
10	Courtroom	Emotive	Speed	1993
11	Nightshift	Emotive	Fatigue	1994
12	Silent Night	Emotive	Drink-Driving	1994
13	Auld Lang Syne	Emotive	Drink-Driving	1994
14	What Hurts Most	Emotive	Restraint Use	1995
15	Mum in a Hurry	Emotive	Speed	1995
16	Drowning	Emotive	Fatigue	1996
17	Gravel Truck	Emotive	Speed	1996
18	Bush Telegraph	Emotive/Enforcement	Drink-Driving	1996
19	Mobile Radar	Enforcement	Speed	1996
20	Laser	Enforcement	Speed	1996
21	Lennon's Christmas	Emotive	Drink-Driving	1996
22	John and Jessica	Emotive/Enforcement	Drink-Driving	1998
23	10K Less	Emotive/Instructive	Speed	1997
24	Prison	Emotive	Drink-Driving	1995
25	Covert & No Belts	Enforcement	Restraint Use	1997
26	Double Whammy	Enforcement	Drink-Driving	1998
27	Young Cops	Emotive/Enforcement	Speed	1998
28	On the Buses	Enforcement	Drink-Driving	1998
29	Back Streets	Enforcement	Drink-Driving	1998
30	Twelve Days of Christmas	Emotive	Drink-Driving	1998

Time constraints meant that it was considered feasible to have each participant view and respond to five advertisements only. This was accomplished by randomly ordering the thirty advertisements for each group of six participants.

The randomisation of the advertisements was constrained, however, by the desire to bias the advertising material towards appropriate target groups so that, for example, participants assigned to the drink-driving group were more likely to view drink-driving advertisements than were other participants. Software was written in Microsoft Visual Basic to accomplish this, with the result shown in Table 4 which shows the average number of advertisements of each theme viewed by members of each of the four identified groups of drivers. It is clear that the randomisation process ensured that drivers assigned to each group were relatively likely to see advertisements appropriate to their behavioural pattern, but that participants were also likely to provide ratings on other advertising themes.

Table 4: Number of Advertisements of Each Theme Viewed by Participants by Group Membership

Assigned Group	Advertisement Theme	Average Number of Advertisements Viewed (each participant viewed 5 advertisements)
Drink Drivers	Drink-Driving	3.3
	Speeding	1.2
	Restraint Use	0.2
	Fatigue	0.3
Speeders	Drink-Driving	1.8
	Speeding	2.9
	Restraint Use	0.1
	Fatigue	0.2
Restraint Non-Users	Drink-Driving	1.7
	Speeding	1.3
	Restraint Use	1.8
	Fatigue	0.3
Other Participants	Drink-Driving	2.0
	Speeding	1.7
	Restraint Use	0.5
	Fatigue	0.9
Across Groups	Drink-Driving	2.3
	Speeding	1.8
	Restraint Use	0.5
	Fatigue	0.3

Each advertisement was shown to 15 participants, resulting in 450 sets of ratings of advertising material.

Instrument

The instrument was developed in three stages. Initial development was undertaken by the first author (WH), based on a brief review of literature relevant to attitude assessment and advertising. This initial draft was then reviewed by a number of Accident Research Centre staff, and was used in a pilot study involving a sample of ten participants. The pilot study led to some changes to the instrument to improve its useability. The final instrument is provided in Appendix A. The questionnaire was developed in Microsoft Access, and the development of appropriate data entry forms allowed direct entry of responses during the assessment session by the researcher responsible for conducting the session.

The instrument collected data in three phases. At this stage, it is important to emphasise the decision to collect attitudinal data in three underlying areas as outlined in the Introduction. The

measurement of attitudes was undertaken by assessing the emotional, cognitive, and behavioural responses of participants to the target items. To ensure that this was done consistently throughout the study, items from the Adjective Check List (Gough & Heilbrun, 1983) were used as the basis for the assessment in each phase of the study, combined with the consistent use of an 11-point rating scale to measure agreement with attitude statements. The three measurement phases were:

- Phase 1: Background and Responses to the TAC Approach

  The first part of the instrument collected a range of demographic data and data concerning the attitude of respondents to the Transport Accident Commission approach to road safety advertising without focussing on specific advertising material.

- Phase 2: Recalled Responses to Advertising

  The second part of the instrument collected data relating to the recollected attitudes towards the five advertisements assigned to the participant, using the same measurement items used in Phase 3. The participants were prompted to recall each of the five assigned advertisements using a series of increasingly specific prompts which are shown in Table 5, and once they could recall the advertisement they were asked to recall their response to it when it was first aired and to base their responses to the attitude items on that initial reaction. They were also asked to provide an estimate of their confidence that their recalled responses were accurate.

- Phase 3: Responses to Viewed Advertising

  The third part of the instrument collected attitudinal data from participants after they viewed each of the five assigned advertisements.

Procedure

Participants were assigned to an appropriate group when recruited into the study. This determined the five advertisements to be used based on the randomisation process outlined above.

Data were collected in an office assigned to the project, with the second author (TS) or other research staff entering participant responses directly into a database during the assessment session.

Participants provided data for the first phase of the assessment. They then provided data in the second phase, with the prompts for each advertisement provided orally by the researcher followed by the collection of attitudinal data if the respondent could recall the advertisement. The third phase involved the presentation of each advertisement using a large-screen television followed (after each presentation) by the collection of attitudinal data.

The potential for the advertising material to evoke strong emotional reactions was recognised, and participants were encouraged to take refreshment breaks at appropriate times. No sessions were terminated as a result of participants wishing to withdraw, although concerns about one participant who had a history of psychological problems necessitated the deletion of "12 days of

Christmas" and replacement with another drink-driving related Christmas advertisement. It was not considered that this would have an impact on the analysis of the data or the results of the study. The project was approved by the Monash University Standing Committee on Ethics in Research on Humans.

Table 5: Recall Prompts Used for Each Advertisement

No	Title	Prompt Level	Prompt Descriptions
1	Girlfriend	1	First drink-driving ad, narrated by a charge nurse
		2	Boyfriend and girlfriend arrive at a hospital emergency ward in an ambulance – he was drink-driving, she is badly injured
		3	Parents of the women arrive and told by a doctor that their daughter may lose her leg – the charge nurse is present
		4	Distraught mother confronts the boyfriend – charge nurse has to pull her away
		5	Shows a nurse outside a hospital emergency entrance saying, "it's not just the physical injuries", then shows her involvement as the couple, then the parents arrive, as the parents are told their daughter may lose her leg, and then as the mother confronts the boyfriend. This ad introduced the slogan: "If you drink, then drive, you're a bloody idiot".
2	Beach Road	1	A speeding ad which starts with a young boy being treated on the road
		2	A night scene at a pedestrian crossing, with police questioning a male driver
		3	The distraught mother of the boy arrives
		4	Driver is told the boy has died. The mother cries out as she cradles her son
		5	Young boy is being treated by ambulance workers at a pedestrian crossing. Driver is being questioned by police and is accused by a woman of doing 90 in a 60 zone. He tries to argue, "the traffic was doing 80". The very distraught mother arrives and runs to her child. When told he has died, she cries holding him, "Give me back my boy".
3	Speed Camera	1	A narrated ad introducing the then new dashboard-mounted automatic speed camera set on a busy suburban street
		2	Shows view through the camera as it takes speed readings of passing vehicles, zooming in on number plates
		3	In one example, it is explained that a driver doing more than 30 kms will lose his licence and will first find out about this by a notice in the mail
		4	The scene changes to show the narrator is a doctor - he is shown emerging from surgery, explaining that he is sick of having to treat "victims who just don't deserve to be there"
		5	The narrator, a man, is shown by the side of a busy road approaching a police car and describing the new speed camera. Speeds can now be recorded at the rate of 1 car per sec. Examples of the camera in action are shown and a notice issued in the mail. The scene changes to the hospital surgery, where the narrator explains the reason why he is concerned - he is a doctor and sees many people who die or are injured for life as innocent victims of road accidents.
4	Tracy	1	A speeding ad involving a young female driver and her best friend
		2	The driver is questioned by police as her (female) friend is being treated at a crash scene
		3	She explains she was changing a tape at the time of the accident
		4	Shows her crying, "She's my best friend and I've killed her"
		5	Shows a crash scene identifying that an inexperienced female driver, with her best friend as passenger, has been speeding, gone to change a tape and consequently crashed into a tree. She calls out "Tracy, Tracy" and that she really wants to go and see her. Tracy is trapped in the car, is freed, but dies. The driver is overwhelmed that she has killed her best friend.

Table 5 (continued): Recall Prompts Used for Each Advertisement

No	Title	Prompt Level	Prompt Descriptions
5	Booze Bus	1	An early ad introducing the mobile booze bus and random breath test procedures
		2	Shows a number of different drivers making various excuses
		3	Shows scenes inside the bus as drivers are told their fines and loss of licence
		4	One young male in particular says, "I really didn't drink that much"
		5	Explains that there are 13 buses out 7 days a week, so that over the next 12 months 1 million people will be tested. Shows men and women of different ages making excuses, with comments about losing their job, or that they've only had a couple of drinks.
6	Bones	1	A seatbelt ad involving a female passenger
		2	There are two males in the front seat. She is in the back seat and takes off her seat belt
		3	She whispers something to the driver and argues with the other passenger who wants to know what she has said
		4	The driver is distracted. A man runs in front of the car, the driver swerves but crashes into a parked car. She is thrown through the windscreen
		5	The female in the back takes of her belt, leans forward and starts whispering to the driver. The male passenger wants to know what she said. She snaps, "I wasn't talking to you!" The driver turns to ask her to sit back, someone runs out from behind a truck, he swerves and hits a parked car. She is thrown out through the windscreen and shown lying on the road. She is then shown with a physiotherapist teaching her to walk, explaining that, "It will get easier each day".
7	Joey	1	A drink driving ad where two brothers are leaving an outdoor party
		2	Younger brother wants to drive as he thinks the older brother has had too much too drink
		3	Older brother insists on driving. On the drive he purposely swerves to show off
		4	They crash. The older brother is shown in a hospital bed with his head in traction, calling for his brother
		5	As they are leaving the party and later in the car, the younger brother keeps asking to drive but the older brother won't allow it. He has had too much to drink, so that when he swerves the car to show off, he loses control, the car rolls and crashes at the roadside. In traction in a hospital bed, he calls out for his brother Joey, crying, "I killed my brother".
8	6 O'clock News	1	A speeding ad involving a son farewelling his family – his father in particular
		2	The son is shown leaving for a fishing trip with his father's car
		3	Later, the father is watching the news on television
		4	The family watch the news item which shows the car crashed around a tree. They are (all) confused and become distraught
		5	A family is farewelling the son before the fishing trip and the son promising his father that he will be safe: he hasn't copped a ticket in yonks. The family is shown later that day watching the news and sees the crashed car with the fishing boat still on top. The report is shown and body bags at the scene. They become distraught and the young woman cries out, "What's going on?"

Table 5 (continued): Recall Prompts Used for Each Advertisement

No	Title	Prompt Level	Prompt Descriptions
9	Glasses (metro)	1	A drink-driving ad showing a driver's view through the front windscreen and empty beer glasses
		2	Large empty beer glasses pop up in front of the windscreen one by one.
		3	The car collides with the rear of a stationary truck
		4	Shows the driver's wife at home being told of the accident by police. She becomes distraught and a little girl wanders out to ask what's wrong
		5	The ad, set at night, shows how each drink progressively blurs a driver's vision by having empty beer glasses pop up in front of the driver's view one at a time. The view through the glasses gets more and more fuzzy, until the car is driven into the back of a parked truck. The scene changes to the home of the man where police have arrived to inform his wife. The distraught wife cries, "Don't tell me that. Please don't tell me that". The young daughter appears in her pyjamas asking, "Mummy, what's wrong?"
10	Courtroom	1	A speeding ad involving a female driver on a crowded freeway
		2	She is cutting in and out of the traffic. She has one male passenger.
		3	The male passenger says, "This isn't like you – hey, slow down"
		4	She speeds into the emergency lane and runs over a man changing a flat tyre
		5	The women is shown driving at about 120km/h on a crowded freeway. The male passenger tries to get her to slow down. She cuts sharply into the emergency lane, driving straight over the man changing the tyre. The man's wife is shown standing by in shock. Later a courtroom scene is shown where the woman is asked how she pleads to the charge of culpable driving causing death. She does not answer, but looking towards the wife cries, "I'm so sorry".
11	Nightshift	1	A fatigue ad involving a male driver and his female partner
		2	He wants to drive through the night rather than leave the next morning for a distant location. She is shown sleeping next to him.
		3	He asks her to talk to him to help him stay awake, but she tells him to pull over if he's tired
		4	At dawn the next day, their combivan is shown veering across the road. It dramatically crashes into the side of a truck
		5	The young man wants to drive through the night. His partner says OK, but she'll need to call her mum in the morning. He gets sleepy and asks his girlfriend to talk to him, but she wants to keep sleeping. He winds down the window and continues. Shows his extreme fatigue in close ups of his face with heavily drooping eyelids. Early morning scene, just as girlfriend awakes and looks at her watch, shows the combi smash into the truck leaving the entire front smashed in. The truck driver jumps out of the cabin and slumps his shoulders in despair.

Table 5 (continued): Recall Prompts Used for Each Advertisement

No	Title	Prompt Level	Prompt Descriptions
12	Silent Night	1	A drink-driving ad set at an office Christmas party
		2	As a man is leaving, two mates question him about whether he's really OK to drive
		3	Shows flashbacks of previous TAC ads
		4	The man makes excuses but is thinking about what they are saying
		5	Shows a Christmas office party scene, set to Silent Night, with two men trying to convince the man that it's OK not to drive – "Cops'll get you this time of year", "It's booze bus city out there". As previous ad scenes flash on and off, he makes excuses but stays there thinking about what they are saying. Their final comment is, "Should you be driving home tonight?"
13	Auld Lang Syne	1	A drink-driving ad set at a Christmas BBQ
		2	Wife with young child is questioning husband about whether he's OK to drive
		3	Shows flashbacks of previous TAC ads
		4	The husband makes excuses but is thinking about what she is saying
		5	Shows a Christmas BBQ scene, set to Auld Lang Syne. The wife approaches her husband and tries to convince him that it's OK not to drive – "The kids'd love a ride in a taxi", "I'll let you sleep in and we can pick the car up tomorrow". As previous ad scenes flash on and off, he makes excuses but is shown thinking about what she is saying. Her final comment is, "Should you be driving home tonight?"
14	What Hurts Most	1	A seatbelt ad involving a man talking about his experience
		2	He is sitting at home describing how he has to rely on others for almost everything now that he is almost blind
		3	He becomes upset as he explains that the thing that hurts most is that he can still see the accident
		4	He was lost and only took his seatbelt off to reach for the street directory. He comments, "Then the noise". When he took his hands from his face they were covered in blood.
		5	Shows the silhouette of a man sitting at home by a bright window describing his lack of vision and the accident that caused it. Blurred vision and his view at the accident scene are shown. He becomes distraught as he says he can't understand why he's been punished when he only took his seatbelt off for a couple of seconds.
15	Mum in a Hurry	1	A speeding ad involving a mother in a hurry
		2	She is late to collect her son from kindergarten
		3	She takes a shortcut down a quiet street, first hitting a roundabout
		4	She runs over a young boy who chases his ball onto the road
		5	Shows a mother leaving a friend's in a 4WD with her young daughter. In a hurry to get to the kinder, she refuses an offer by her friend to call them about the delay. Her daughter questions why she is angry. She speeds down an unknown street and the boy runs out unexpectedly. His young mother runs over calling for Scottie and becomes distraught.

Table 5 (continued): Recall Prompts Used for Each Advertisement

No	Title	Prompt Level	Prompt Descriptions
16	Drowning	1	A fatigue ad involving a family driving home after a holiday
		2	The father is driving with his wife and two young sons as passengers
		3	The son and then the wife want to stop for something to eat but the dad wants to keep going
		4	Shows the car run off the road and into a river
		5	The family is shown leaving a camping site, farewelling friends. On the drive, the two young boys are shown strapped in their car seats, one is hungry but the dad wants to keep going. They see their friend's car stopped at a roadhouse and the mum wants to stop but the dad wants to "get a bit distance behind us". Shows him drifting off and finally veering off the road into a river. The car sinks. The father emerges screaming for help.
17	Gravel Truck	1	A speeding ad with a male P-plater driving on a narrow country road
		2	There is another young male in the back seat and a young female in the front who asks him to slow down
		3	The driver, encouraged by his mate, insists that he knows the road – he's driven it a hundred times
		4	He drives onto the gravel at the side of the road to get around an oncoming truck, has to swerve to miss a minibus hidden behind it, loses control and crashes into a tree.
		5	The scene is a quiet country road. A young overconfident driver goes on to the gravel to overtake a first truck and is asked to slow down by the female passenger. The other male passenger agrees they're running late and tells him to speed up. The driver insists that he "knows this road" and the female relaxes. Then he goes around a second truck and has to swerve to miss a white school minibus hidden behind it. He loses control and smashes into the tree. The graphic scene of the wreck is shown. The car is almost in half. The driver's body can be seen next to the wreck.
18	Bush Telegraph	1	A drink-driving ad set in the country involving some tradesmen drinking outside a house
		2	They have finished work for the day and are drinking a few beers. One man has his son there
		3	The man gets a call on his mobile to warn them of a booze bus located in the area
		4	The man, driving home with his son, goes through a stop-signed intersection and the car is run over by a truck
		5	The ad shows some country tradesmen drinking outside, being warned of a booze bus nearby via a phonecall from a mate. The man with his son is encouraged to have one more drink before he leaves. As they are driving the son sees a car in side street pulled over by police, which they laugh about. Losing concentration the man drives through a stop-signed intersection and they are run over by a truck. The scene goes back to the other men who are phoned about the accident.

Table 5 (continued): Recall Prompts Used for Each Advertisement

No	Title	Prompt Level	Prompt Descriptions
19	Mobile Radar	1	A speeding ad introducing the then new mobile radar (inside the police car) set on a quiet country street
		2	The voices of two young males are heard talking about the power of the new commodore
		3	To compare his car, the driver speeds to 120km, shown on his speedometer
		4	They see a commodore coming from the other direction and discover that it is a police car – they are waved to pull over and will be booked
		5	You hear the voices of (but don't see) two young males and see their view out the windscreen on to a quiet country road. They talk about the power of the new commodore. The driver says not to knock his car and speeds to 120km. A car appears coming from the opposite direction. They identify it is a commodore and then see the headlights flashing and police lights flashing behind the windscreen. The driver of the police car is shown through the rearview mirror, waving the car over, turning around and getting out to book the driver. The message about the mobile radar is, "It just might be the next car coming towards you".
20	Laser	1	A speeding ad introducing the then new laser 'gun' speed detector set on a busy suburban street
		2	Shows driver's view through windscreen looking uphill on a busy street with voices of two young males talking
		3	The passenger tries to warn that there are police up ahead. The driver argues he can't see them, but changes lanes trying to hide between cars thinking they won't be able to catch him anyway.
		4	The car is pulled over to the curb by police on the hill. There is a close up of a policewomen holding up the laser
		5	The ad shows how the new laser can single out a car among heavy traffic. The street is shown from the driver's view with the right top corner showing the view through the laser. You hear the voices of (but don't see) two young males. The driver argues with his mate that he won't be detected but they are and are pulled over by the police. With a close-up of the policewoman holding the gun, we are told, "From now on, you can speed but you can't hide".
21	Lennon's Christmas	1	A drink-driving ad set at Christmas set in a hospital
		2	Shows scenes of a number of accident victims and guilty drivers being brought to emergency, rather than a focus on one family only.
		3	Shows flashbacks of previous TAC ads
		4	A young girl's voice is singing John Lennon's 'So this is Christmas'
		5	The girl's haunting voice sings John Lennon's 'So this is Christmas'. There are flashbacks as new scenes are shown including a pregnant women who loses her husband, a young man in a tuxedo vomiting against a hospital wall, and hospital staff attempting treatments and cleaning up afterwards. They all focus on drink-driving.

Table 5 (continued): Recall Prompts Used for Each Advertisement

No	Title	Prompt Level	Prompt Descriptions
22	John and Jessica	1	A drink-driving ad involving a boyfriend and girlfriend arguing in a hospital emergency room
		2	She is angry with him for telling her he was OK to drive when she wanted to get a taxi
		3	He tries to convince the staff that he doesn't need a blood alcohol test: "Can't it wait 'til tomorrow?", "Can't you take my word for it? – I wasn't drunk" - but eventually he relents and has the test
		4	He is told that the person in the other vehicle has died and is given an official caution that he is not obliged to say anything etc.
		5	The male driver is arguing with his girlfriend that he just thought it would be better if he drove her home. She snaps, "I said I'd get a fricken taxi". He tries not to take the test, insisting he's OK, but is told everyone would say that, it's standard procedure and if he's OK there won't be a problem. The legal procedures after an accident are explained. He eventually allows the test and is visibly anxious. Police officers enter the room to inform him that the other accident victim has died and he is given an official caution.
23	10K Less	1	A speeding ad showing details about being hit by a car
		2	A man walks out between two parked cars
		3	He is hit by a passing car and we vividly see the man thrown in the air, fall onto the car and then onto the road
		4	From a hospital surgery room, a doctor explains the physical injuries of the impact in detail as the scene is shown again and then difference if the driver was travelling at 10km less
		5	An ad that shows the difference between driving at 70km compared to 60. A man walks out between parked cars holding a pizza. Although the driver breaks hard, the man is hit by a car that has been travelling at 70km. A doctor emerging from surgery explains the damage to the joints, skull and neck. A second scene is shown with another pedestrian and a car doing 60km only. This time the driver is able to stop in time.
24	Prison	1	A drink-driving involving a man in a prison
		2	A wife has come to visit her husband with their two young sons
		3	The husband is upset, having flashbacks to his drinking and the accident
		4	He had announced in the pub that his wife was pregnant again and his mates had kept buying him drinks. The crash scene shows a man and his son trapped in the other vehicle. Emergency services have cut off the roof. The young boy dies.
		5	A wife and two young sons visit the husband in prison. He is still not coping with his accident and the consequences. He recalls his announcement in the pub and that his mates kept buying him drinks. The accident is shown with emergency workers turning to work on the father trapped in the car as the young boy dies. The wife asks him whether he'll miss his son's 1st birthday and "What about parole?", "Surely they can see you're not a criminal". The man is too upset to reply and keeps saying he is sorry. The wife tries to remain strong but is seen leaving the prison grounds in tears.

Table 5 (continued): Recall Prompts Used for Each Advertisement

No	Title	Prompt Level	Prompt Descriptions
25	Covert & No Belts	1	A seatbelt ad involving two young males driving at night on a city street
		2	They joke about a police car that pulls up next to them at an intersection
		3	The police pull them over to ask the driver why he was not wearing his seatbelt
		4	The police also conduct a random breath test and book the driver
		5	A city night scene where two young males appear to be returning from a nightclub. Laughing, they notice the police, who make them pull over. The driver is questioned about his seatbelt and then asked to take a random breath test. He is over the limit and booked. Shows the driver being taken to the police car. The message is, "Any driver at any time".
26	Double Whammy	1	A drink-driving ad involving a business man talking into his hands free car phone
		2	He is driving on a suburban street talking to a mate and cuts the call short when he sees the police ahead
		3	He is pulled over and starts saying, "I know, I know. I was going a little fast, wasn't I?"
		4	The police want to conduct a random breath test. The test is positive and the driver is asked to get out of the car.
		5	Shows a man in a suit driving on a suburban street, talking into his hands free phone. When he sees the police he pulls over and starts to make excuses about speeding and shows surprise as the police ask him to take a random breath test. He is over the limit and is shown getting out of the car. The message is now, "When police carry speed detectors, they also carry breath tests. So most police cars are like a booze bus now."
27	Young Cops	1	A speeding ad shown from the perspective of a young policeman
		2	It starts with a parked police car taking speed readings from passing vehicles with the young policeman making comments
		3	He is then shown pulling over a number of drivers who all make various excuses
		4	He then answers a call about an accident on the road ahead and arrives to find it involves one of the cars that had just passed them.
		5	The ad is shown from the perspective of one young policeman in particular. The two police are in the car and comment on the speed-reading taken from passing car. It shows them apprehending various people of different ages making all sorts of excuses. The car radio sends the message to attend an accident ahead. The young policeman answers and is shown as he arrives - it is a car that has just passed them. Emergency services arrive. The focus is on the young policeman trying to deal with it all.

Table 5 (continued): Recall Prompts Used for Each Advertisement

No	Title	Prompt Level	Prompt Descriptions
28	On the Buses	1	A somewhat recent drink-driving ad showing police conducting random breath tests at a booze bus
		2	Shows a number of different drivers making various excuses
		3	Shows scenes inside the bus as drivers are told their fines, about loss of licence and counseling requirements
		4	One elderly man in particular is angry and refuses to take a test and the possible consequences are explained to him
		5	Shows police conducting random breath tests at a number of cars and further procedures inside the booze bus. Shows men and women of different ages making excuses, with comments such as a woman saying, "I was just going shopping", and an angry man yelling, "I didn't see a sign that said no U-turn! Is there one?" The message is that police will test over two million drivers in the next 12 months.
29	Back Streets	1	A drink-driving ad set in the country at night involving a male sports team
		2	Focuses on older sports coach celebrating a win with his team in their club rooms
		3	He declines an offer for a lift home – he needs the car in the morning
		4	Police pull him over, conduct a breath test, and tell him it is positive. He protests that he's "got a reputation around here".
		5	The ad is set in the country and shows a sports team with their coach celebrating a win. The coach refuses a lift and is shown being pulled over by the police for drink-driving. He is told he will receive a summons in the mail and that his licence is suspended immediately. The man protests heavily but is shown being lead to the police car. The focus is now, "every car is a booze bus".
30	Twelve Days of Christmas	1	A drink-driving ad set at a Christmas time focusing on a family
		2	Shows a series of scenes of the days leading up to Christmas involving a husband, pregnant wife and two young children
		3	Shows husband drinking at office Christmas party, hurrying on a busy road, and crashing into a pole
		4	The wife is shown arriving at hospital being told that her husband has severe head injuries. A series of scenes of the following days are shown, including the wife and parents at home and at the hospital learning that the life support machine should now be turned off.
		5	A series of scenes shown across a sequence of ads following a family's experience. The husband is shown decorating a Christmas tree with the children, then at the office party and crashing the car. The wife is called into the hospital and explained the injuries. Later she is at home talking with the parents and her son answers a call for his father. They are then shown at the hospital being told that he is only being supported by machine, and again as it is turned off. Follow up ads show scenes of the wife and her mother arguing before going to the funeral. The young daughter asks if Daddy will be there. Then the children are shown waking Mum up early on Christmas morning and asking if Santa will find Daddy

RESULTS AND DISCUSSION

This section provides a presentation of the results of a number of analyses of the data collected in this project and some initial discussion of the results and their interpretation. It was considered important to provide some discussion in this section and to use the General Discussion section as an opportunity to focus more closely on the implications of the results.

Clustering of Advertisements Based on Audience Responses

One important purpose of this project was to investigate the similarities between advertisements in terms of audience reactions. This had consequences for a concurrent evaluation of the relationship between advertising intensity and crashes as it was intended there to group advertisements rather than to investigate the effect of individual advertisements. It was considered important to base any grouping of advertising material on the perceptions of the audience rather than preconceived groupings arising from the development of the advertising by TAC or theoretical views held by the MUARC project team.

In a larger sense, it was considered important to develop an understanding of the relationships between the TAC advertisements and, as part of that process, to develop an understanding of the factors or perceptions underlying audience reactions to the TAC material. As was discussed in the Introduction, this project was seen as an opportunity to explore in depth the effectiveness of public-education materials.

Thus, the data relating to the perceptions of advertisements were used to investigate the patterns underlying responses to the TAC advertisements and perceived similarities and differences between the advertisements. The ratings made by the respondents to advertisements they viewed during the assessment session were used as the basis for a factor analysis and then a cluster analysis. The factor analysis was performed to investigate the way in which respondents reacted to the viewed advertising material. The aim of the factor analysis was partly to reduce the complexity of the cluster analysis, but it was also intended that this analysis would provide information about the critical factors underlying audience responses to the TAC advertising material. The cluster analysis, which was based on the patterns identified in the factor analysis, was performed to investigate perceived similarities between the advertisements.

Factor Analysis of Responses to Viewed Advertisements

The factor analysis was conducted using the rating data provided by the participants after viewing each advertisement. This analysis was restricted to the 34 items of the form "This TAC advertisement is…" A total of 459 responses to the advertisements with non-missing data were included in the analysis, with each response including 34 items.

The factor analysis involved extraction of six factors accounting for 67.9% of the variance. The factors were subjected to an oblique rotation as it was assumed that underlying responses to the advertisements would be correlated. The factor loadings after rotation are shown in Table 6.

Table 6: Factor Loadings after Oblique Rotation (Loadings less than .3 not shown)

	I	II	III	IV	V	VI
Responsible	.817					
Frank	.774				-.320	
Serious	.732				-.362	
Important	.713					
Realistic	.698					
Rational	.686					
Beneficial	.598					-.328
Practical	.502					-.434
Informative	.495					-.412
Cheerful		.836				
Likeable		.804				
Pleasant		.767				
Humorous		.761				
Irresponsible			.604			
Cold			.589			
Cruel			.568			
Dull			.411		.390	
Complicated				-.810		
Simple				.712		
Confusing	-.318			-.633		
Frightening					-.812	
Upsetting					-.800	
Emotional					-.778	
Tough	.331				-.688	
Forceful	.410				-.618	
Sensitive					-.562	
Thought-provoking	.417				-.503	
Daring					-.492	-.412
Aggressive					-.464	
Effective	.441				-.454	
Positive						-.767
Clever						-.512
Original	.438					-.505
Helpful	.356				-.349	-.379

The results in Table 6 suggest that the six factors underlying participants' responses to the TAC advertisements could be described as follows:

- Factor I: A cognitive response to the perceived seriousness of the message in the advertisement. Advertisements that scored high on this factor would be those which are perceived to be responsible, serious, important, realistic, beneficial, thought provoking, and informative.

- Factor II: An emotional response to the perceived pleasantness of the advertisement, Advertisements that scored high on this factor would be those perceived to be relatively cheerful, pleasant, and humorous.

- Factor III: A cognitive response to the perceived irresponsibility in the advertisement. High scoring advertisements on this factor would be those with content perceived to be cold, cruel, or irresponsible.

- Factor IV: A cognitive response to the perceived simplicity of the advertisement. Advertisements that scored high on this factor are perceived to be simple and uncomplicated.

- Factor V: The strength of the negative emotional response to the advertisement. This is described from this point onwards as the emotionality of the advertisement as this factor appears to be a characteristic of the emotive style TAC advertisements. Low scoring advertisements on this factor (the loadings are in the opposite direction) would be perceived as upsetting, emotional, tough, thought-provoking, daring, aggressive, and effective.

- Factor VI: A cognitive response to the originality and information content of the advertisement. Low scoring advertisements would be perceived as clever, original, informative, and positive.

Table 7 shows the correlations between the factors, some of which were quite large.

Table 7: Correlations Between Factors

	I	**II**	**III**	**IV**	**V**	**VI**
I	1.000	-.15	-.02	.18	-.46	-.43
II		1.000	.08	.01	.27	.04
III			1.000	-.05	-.14	-.03
IV				1.000	-.08	-.10
V					1.000	.328
VI						1.000

The large correlation between Factors I and V suggests that the perceived seriousness of the advertisement or message was correlated with the strength of upset feelings produced by it - such that strongly emotional advertisements were more likely to be perceived as being serious in their presentation of the message for the participant.

The correlation between Factors I and VI suggests that advertisements that were perceived to be original or informative were also perceived to be serious. Upsetting advertisements were generally perceived to be original or informative (Factors VI and V). Finally, as might be expected, upsetting advertisements were unlikely to be seen as cheerful or pleasant (Factors V and II).

The results of the factor analysis suggest, therefore, that there is an underlying pattern of responses to the items that were included in the analysis. Responses to the advertisements were composed of cognitive reactions (concerning the perceived seriousness, simplicity, irresponsibility, and originality or information content of the advertisement) and emotional reactions (relating to the perceived pleasantness and emotionality of the advertisement). This result is important and is discussed in more detail in the General Discussion.

Participants were asked some additional questions about their responses to the advertisements, including their perceptions of the effect each advertisement was likely to have on their behaviour, their perceptions of the relevance of the advertisement, and their perceptions of its credibility. Multiple regression analyses suggested that the mean factor scores for each of the advertisements (reflecting audience reactions to the material) were related to these measures, as is shown in Table 8.

Table 8: Results of Multiple Regression Using Mean Factor Scores

Item	Significant Predictors (and Standardised Coefficients)				R^2
Effect on Behaviour	Factor V	(-.61)	Factor V1	(-.37)	.62
Relevance	Factor VI	(-.45)	Factor II	(-.39)	.34
Credibility	Factor I	(.81)			.63

The results in Table 8 suggest that:

- Audience perceptions of the strength of an advertisement's effect on their own behaviour is significantly related to their perceptions of how upsetting the advertisement is (Factor V) and how original or informative it is (Factor VI). Advertisements that are perceived to be emotional and original or informative are believed to have a stronger effect on safety-related driving behaviours.

- The personal relevance of an advertisement was significantly related to the advertisement's originality or information content (Factor VI) and how pleasant it is perceived to be (Factor II). Personal relevance was strongest for those advertisements that were perceived not to be pleasant and for those that were perceived to be informative or original.

- The credibility of the advertisement was significantly related to the perceived seriousness of the message (Factor I), with more-serious messages being perceived as more credible.

Figure 2 shows the relationship between the perceived originality or information content and emotionality factors and the ratings of the perceived effect of each advertisement on the driving behaviour of the participants. The signs of the scores on the two factors have been reversed so that high scores equate to high originality or information content and high emotionality respectively.

It is clear in Figure 2 that those advertisements perceived to be the most effective by participants had high factor scores on both the perceived originality / information and perceived emotionality factors. It is also clear, however, that effective advertisements could have high scores on one and not the other factor. For example, the high effectiveness rating for *Mum in a Hurry* is most likely driven by its high emotionality score rather than its information score (which is average), while the high effectiveness rating for *Laser* is most likely associated with its information score as its emotionality score is relatively low.

This has consequences for the development of advertisements as it suggests that an effective advertisement, while ideally being perceived as both informative and emotional, may only require one of these.

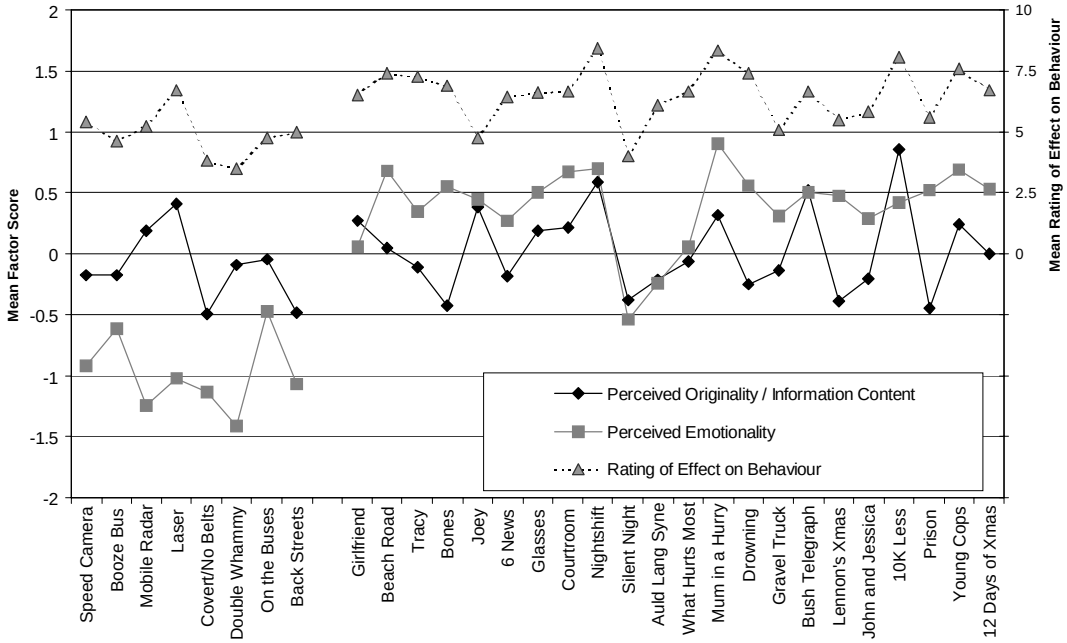


Figure 2: Importance, Emotionality, and Effect on Behaviour

Cluster Analysis of Advertisements

Cluster analysis allows similarities and differences between items to be assessed, and for similar items to be grouped together reflecting patterns in the data rather than preconceived theoretical positions. The cluster analysis was conducted to determine the best grouping of advertisements in statistical terms and was based on methods used in a number of recent projects conducted by MUARC.

The factor analysis reported above effectively summarised the 34 rating scales into six scores. These were averaged for each advertisement, and the resulting six mean factor scores for each of the 30 advertisements were then used in a cluster analysis.

The result of the cluster analysis was the identification of two clusters or groups of advertisements that were perceived as different to each other by the respondents.

Cluster membership is shown in Table 9. Cluster 1 consists of all the advertisements (8) classified by TAC as having an enforcement style, while Cluster 2 consists of the remaining advertisements (22), all of which have an emotive aspect to their style.

The results of the cluster analysis are interesting in a number of respects. These are discussed in detail in the General Discussion section, although it is appropriate at this point to note that:

- The similarities in responses to the advertisements are a result of the style of the advertisement rather than the theme - the clusters are defined in terms of style - suggesting that responses to the TAC advertisements may be guided more strongly by the emotional content than the topic addressed by the advertisement, although the behavioural response to advertising material may be strongly influenced by the theme.

- Responses seem to be determined (in part) by the presence of any emotive content. Advertisements with combined styles (eg. emotive/enforcement) are responded to as if they are more similar to the other emotive advertisements than to the enforcement advertisements.

Table 9: Cluster Membership

No.	Title	Style	Theme	Cluster
1	Girlfriend	Emotive	Drink-Driving	2
2	Beach Road	Emotive	Speed	2
3	Speed Camera	Enforcement	Speed	1
4	Tracy	Emotive	Speed	2
5	Booze Bus	Enforcement	Drink-Driving	1
6	Bones	Emotive	Restraint Use	2
7	Joey	Emotive	Drink-Driving	2
8	6 O'clock News	Emotive	Speed	2
9	Glasses (metro)	Emotive/Instructive	Drink-Driving	2
10	Courtroom	Emotive	Speed	2
11	Nightshift	Emotive	Fatigue	2
12	Silent Night	Emotive	Drink-Driving	2
13	Auld Lang Syne	Emotive	Drink-Driving	2
14	What Hurts Most	Emotive	Restraint Use	2
15	Mum in a Hurry	Emotive	Speed	2
16	Drowning	Emotive	Fatigue	2
17	Gravel Truck	Emotive	Speed	2
18	Bush Telegraph	Emotive/Enforcement	Drink-Driving	2
19	Mobile Radar	Enforcement	Speed	1
20	Laser	Enforcement	Speed	1
21	Lennon's Christmas	Emotive	Drink-Driving	2
22	John and Jessica	Emotive/Enforcement	Drink-Driving	2
23	10K Less	Emotive/Instructive	Speed	2
24	Prison	Emotive	Drink-Driving	2
25	Covert & No Belts	Enforcement	Restraint Use	1
26	Double Whammy	Enforcement	Drink-Driving	1
27	Young Cops	Emotive/Enforcement	Speed	2
28	On the Buses	Enforcement	Drink-Driving	1
29	Back Streets	Enforcement	Drink-Driving	1
30	Twelve Days of Christmas	Emotive	Drink-Driving	2

The results of the cluster analysis are used as the basis for some of the analyses reported below.

The cluster analysis suggests that any grouping of advertisements used in concurrent statistical analysis of the relationship between advertising and crashes should treat advertising style (enforcement and emotive) as more important than groupings based on the theme or content of the advertisement, although it needs to be reiterated that thematic content of advertising would be expected to have an important role in specific behaviour change. This recommendation was taken up in the crash-based analysis.

General Perceptions of TAC Approach

The effect of future advertising is likely to be influenced by the current attitudes of the target audience to the TAC approach to road safety advertising. Negative attitudes to the TAC approach could weaken the effect of any future programs, and although it is likely that the overall attitude of drivers to the TAC approach is likely to reflect their responses to advertising in the past, it was considered important here to seek general information prior to assessing specific advertisements.

Respondents were asked to react to the TAC approach to road safety advertising without considering any specific advertisement. Responses included responses to 34 "TAC advertisements are generally…" items using the same adjectives used subsequently to measure reactions to specific advertisements, and responses to some additional items.

The mean responses to the 34 items are shown in Figure 3, along with the average responses to the same items given after viewing actual advertisements (averaged across advertisements).

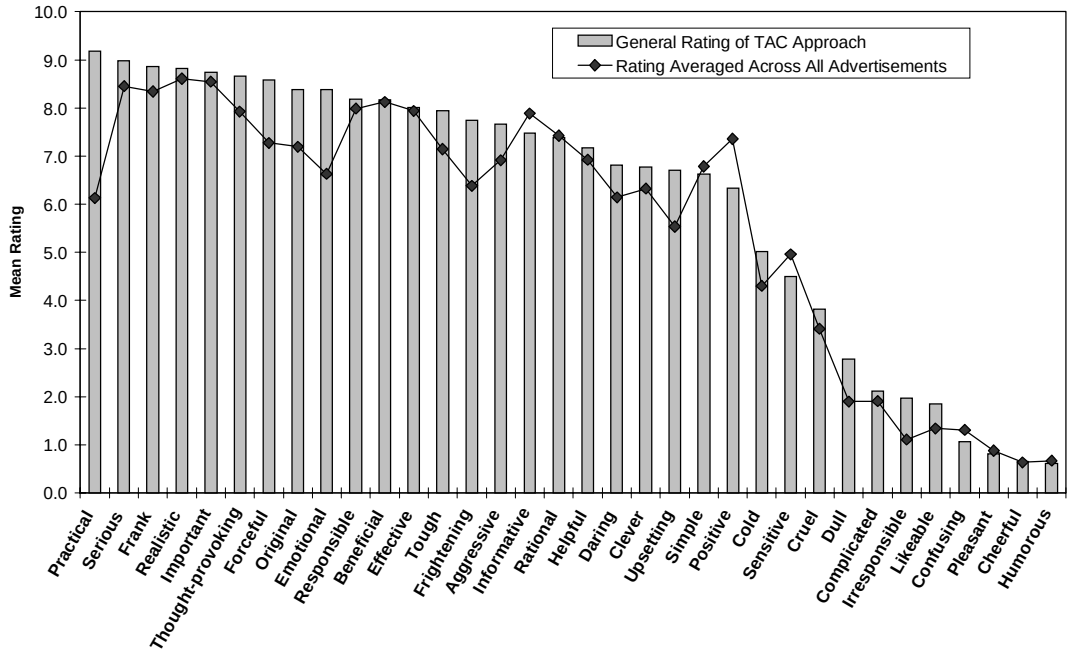


Figure 3: Participant Responses to the item "TAC advertisements are generally …"

In general, the results shown in Figure 3 suggest that participants are positively disposed towards the TAC approach to road safety advertising. While items such as aggressive, frightening, and emotional received high agreement ratings, the approach was generally seen as practical, serious, realistic, and so on. Items that might have indicated a negative response to the TAC's approach (such as cruel, complicated, and irresponsible) received low agreement ratings.

Figure 3 also supports the suggestion (above) that the general attitude to the TAC approach is most likely related to the response to specific advertisements. The second data set shown in

Figure 3 is the average response (across advertisements) to each of the items, given after seeing the advertisements used in the third stage of the assessment. The similarity between the two data sets is striking, suggesting that the general attitude to the TAC approach to road safety is the sum or average of attitudes to specific road safety advertisements. This is consistent with a view that general attitudes reflect attitudes to more-specific attitude objects. In this case the general attitude to the TAC approach appears to reflect the specific responses to TAC advertisements.

The additional data in Figure 3 also indicates that the attitudes of respondents to the advertisements themselves (averaged across all advertisements) were as positive as their attitudes to the TAC approach.

It is also apparent in Figure 3 that the general response to some categories is higher than the average response to specific advertisements. These include responses to practical, emotional, frightening, original, forceful, and upsetting. This suggests, in part, that participants classify the general TAC approach as more emotional than the average response to TAC advertisements. One possibility here is that exposure to highly emotive material may have a larger effect on the general ratings than the less emotive material.

Responses to the general response items were analysed using multivariate analysis of variance, to investigate whether there were any differences in responses to these items between males and females, and between members of the four groups of drivers selected for the study (drink drivers, speeders, restraint non-users, and other drivers).

There were both sex and group differences. The significant results are summarised in Tables 10 and 11.

Female participants were more likely to be anxious about their safety and the safety of people they cared for than were male participants. They were also more likely to see themselves as careful drivers and were more likely to take extra care in the presence of Police activity. They were less likely to perceive the TAC approach to be cheerful, humorous, or pleasant. They were more likely to perceive it to be sensitive, thought-provoking, and upsetting. Female participants were more likely to believe that they had changed their behaviour because of the TAC advertising program.

Table 10: Differences Between Males and Females on General Items Concerning the TAC Approach

Item	Mean Ratings		Statistical Test Results
	Females	Males	
Anxious about own safety on the road	7.4	5.2	$F_{(1,82)} = 4.4$, $p = .04$
Anxious about safety of others on the road	8.4	7.4	$F_{(1,82)} = 4.1$, $p = .05$
Sees self as a careful driver	8.3	6.9	$F_{(1,82)} = 5.8$, $p = .02$
Takes care when Police are around	7.9	7.7	$F_{(1,82)} = 5.3$, $p = .02$
TAC approach is cheerful	0.4	0.9	$F_{(1,82)} = 22.2$, $p < .01$
TAC approach is humorous	0.3	0.9	$F_{(1,82)} = 11.3$, $p < .01$
TAC approach is pleasant	0.4	1.2	$F_{(1,82)} = 14.8$, $p < .01$
TAC approach is sensitive	5.2	3.7	$F_{(1,82)} = 4.3$, $p = .04$
TAC approach is thought-provoking	9.3	7.9	$F_{(1,82)} = 5.5$, $p = .02$
TAC approach is upsetting	7.7	5.6	$F_{(1,82)} = 6.6$, $p = .01$
Driving behaviour affected by TAC advertisements	6.8	5.5	$F_{(1,82)} = 4.8$, $p = .03$
Takes more care as a result of TAC advertisements	7.3	5.5	$F_{(1,82)} = 4.2$, $p = .04$

Table 11: Differences Between Groups of Participants on General Items Concerning the TAC Approach

Item	Mean Ratings				Statistical Test Results
	Drink-Drivers	Speeders	Restraint Non-Users	Other Drivers	
Drives more slowly when Police are around	8.3	8.2	8.3	5.2	$F_{(3,82)} = 4.2$, $p < .01$
Takes care when Police are around	8.5	8.6	7.5	5.2	$F_{(3,82)} = 6.9$, $p < .01$
TAC approach is cheerful	0.6	0.7	0.7	0.7	$F_{(3,82)} = 3.5$, $p = .02$
TAC approach is complicated	1.8	3.1	2.1	0.7	$F_{(3,82)} = 3.1$, $p = .03$

Drivers who were assigned to the non-offender group were less likely to change their behaviour in the presence of Police activity than were participants in the three offender groups. Drink-drivers rated the advertising approach as less cheerful than the other groups. The complexity of the TAC approach was rated highest by the speeders, moderately by the drink-drivers and restraint non-users, and lowest by the non-offenders.

Detailed Analysis of Advertisements

The data collected for this component of the TAC publicity project provided an opportunity to investigate a number of aspects of the TAC advertising program.

Appendix B contains detailed results for each attitude item. The results presented below use the factor scores derived from these items (in the factor analysis reported above) as a way to simplify the discussion.

Reactions to each advertisement were measured using a series of rating scales. The rating scales were completed once based on the participants' recollections of their reactions to the advertisement when it was first aired and once after viewing the advertisement. The ratings based on recalled reactions were included to assess the way in which perceptions of the material had changed over time.

Figure 4 shows the percentage of respondents who could recall each advertisement. Recall after using the fifth recall prompt was not included as this prompt described the advertisement in detail. It was not possible to be certain that the participant could recall the advertisement or whether they were simply reciting the story as told in the prompt.

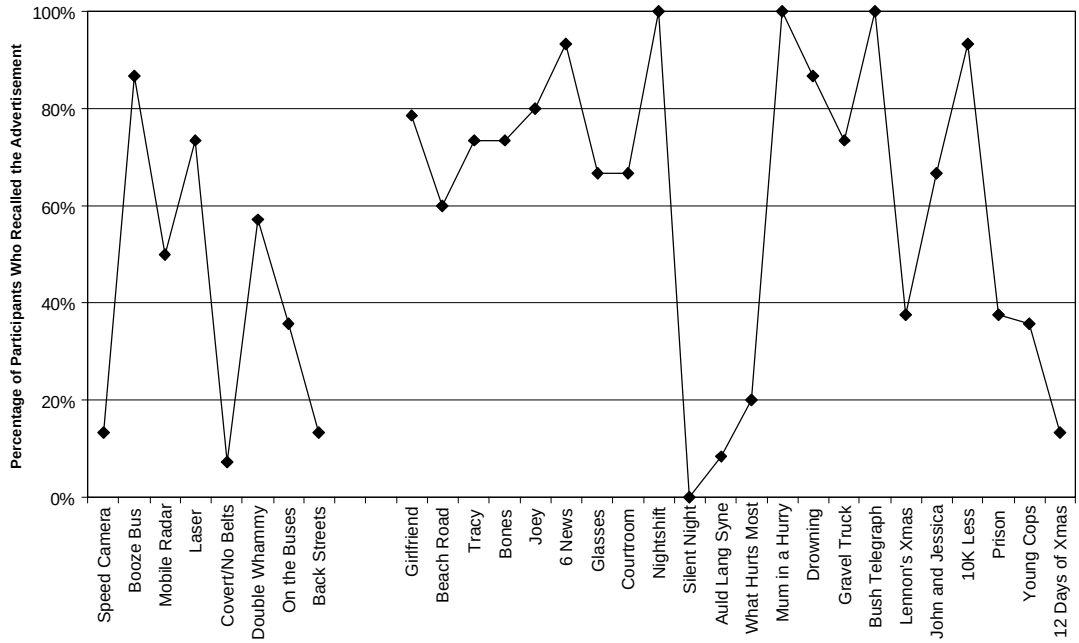


Figure 4: Percentage Recall for the Advertisements

Figure 4, as is the case throughout the report, presents responses to the advertisements with the two clusters (enforcement and emotive) separated.

The results in Figure 4 show that there was a wide range of recall rates. Advertisements such as the Christmas advertisements (*Auld Lang Syne*, *Silent Night*, *Twelve Days of Christmas*) had very poor recall, while strongly graphic advertisements (such as *Nightshift*, *Mum in a Hurry*, *Bush Telegraph*, and *10K Less*) had very strong recall.

Participants were also asked to rate how confident they were that their reactions to the advertisement during the recall phase of the assessment were an accurate reflection of their response to it when it was first aired. Responses to this item are shown in Figure 5, excluding those advertisements where less than 20% of respondents recalled the advertisement as these mean confidence ratings were considered to be unreliable. This approach to the recall-based assessment was used throughout the remainder of the report - where the response rate was below 20%, recall-based data for that advertisement are not reported.

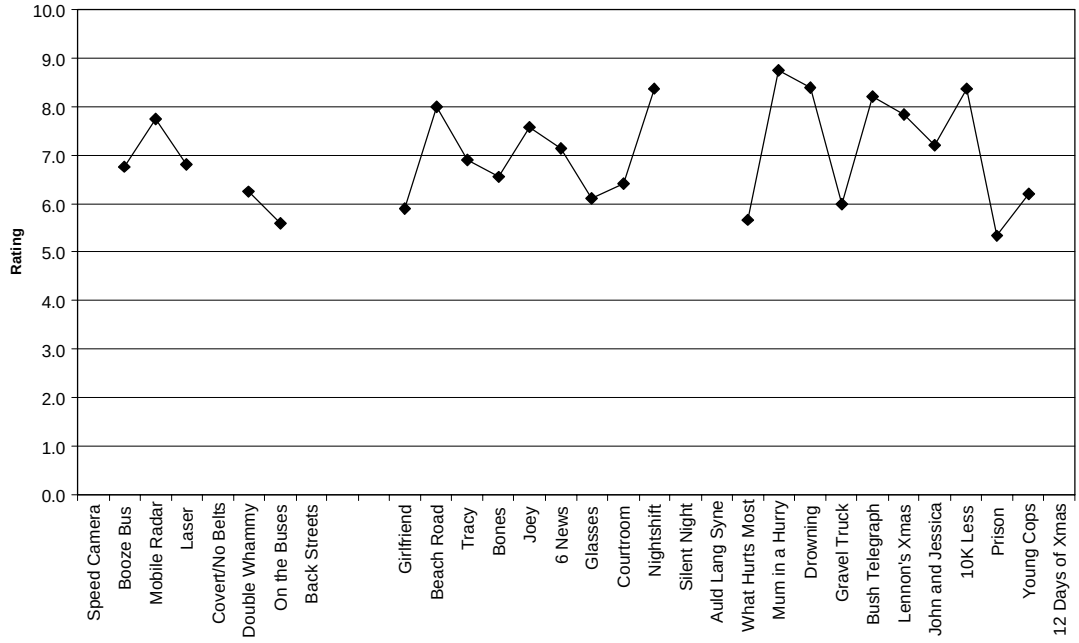


Figure 5: Ratings of Confidence of Recall

In general, participants who could recall specific advertisements believed that their responses to the assessment items were a reasonable reflection of their reactions to the advertising material at the time they saw it on television. No mean confidence ratings were below 5, and the mean rating was 7.1.

To help simplify the comparison of recall-based and viewing-based responses, a factor analysis of the recall-based responses to the 34 assessment items was conducted, specifying the extraction of six factors. The six factors accounted for 63.3% of the item variance. After oblique rotation, the factors were similar to those discussed above for the viewing-based responses to the same items. Table 12 shows the factor loadings after rotation of the factors.

It is clear in Table 12 that, apart from some movement of items between factors, the six descriptions suggested for the viewing-based responses could apply to the underlying factors identified for the recall-based responses:

- Factor I: Similar to Factor I in the viewing-based assessment, this factor represents a cognitive response to the perceived seriousness of the message in the advertisement.

- Factor II: Similar to Factor II in the viewing-based assessment, this factor represents an emotional response to the perceived pleasantness of the advertisement,

- Factor III: Similar to Factor III in the viewing-based assessment, this factor represents a cognitive response to the perceived irresponsibility in the content of the advertisement.

- Factor IV: Similar to Factor IV in the viewing-based assessment, this factor represents a cognitive response to the perceived simplicity of the advertisement.

- Factor V: Similar to Factor VI in the viewing-based assessment, this factor represents a cognitive response to the originality and information content of the advertisement.

- Factor VI: Similar to Factor V in the viewing-based assessment, this factor represents a response to the perceived emotionality of the advertisement.

Table 12: Factor Loadings for the Recall-Based Responses to Advertisements (Loadings less than .3 not shown)

	I	II	III	IV	V	VI
Frank	.858					
Serious	.79					
Rational	.777			.347		
Responsible	.700					
Realistic	.641					
Forceful	.603					
Tough	.568		.346			
Thought-provoking	.488				-.324	
Cheerful		.825				
Pleasant		.803				
Likeable		.788				
Humorous		.745				
Cold			.726			
Cruel			.687			
Irresponsible			.465			.312
Aggressive			.403		-.368	
Simple				.714		
Complicated				-.548		
Dull				.459		
Informative					-.887	
Beneficial					-.844	
Important					-.698	
Helpful					-.511	
Original				-.307	-.484	
Clever				-.344	-.483	
Effective	.368				-.436	
Practical	.424				-.43	
Positive		.312			-.429	
Confusing		.322	.361		-.41	
Sensitive						.736
Emotional						.708
Upsetting						.703
Frightening						.539
Daring						.313

The similarity of the results in the two factor analyses led to the use of factor scores on these six factors as a way to compare the recalled and viewed responses of participants to the advertisements. Thus, factor scores were calculated for the 6-factor solution outlined in Table 12, and the mean factor scores for the recall-based assessment were compared to those from the viewing-based assessment outlined earlier. Means for Factor V in the viewing-based assessments were reversed (as noted above) to make the signs of both data sets the same, so that high means in both the recall- and viewing-based responses represented high levels of perceived emotionality. Similarly, the signs of factor scores on the perceived originality / information content factor in both analyses were reversed so that high scores indicated a high level of originality and information content.

The recall- and viewing-based mean factor scores on the perceived seriousness factor are shown in Figure 6.

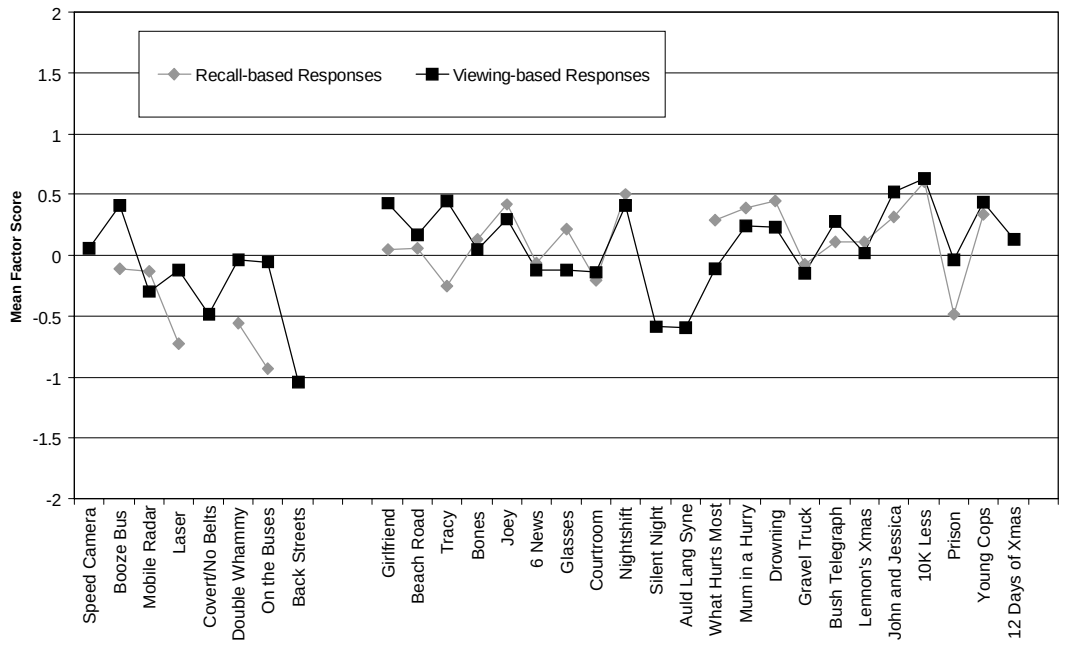


Figure 6: Perceived Seriousness of Advertisements from Recall- and Viewing-Based Responses

The results in Figure 6 suggest:

- With the exception of the two Christmas compilations (*Silent Night* and *Auld Lang Syne*) and the *Booze Bus* advertisement, it was generally the case that the emotive cluster of advertisements was perceived to be more serious than the enforcement cluster.

- The recall-based and viewing-based factor scores are similar for most of the advertisements.

Figure 7 shows the mean factor scores for recall- and viewing-based responses for the perceived pleasantness factor.

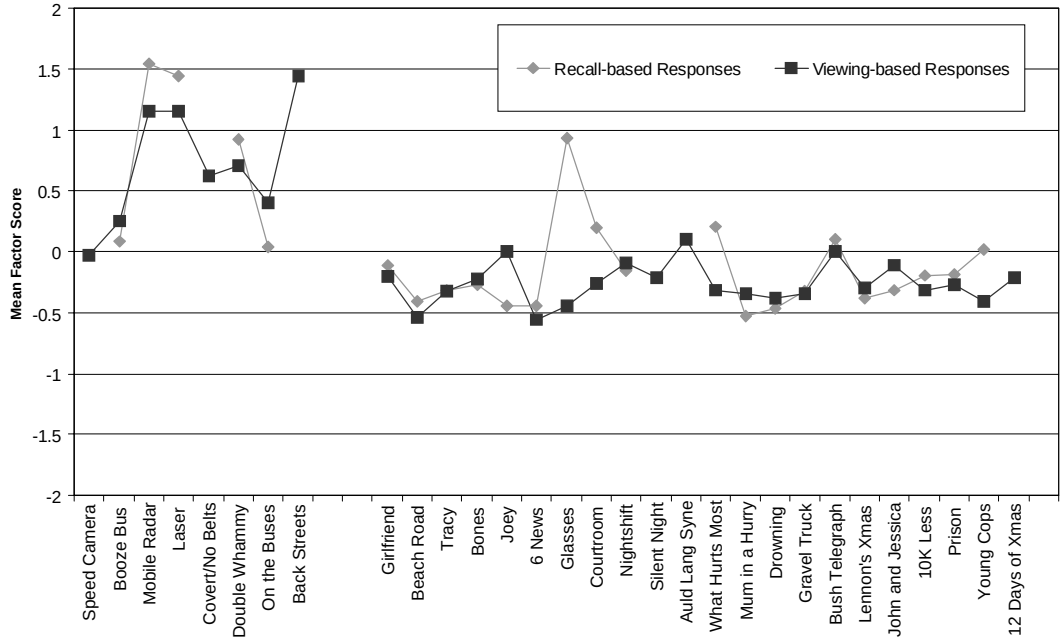


Figure 7: Perceived Pleasantness of Advertisements from Recall- and Viewing-Based Responses

The results shown in Figure 7 suggest:

- The enforcement style advertisements were more likely to produce relatively positive emotional responses (such as cheerfulness, happiness) than were the emotive advertisements. This is not surprising given the graphic nature of some of the emotive material. Is should be noted, of course, that the mean factor scores express relative responses rather than average responses. It would be fair to say (see graphs presented in Appendix B) that none of the advertisements were viewed as cheerful or pleasant in an absolute sense.

- The recalled and viewed responses were similar in all cases except for the *Glasses* advertisement, where it was recalled to be relatively pleasant but viewing the advertisement resulted in a substantial reduction in the mean factor score. This is most likely the result of failing to recall the ending of the advertisement, where there is an emotive response from a bystander. Seeing this during the viewing of the advertisement may have resulted in a reduction in the perceived pleasantness of the advertisement.

The recall- and viewing-based mean factor scores on the perceived irresponsibility factor are shown in Figure 8.

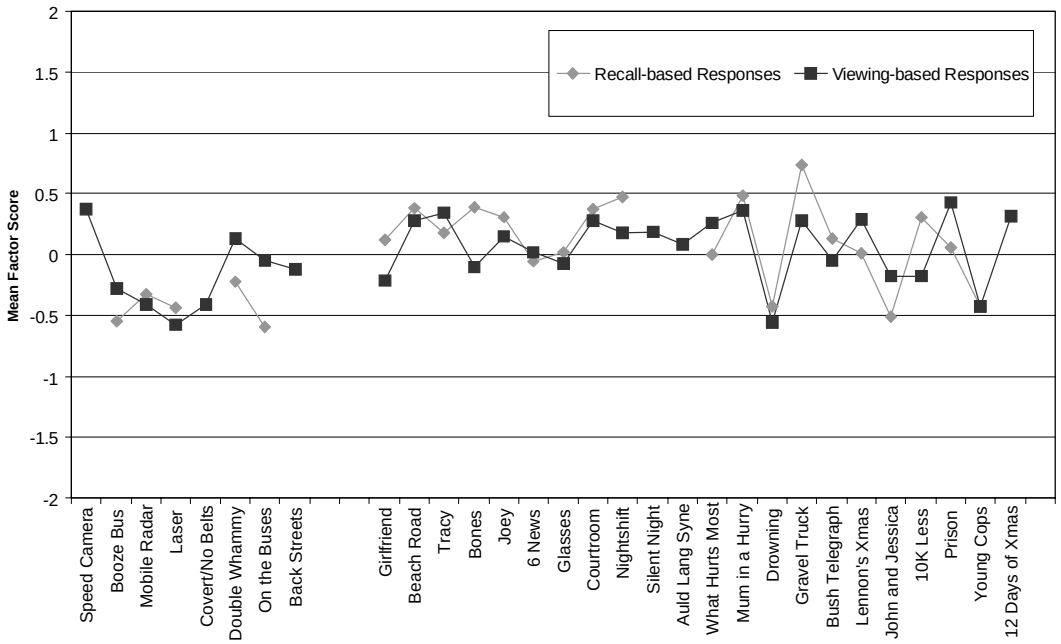


Figure 8: Perceived Irresponsibility in Advertisements from Recall- and Viewing-Based Responses

The factor portrayed in Figure 8 was difficult to interpret. It will be recalled that the factor included loadings from ratings of coldness, cruelty, and irresponsibility. The data in Figure 8 suggest that the highest mean factor scores for this factor were associated with *Speed Camera*, *Prison*, *Tracy*, *Mum in a Hurry*, and *Twelve Days of Christmas*. These advertisements have an element of portraying the consequences of unsafe behaviour for people who might be perceived as innocent. *Prison* is about the consequences for a family, *Tracy* incorporates the serious injury or death of the friend of a driver, *Mum in a Hurry* includes consequences to a child and his mother, and *Twelve Days of Christmas* focuses strongly on family consequences. The *Speed Camera* advertisement does not sit easily with this group, except that it includes an element of discussion about the injury-related consequences of speeding.

It may be that this factor represents the cruelty of the consequences to innocent people, and/or the irresponsibility of one or more main characters in the advertisement measured by the consequences for others. *Drowning* is an odd advertisement in this context. Although it has a relatively low mean factor score on this factor, its message is the consequence for a family in a fatigue-related crash. It is possible, however, that the focus of the advertisement (which is really on the panic and response of the driver of the vehicle) may shift perceptions towards the consequences for the unsafe driver.

The results in Figure 8 suggest that the recall-based responses were similar to the viewing-based responses.

The recall- and viewing-based mean factor scores on the perceived simplicity factor are shown in Figure 9.

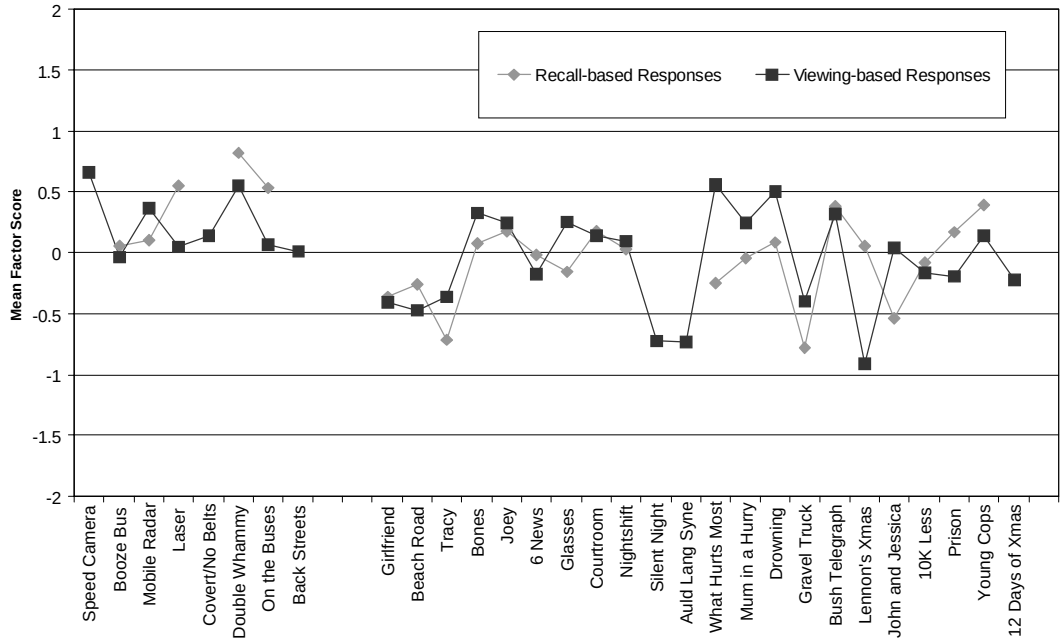


Figure 9: Perceived Simplicity of Advertisements from Recall- and Viewing-Based Responses

The data presented in Figure 9 suggest:

- A number of advertisements were perceived to be relatively simple, including *Speed Camera*, *Double Whammy*, *What Hurts Most*, and *Drowning*. The Christmas compilations (*Silent Night*, *Auld Lang Syne*, and *Lennon's Christmas*) were perceived to be less simple than the other advertisements.

- The advertisements in the enforcement cluster tended to be perceived as simpler than those in the emotive cluster.

- There was very little difference between mean factor scores derived from the recall-based responses and the viewing-based responses. The only exception to this appears to be *Lennon's Christmas*, which was perceived to be less simple after viewing the advertisement. In Lennon's Christmas, the message and the use of Lennon's music make the advertisement both simple and memorable, but the advertisement itself is quite complex - both structurally and visually - most likely resulting in lower simplicity scores after viewing the material.

The recall- and viewing-based mean factor scores on the perceived emotionality factor are shown in Figure 10.

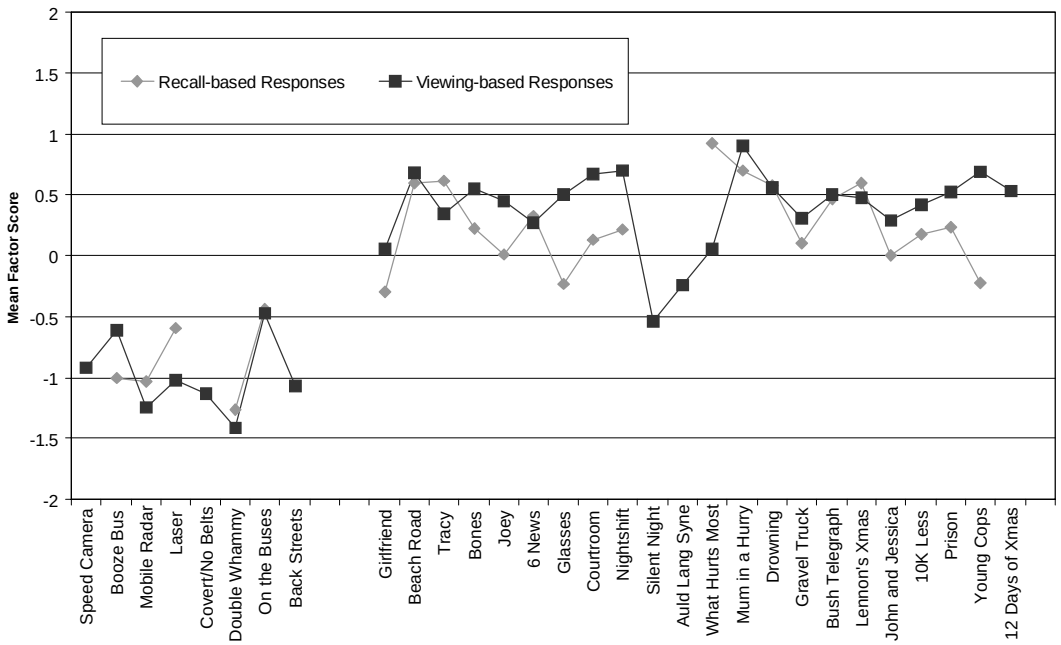


Figure 10: Perceived Emotionality of Advertisements from Recall- and Viewing-Based Responses

The data shown in Figure 10 suggest:

- The emotive cluster of advertisements was perceived to have a higher level of emotionality than the enforcement cluster.

- Some advertisements in the emotive cluster received relatively low emotionality scores, including *Silent Night*, *Auld Lang Syne*, *What Hurts Most*, and *Girlfriend*.

- Where there were differences between the viewing-based and recall-based mean factor scores in the emotive cluster there were increases in perceived emotionality. *Young Cops*, *Joey*, and *Glasses* all appeared to increase in perceived emotionality with viewing the advertisement. In these advertisements there is an emotive ending that may not have been recalled by participants in their initial recall-based rating of the advertisement.

- Some of the differences between the emotionality ratings may relate to the level of character development in the advertisement, or the extent to which viewers are able to identify with a particular character. The opportunity for this to occur in the Christmas compilations and the enforcement advertisements is limited.

The recall- and viewing-based mean factor scores on the perceived originality / information factor are shown in Figure 11.

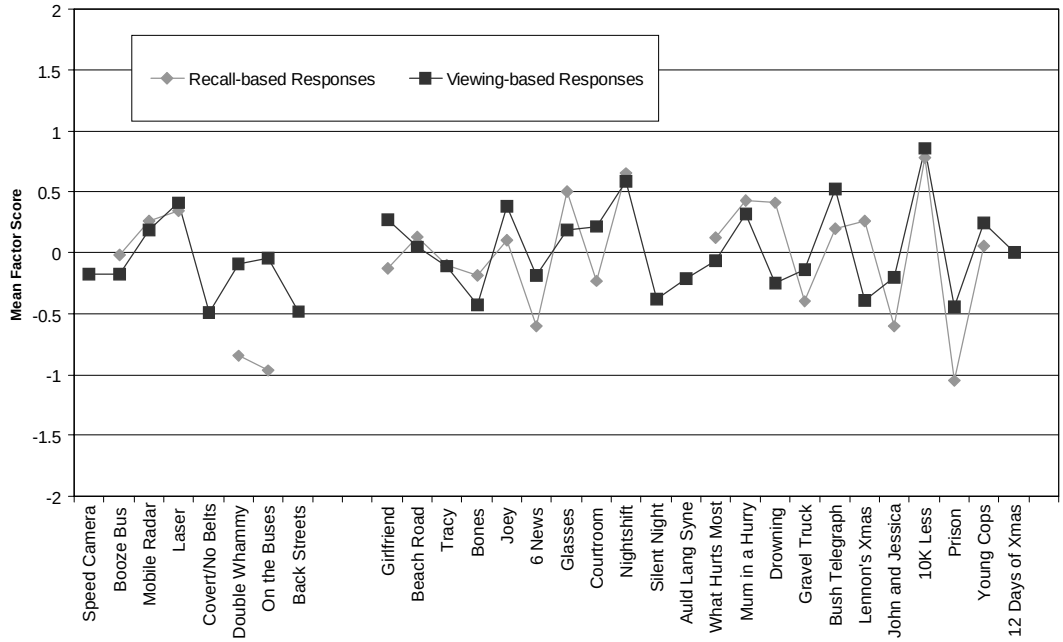


Figure 11: Perceived Originality or Information Content of Advertisements from Recall- and Viewing-Based Responses

The results in Figure 11 suggest:

- The differences in viewing-based factor scores on the originality/information factor between the enforcement and emotive clusters were relatively small.
- Advertisements with relatively high scores on this factor included *10K Less*, *Nightshift*, *Bush Telegraph*, and *Laser*.
- There was a large increase in mean scores on this factor after viewing *Double Whammy* and *On the Buses*. Otherwise, the mean factor scores for viewing-based and recall-based assessments were very similar.
- The highest-scoring enforcement advertisements (*Laser* and *Mobile Radar*) were both associated with the introduction of new enforcement tools.

As noted above, the advertisements were each rated in terms of their credibility, relevance, and perceived effect on the participant's behaviour. The effect-on-behaviour rating was also made as part of the recall-based assessment, relating to the recalled effect of the advertisement. The effect-on behaviour ratings are shown in Figure 12, and the credibility and reality ratings are shown in Figure 13 (for the viewing-based ratings, with the viewing-based effect ratings included for comparison).

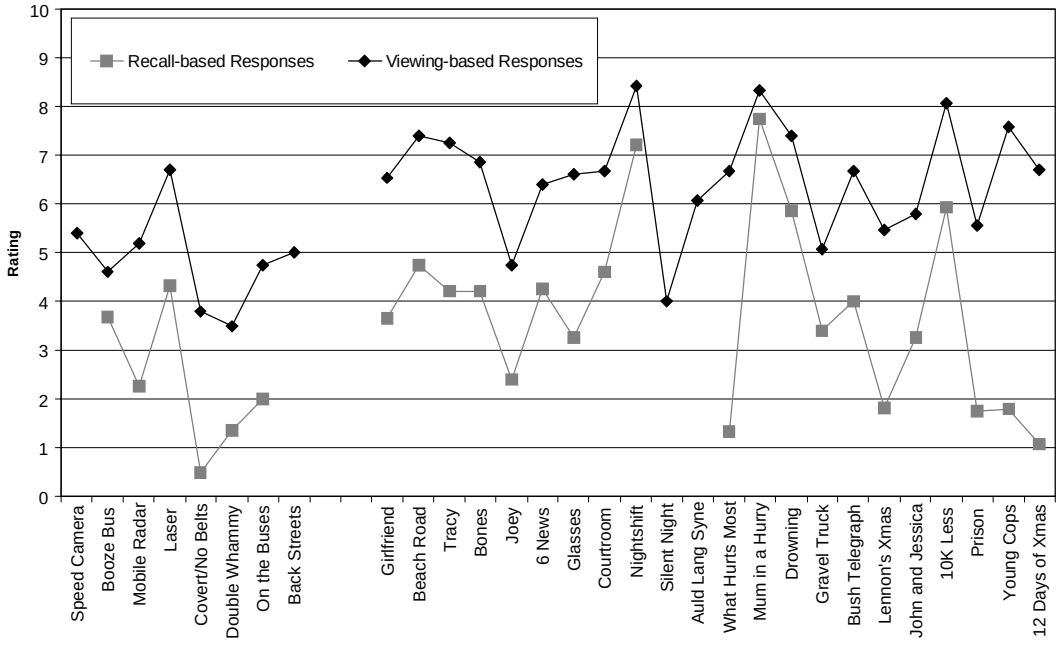


Figure 12: Ratings of Recalled Effect on Behaviour (Recall-based Responses) and Beliefs About Likely Effect on Behaviour (Viewing-based Responses)

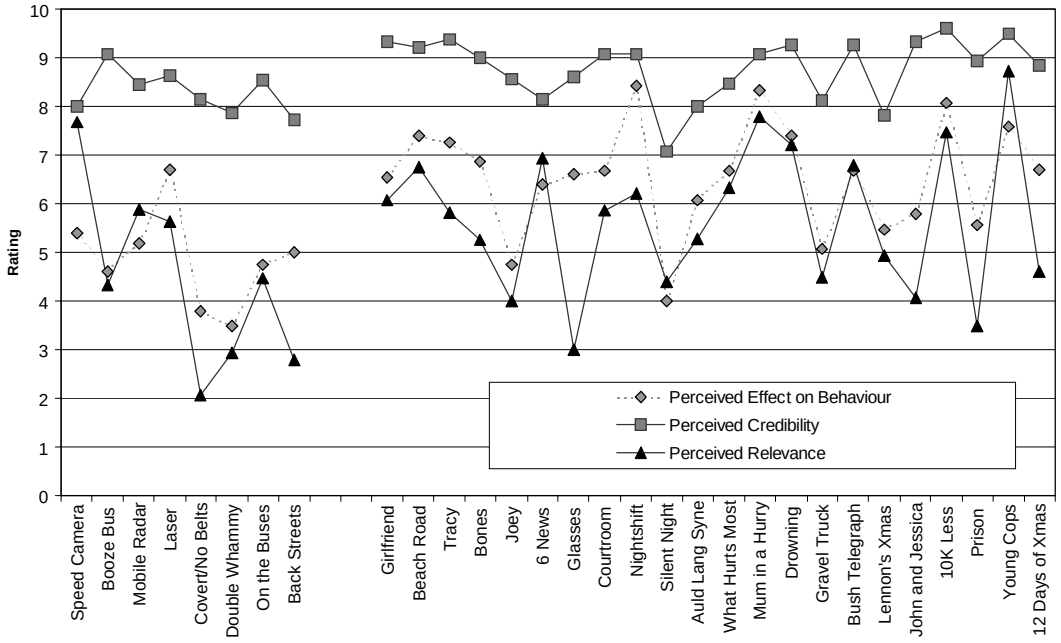


Figure 13: Perceived Credibility, Relevance, and Effect on Behaviour

A number of features of the data shown in Figure 12 are worth noting:

- The ratings of the likely effect on driving behaviour based on current viewing of the advertisement are quite varied. The advertisements judged to be least likely to influence the participants' behaviour were *Covert/No Belts*, *Double Whammy*, and *Silent Night*. *Mum in a Hurry*, *10K Less*, and *Nightshift* were rated the most likely to influence participants' driving behaviour.

- Enforcement cluster advertisements were rated less likely to influence behaviour than were the emotive cluster advertisements.

- In almost all the advertisements, recalled ratings of the effect of the advertisement on behaviour were substantially lower than the ratings given after viewing the advertisement. It is possible that this difference reflects participants forgetting the impact of the advertisements on their behaviour originally. This is supported by the smaller differences in advertisements such as *Mum in a Hurry* and *Nightshift*, which were both recalled by 100% of respondents. It is likely that highly graphic advertisements such as these with strong self-reported behavioural effects would be remembered as having a strong effect on behaviour when first viewed.

- The pattern of responses was similar for both the recall-based and viewing-based responses. This consistency suggests that participants were able to remember the relative effects of the different advertisements, and that their forgetfulness was most likely limited to the absolute strength of the effect of the advertisements on their behaviour rather than which advertisements had the strongest and weakest effects.

In Figure 13, showing perceived credibility and relevance:

- All the advertisements were viewed as credible by participants. The least credible was *Silent Night*.

- There were no clear differences between the credibility of the enforcement and the emotive advertisements.

- The perceived relevance of the advertisements was quite variable, broadly following the pattern of responses to the perceived-effect-on-behaviour item. The least relevant items were the drink-driving advertisements (eg. *Covert/No Belts*, *Glasses*, *Prison*, *Back Streets*, *Double Whammy*, and *Joey*) and the most relevant were the speed advertisements (eg. *Young Cops*, *Speed Camera*, *Mum in a Hurry*, and *10K Less*) and the fatigue advertisement (*Drowning*) which has a strong family focus.

The potential effects of group membership and theme on the perceived effectiveness, credibility, and relevance of the advertisements was assessed using multivariate analysis of variance. Figure 14 shows the mean ratings on these items by group and theme.

There were no significant group by theme interactions on any of the measures. These would have occurred if, for example, the drink-driving advertisements were perceived to be more relevant, credible, or effective to the drink-drivers in the sample. The absence of interaction effects suggests that this specificity of effect based on the theme of the advertisement may not

occur. This would be consistent with the emphasis on style in the cluster analysis, where advertisements were grouped by participant responses into emotive and enforcement advertisements regardless of the theme of the advertisement.

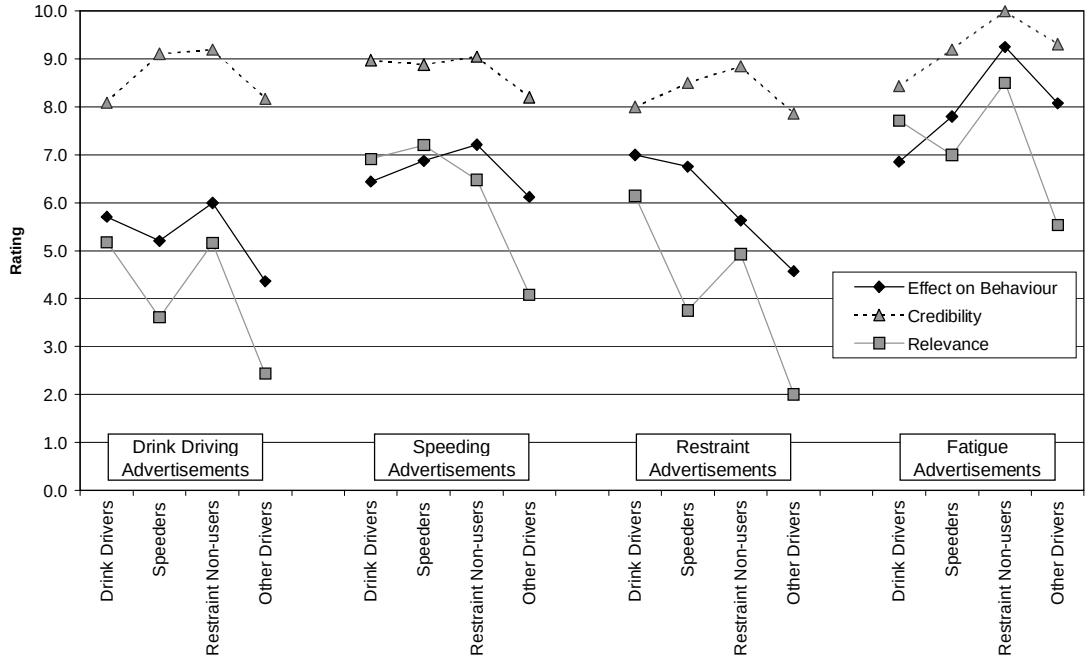


Figure 14: Effect of Group Membership and Advertising Theme on Credibility, Relevance, and Perceived Effect on Behaviour

There were a number of main effects. The perceived effect of the advertisement on behaviour depended on the theme of the advertisement ($F_{(3,434)} = 8.5$, $p < .001$). Figure 14 suggests that the fatigue advertisements were perceived to have the greatest effect on behaviour, and the drink-driving advertisements the least effect. The credibility of the advertisements depended on group membership ($F_{(3,434)} = 3.0$, $p = .03$), with restraint non-users consistently reporting the advertisements to be more credible than other participants, and drink-drivers and other drivers reporting them to be relatively less credible.

The perceived relevance of the advertisements depended on both theme ($F_{(3,434)} = 12.5$, $p < .001$) and group membership ($F_{(3,434)} = 8.0$, $p < .001$). Relevance was highest for the fatigue advertisements and lowest for the drink driving advertisements, and was much lower for the other drivers than for those admitting to speeding, restraint non-use, or possible drink-driving. The relationship between group membership and relevance suggests that the advertisements are perceived as relevant by potentially higher-risk drivers, but again this was independent of advertising theme.

Additional analyses of the factor scores and the responses to individual rating items by participants in the four groups were unable to detect any significant interactions between group membership and advertisement theme. This most likely reflects the lack of independence of the three offender groups rather than any lack of specific effect of the advertisements on particular behaviours. As was discussed earlier, it is possible that people allocated to one offender group were also likely to engage on other, unsafe driving behaviours. This would be consistent with what is generally known about consistent patterns of driving behaviour within individuals, and

would have the effect of reducing the size of differences between the three offender groups. This explanation was supported by further analysis which indicated that there were no differences in self-reported drink-driving offences between the four groups, and that the offender groups were all detected speeding significantly more often than the non-offenders but amongst offenders it was the drink-drivers with the worse speeding record rather than the speeders. It was therefore considered inappropriate to draw conclusions based on group membership.

GENERAL DISCUSSION

The data collected during this investigation of audience perceptions of TAC advertising are a rich source of information about current and past advertising material and, therefore, a potential source of guidance for the development of new advertising material. This section of the report summarises the important features of the results presented above and provides a discussion of the implications of the results, both for the development of advertising material and for future research into the effectiveness of public education in the road safety area.

Key Findings

The important findings arising from this study were:

- The general attitude towards the TAC approach to road safety advertising was measured using the same rating scales used for subsequent measurement of the specific attitudes to individual advertisements. The responses of participants were generally positive, with the approach seen as practical, serious, thought-provoking etc. Items suggesting a less positive attitude (such as confusing, complicated, dull, cruel) received low levels of agreement. This result is important as it suggests a general acceptance of the approach developed by the TAC in spite of the perception (assessed here as well) that the approach is tough, frightening, and emotional.

- The general attitude towards the TAC approach was consistent with the average responses to specific advertisements. This suggests that the general attitudes are a product of specific responses to the individual advertisements, perhaps summed or averaged over many instances of exposure to the material.

- Six types of responses were identified in the factor analysis. Two of them were emotional in nature, representing reactions to the positive and uncomfortable emotional content of the advertisements respectively. The remaining four were more cognitive in nature, representing reactions to the seriousness of the content, the simplicity of its delivery, content that included an element of irresponsibility, and the originality of the advertisement and its information content.

- A relationship between these factors and self-reported behavioural change was also identified, such that the likelihood of an advertisement resulting in a behaviour change was associated with its originality or information content and its ability to evoke uncomfortable emotions. In as far as self-reported behaviour is a good estimate of likely behavioural effects, this is a strong indicator that the TAC approach to advertising is successful, especially recently where advertisements have combined emotive and informative material (eg. *10K Less*). The most effective advertisements in terms of self-reported behaviour change were *Nightshift*, *Mum in a Hurry*, and *10K Less*. The least successful were *Silent Night*, *Double Whammy*, and *Covert/No Belts*.

- The results of this analysis also suggested that emotive content and the provision of information need not occur together for an advertisement to be perceived as effective. There were a number of advertisements with one or the other that were perceived to be successful, and it is not unreasonable to suggest that a strong focus on one or the other in an

advertisement may over-ride the loss in effectiveness that could result from not having the other.

- The mean factor scores of advertisements on the six summary-factors were quite variable. High and low scoring advertisements are shown in Table 13.

Table 13: Summary of High and Low Scoring Advertisements

Factor	Low-Scoring Advertisements	High-Scoring Advertisements
Perceived Seriousness	Back Streets Silent Night Auld Lang Syne	10K Less John and Jessica
Perceived Pleasantness	6 O'Clock News Beach Road	Back Streets Mobile Radar Laser
Perceived Irresponsibility in the advertisement	Drowning Laser	Prison Speed Camera Mum in a Hurry
Perceived Simplicity	Lennon's Christmas Auld Lang Syne Silent Night	Speed Camera Double Whammy What Hurts Most
Perceived Emotionality	All the Enforcement Ads Silent Night Auld Lang Syne	Mum in a Hurry Nightshift Beach Road
Perceived Originality or Information Content	Covert/No Belts Back Streets Prison	10K Less Nightshift Bush Telegraph

- The cluster analysis suggested that emotional content in advertisements is an important perceptual dimension for drivers. The participants responded to the advertisements in a way that resulted in a primary division in terms of the style of the advertisement such that advertisements with any emotive content were perceived as different to the enforcement advertisements.

- The advertisements included in the emotive cluster were generally perceived to be more serious, less pleasant, and more emotional than those in the enforcement cluster. They were also perceived to be more effective (in terms of self-reported behaviour change) and were generally more relevant and credible, although there was a lot of variation between advertisements on these measures.

- The ability of participants to recall specific advertisements was poor for some advertisements and stronger for others. The Christmas advertisements (eg. *Silent Night*,

Auld Lang Syne, and *Twelve Days of Christmas*) were poorly recalled, as were three of the enforcement advertisements (*Covert/No Belts*, *Speed Camera*, and *Back Streets*). Some advertisements were very well recalled (eg. *Nightshift*, *Mum in a Hurry*, *Bush Telegraph*, *10K Less*, and *6 O'clock News*). Where participants could recall advertisements, they were generally confident that they could recall their early reactions to them.

- The factor analysis results noted above for the viewing-based responses were repeated with the recall-based responses, and a similar underlying pattern was noted. Comparison of the recall-based mean factor scores for each advertisement and the viewing-based factor scores suggested that participant's responses to the advertisements had not changed substantially over time. Further, examination of the responses to specific items for each advertisement (graphs in Appendix B) suggests that responses at this level have not changed over time. This suggests either that there has been little fall-off in attitudinal responses to the advertisements, or that participants were responding to the mental image or internal representation of the advertisement now in the same way that they respond to the actual advertisement. Either explanation is positive from the TAC perspective. If there has been little change in response to the advertisements over time, this suggests that the TAC advertisements may still have the power to influence drivers as they did when first used. If this result reflects responses based on the recalled advertisement in memory, it suggests that recalling TAC advertising material has as strong an effect as re-exposure to it. Thus materials that result in recall of earlier material may be useful from a road safety point of view.

- The participants' beliefs about the original impact of the advertisements on their behaviour differed substantially from their current rating of the likely effect of the advertisement on their behaviour. In each case, participants' recollections about the effect of the advertisement were less than their beliefs about how having just viewed the advertisement might influence their driving behaviour. This may reflect a failure to remember the magnitude of their behavioural response to the advertisement. The relative effects of the advertisements (compared to each other) were consistent, suggesting that this is a plausible explanation of this result. It is also possible that the emotional and cognitive processing of the advertisement was more complete in the assessment context than it would normally be when aired on television, leading to a greater impact in the study than was the case when the advertisement was first aired. It is possible that both explanations are true, in part.

Implications

Implications for Public Education

The relationship between the perceived effect of the advertisements on behaviour and two of the factors identified in the factor analysis is an important guide for the development of road safety public education material. Participants reported that their behaviour was most likely to be affected by advertisements that were perceived as having strong emotional content and high originality or information content. Recent advertisements developed by the TAC have introduced a dual focus on emotive and instructional content in a single advertisement (eg. *10K Less*), and the responses of participants see this combination as having a large effect on their behaviour. Emotional advertisements (without a strong information content) were also perceived as effective (eg. *Mum in a Hurry*).

Thus, an important implication of this study is that continued development of the combined emotive/instructive style of advertisement is likely to have positive consequences.

The relevance, credibility, and self-reported effect of the advertisements were closely related, suggesting that taking measures to maximise credibility and relevance may be helpful. Relevance was related to the information content or originality of the advertisement and a low perceived level of pleasantness. Credibility was associated with a high level of seriousness in the advertisement. Combining these, advertisements that are perceived to be emotional, informative, serious, and unpleasant or unlikeable may be better than others. Advertisements such as *10K Less*, *Mum in a Hurry*, and *Nightshift* meet these criteria, and it is suggested that the development of new advertising material would benefit if these criteria continue to be taken into account.

The possibility that audience members can rate the content of advertisements from memory and do so accurately, suggests that the advertisements are generally (apart from some exceptions such as the Christmas advertisements and some enforcement advertisements) salient enough to be recalled vividly. This suggests that the current level of emotive content is probably appropriate, especially given the fine line between promoting emotional arousal to encourage processing of the advertising message and evoking a fear response from the audience which would interfere with further processing of the message. Participants were able to remember most of the advertisements clearly enough to assess their responses to them accurately, and to recall their behavioural response relative to their response to other advertisements.

The underlying pattern of responses to advertisements appears to be stable. The factor analysis results were very similar for the recall-based and viewing-based responses, and attitudinal responses to the general TAC approach were consistent with attitudes to specific advertisements. This stability suggests that it would be appropriate to rely on these attitudinal measures and factors in the development of new material and in the assessment of material either before release or as the basis for tracking attitudes to the material over time.

Implications for Research

There are two major implications for further research in this area:

- There is still a need to understand the psychological processes that underlie the effect of these advertisements on driving behaviour. While it is commonly believed that the effect of these advertisements is, in a sense, conscious and educative in nature, it is equally possible that the effect of the advertisements is to modify automatic processes and decision-making processes that are not necessarily available to conscious awareness. It is possible, for example, that advertising characteristics that lead to behaviour change might be quite different from those that lead to high awareness and recall, and it may also be possible that the psychological processes underlying these two outcomes are different.

  This issue needs additional research. At this point it is difficult to assess the likely effects of new advertising material scientifically, and access to a better understanding of the underlying processes would assist in this area in addition to assisting in the development of new advertisements.

- The second issue relates to tracking the results of advertising. Currently, awareness and recall surveys are the main methods used to track surveys, assuming that conscious

processes play a role in the effect of advertising on behaviour, or at least that awareness and recall serve as intermediate steps in the chain of events that leads to behaviour change. The research project reported here provides some potential for the development of a more valid method of assessing the effects of advertisements. The use of multiple attitude measures with demonstrated relationships with self-reported behaviour would be an appropriate step towards a better tracking system. Although there is a clear need to develop and trial additional items prior to use, items such as those used here could be used as the basis of a tracking system, with summary scores calculated using the factor-analysis results reported earlier.

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APPENDIX A THE ASSESSMENT INSTRUMENT

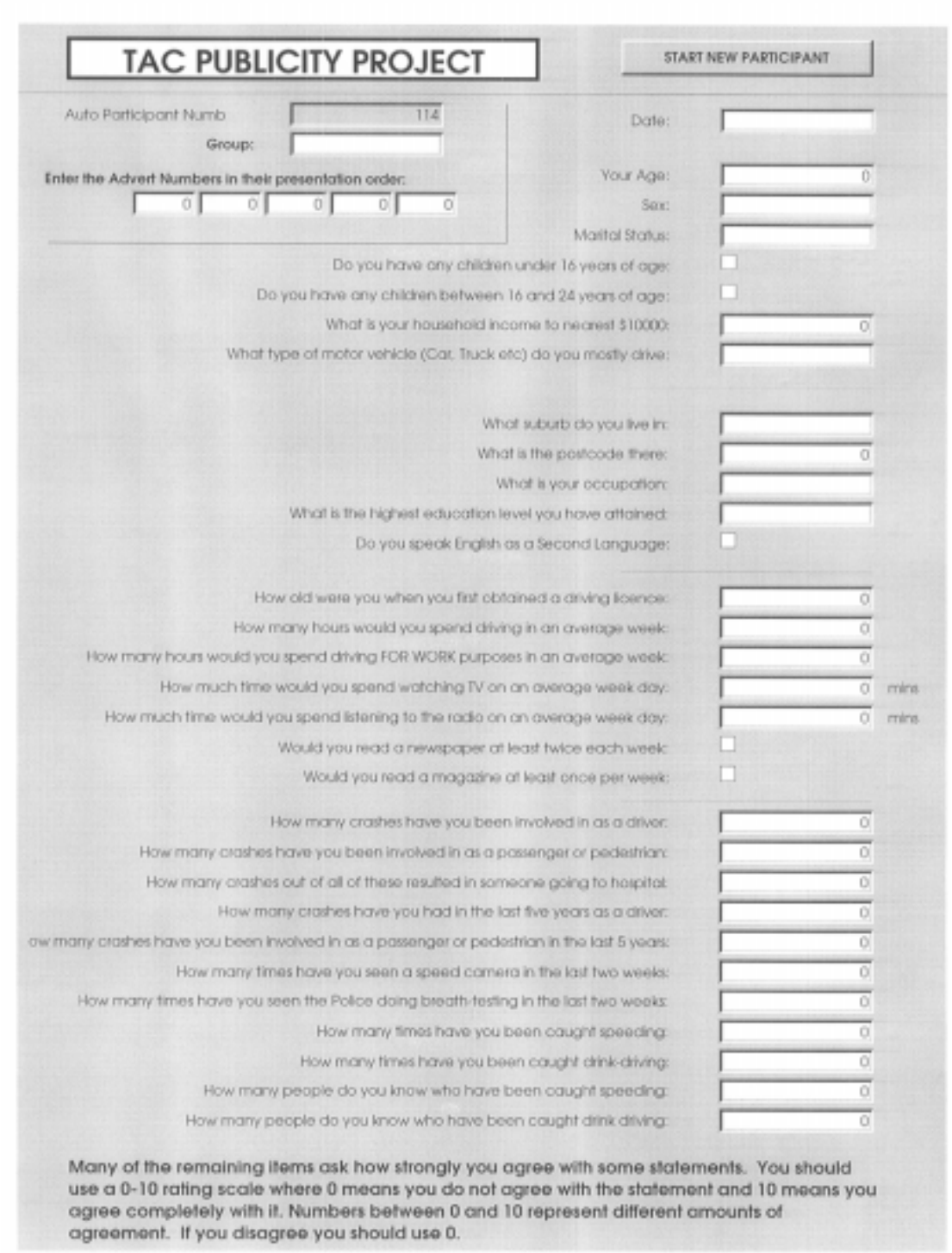
This Appendix includes a copy of the assessment instrument used to collect data from participants. The instrument was developed in Microsoft Access, and the Appendix contains three Microsoft Access forms:

- Participant Form: This form was used to collect demographic information from participants, general attitudes to some road safety issues, and responses concerning the general TAC approach to road safety advertising. It also served as the base form for the other data entry forms which were linked to it by the unique Participant Number assigned to each participant. The New Participant button cleared the form and assigned a participant number Buttons at the end of the data entry form opened the appropriate forms for entry of recall-based and viewing-based responses to specific advertisements.

- Recall Form: This form was used to collect recall-based responses to each advertisement. The Participant Form provided the automatic participant number, and the button at the end of the form returned the operator to the appropriate Participant Form.

- Viewing Form: This form was used to collect viewing-based responses to each advertisement. The Participant Form provided the automatic participant number, and the button at the end of the form returned the operator to the appropriate Participant Form.

The data entry forms included some Visual Basic code to ensure proper movement between the forms. The forms were developed on top of an Access database which was then exported to three SPSS data files (via Microsoft Excel) containing participant, recall-based, and viewing-based data respectively.



TAC PUBLICITY PROJECT

START NEW PARTICIPANT

Auto Participant Numb: 114

Group:

Enter the Advert Numbers in their presentation order:

0 0 0 0 0

Date:

Your Age: 0

Sex:

Marital Status:

Do you have any children under 16 years of age:

Do you have any children between 16 and 24 years of age:

What is your household income to nearest $10000: 0

What type of motor vehicle (Car, Truck etc) do you mostly drive:

What suburb do you live in:

What is the postcode there: 0

What is your occupation:

What is the highest education level you have attained:

Do you speak English as a Second Language:

How old were you when you first obtained a driving licence: 0

How many hours would you spend driving in an average week: 0

How many hours would you spend driving FOR WORK purposes in an average week: 0

How much time would you spend watching TV on an average week day: 0 mins

How much time would you spend listening to the radio on an average week day: 0 mins

Would you read a newspaper at least twice each week:

Would you read a magazine at least once per week:

How many crashes have you been involved in as a driver: 0

How many crashes have you been involved in as a passenger or pedestrian: 0

How many crashes out of all of these resulted in someone going to hospital: 0

How many crashes have you had in the last five years as a driver: 0

ow many crashes have you been involved in as a passenger or pedestrian in the last 5 years: 0

How many times have you seen a speed camera in the last two weeks: 0

How many times have you seen the Police doing breath-testing in the last two weeks: 0

How many times have you been caught speeding: 0

How many times have you been caught drink-driving: 0

How many people do you know who have been caught speeding: 0

How many people do you know who have been caught drink driving: 0

Many of the remaining items ask how strongly you agree with some statements. You should use a 0-10 rating scale where 0 means you do not agree with the statement and 10 means you agree completely with it. Numbers between 0 and 10 represent different amounts of agreement. If you disagree you should use 0.

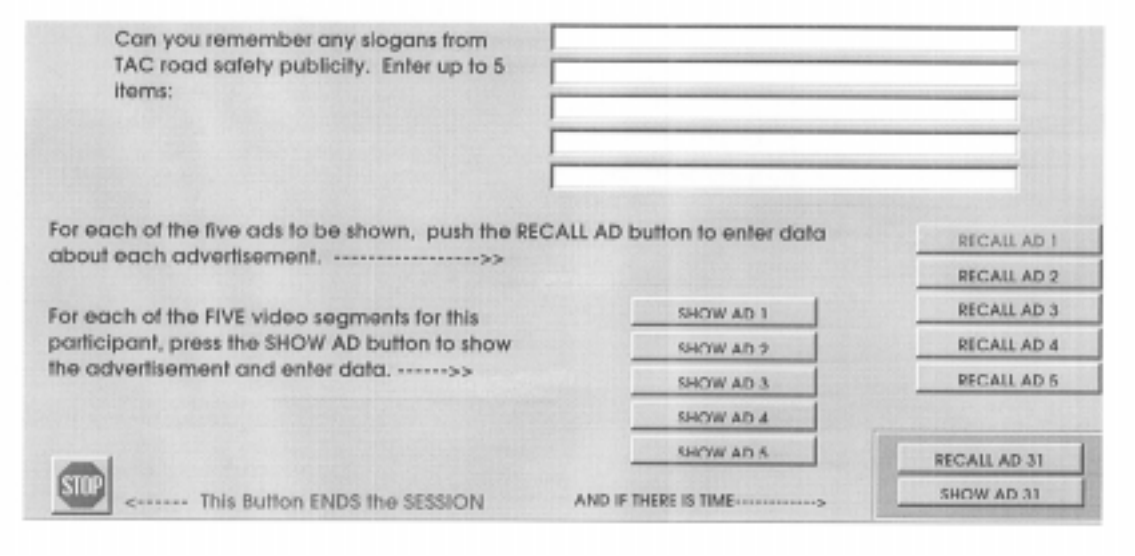
I am worried about my own safety on the road:	0
I am worried that people I care for might be hurt in a crash:	0
Road safety is one of the most important issues in our community:	0
The Government should spend more on road safety:	0
I am a very careful driver:	0
I drive within the speed limit:	0
I am worried about being stopped by the Police:	0
I am frustrated that there are so few Police on the roads:	0
The Police are an important part of the road safety effort:	0
There should be more Police involved in traffic law enforcement:	0
Seeing a police car makes me slow down:	0
I take extra care when I think there are Police around:	0

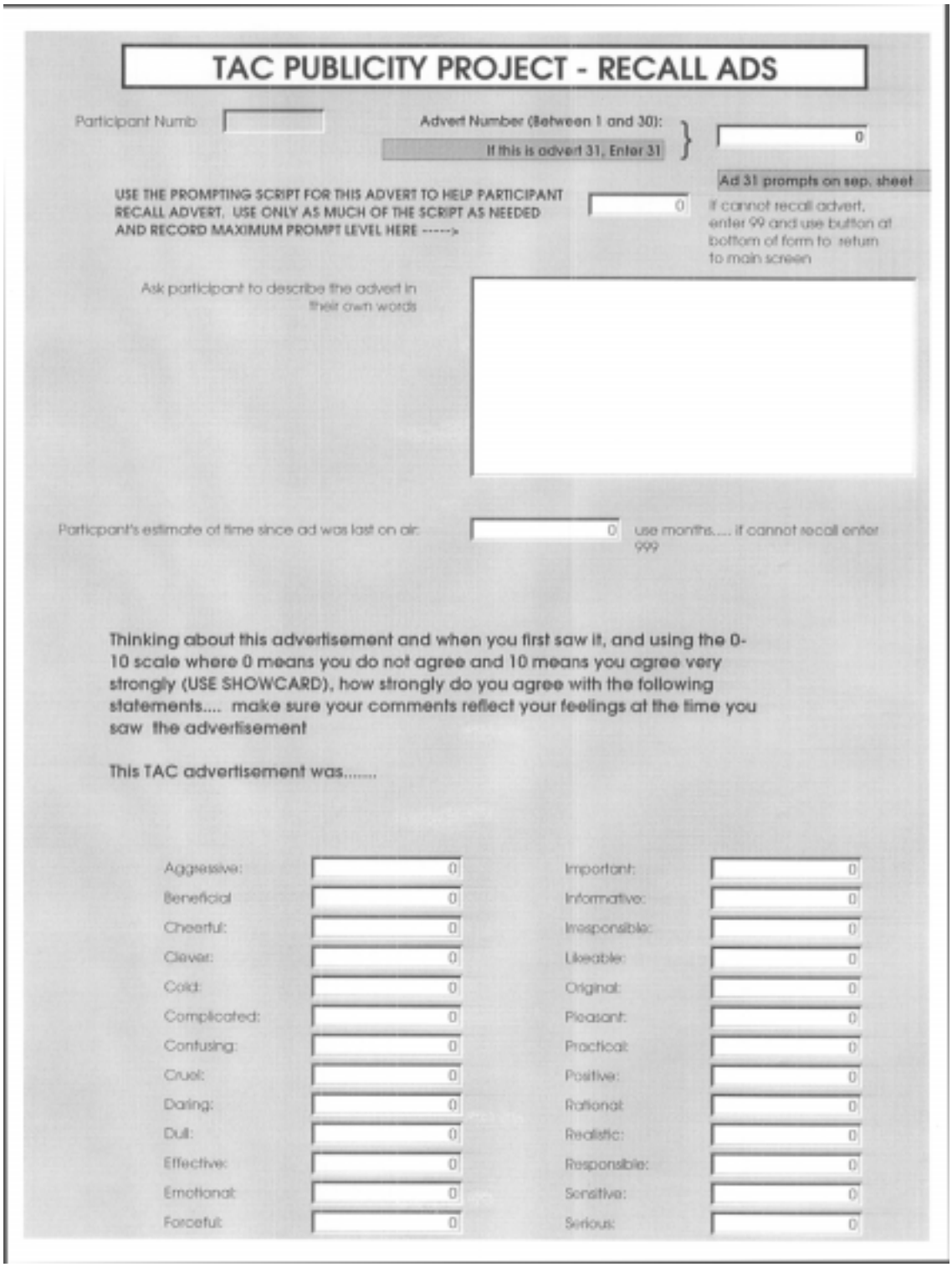
Thinking about the TAC approach to advertising and the TAC advertisements you can remember, can you please tell me how strongly you agree with each of the following..

For each.... "TAC advertisements are generally ....."

Aggressive:	0	Important:	0
Beneficial:	0	Informative:	0
Cheerful:	0	Irresponsible:	0
Clever:	0	Likeable:	0
Cold:	0	Original:	0
Complicated:	0	Pleasant:	0
Confusing:	0	Practical:	0
Cruel:	0	Positive:	0
Daring:	0	Rational:	0
Dull:	0	Realistic:	0
Effective:	0	Responsible:	0
Emotional:	0	Sensitive:	0
Forceful:	0	Serious:	0
Frank:	0	Simple:	0
Frightening:	0	Thought-provoking:	0
Helpful:	0	Tough:	0
Humorous:	0	Upsetting:	0

My driving behaviour has been affected by TAC advertisements:	0
nge channels on the TV or do something else to avoid seeing TAC advertisements:	0
I am more careful as a driver as a result of the TAC advertisements:	0
I pay attention to TAC advertisements when they are on TV:	0


Can you remember any slogans from TAC road safety publicity. Enter up to 5 items:
For each of the five ads to be shown, push the RECALL AD button to enter data about each advertisement. ---------->>
For each of the FIVE video segments for this participant, press the SHOW AD button to show the advertisement and enter data. ------>>
SHOW AD 1
SHOW AD 2
SHOW AD 3
SHOW AD 4
SHOW AD 5
RECALL AD 1
RECALL AD 2
RECALL AD 3
RECALL AD 4
RECALL AD 5
RECALL AD 31
SHOW AD 31
STOP
<------- This Button ENDS the SESSION
AND IF THERE IS TIME--------->



TAC PUBLICITY PROJECT - RECALL ADS

Participant Numb:

Advert Number (Between 1 and 30):
If this is advert 31, Enter 31
0

Ad 31 prompts on sep. sheet

USE THE PROMPTING SCRIPT FOR THIS ADVERT TO HELP PARTICIPANT RECALL ADVERT. USE ONLY AS MUCH OF THE SCRIPT AS NEEDED AND RECORD MAXIMUM PROMPT LEVEL HERE ----->
0

If cannot recall advert, enter 99 and use button at bottom of form to return to main screen

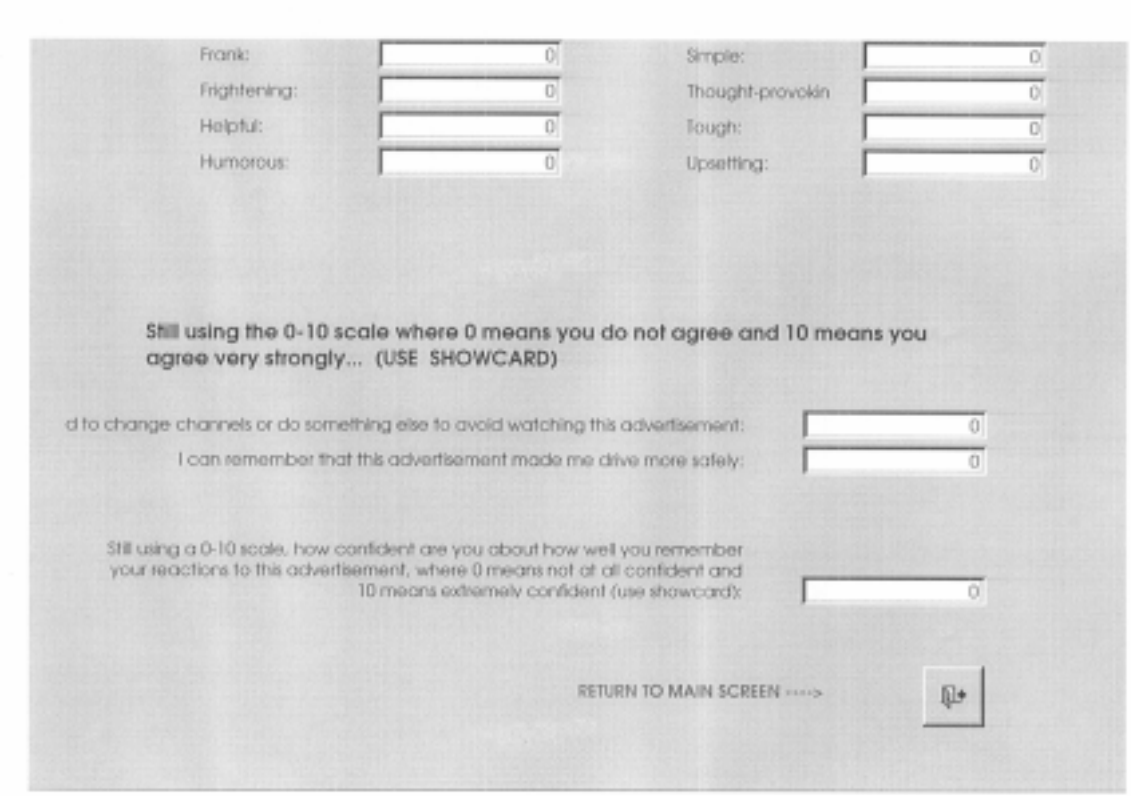
Ask participant to describe the advert in their own words

Participant's estimate of time since ad was last on air: 0 use months..... if cannot recall enter 999

Thinking about this advertisement and when you first saw it, and using the 0-10 scale where 0 means you do not agree and 10 means you agree very strongly (USE SHOWCARD), how strongly do you agree with the following statements.... make sure your comments reflect your feelings at the time you saw the advertisement

This TAC advertisement was.....

Aggressive:	0	Important:	0
Beneficial	0	Informative:	0
Cheerful:	0	Irresponsible:	0
Clever:	0	Likeable:	0
Cold:	0	Original:	0
Complicated:	0	Pleasant:	0
Confusing:	0	Practical:	0
Cruel:	0	Positive:	0
Daring:	0	Rational:	0
Dull:	0	Realistic:	0
Effective:	0	Responsible:	0
Emotional:	0	Sensitive:	0
Forceful:	0	Serious:	0


Frank: 0
Frightening: 0
Helpful: 0
Humorous: 0
Simple: 0
Thought-provokin 0
Tough: 0
Upsetting: 0
Still using the 0-10 scale where 0 means you do not agree and 10 means you agree very strongly... (USE SHOWCARD)
d to change channels or do something else to avoid watching this advertisement: 0
I can remember that this advertisement made me drive more safely: 0
Still using a 0-10 scale, how confident are you about how well you remember your reactions to this advertisement, where 0 means not at all confident and 10 means extremely confident (use showcard): 0
RETURN TO MAIN SCREEN ---->

TAC PUBLICITY PROJECT - VIEW ADS

Participant Numb

Advert Number (Number between 1 and 30):
If this is advert 31, Enter 31 } 0

SHOW THE ADVERT

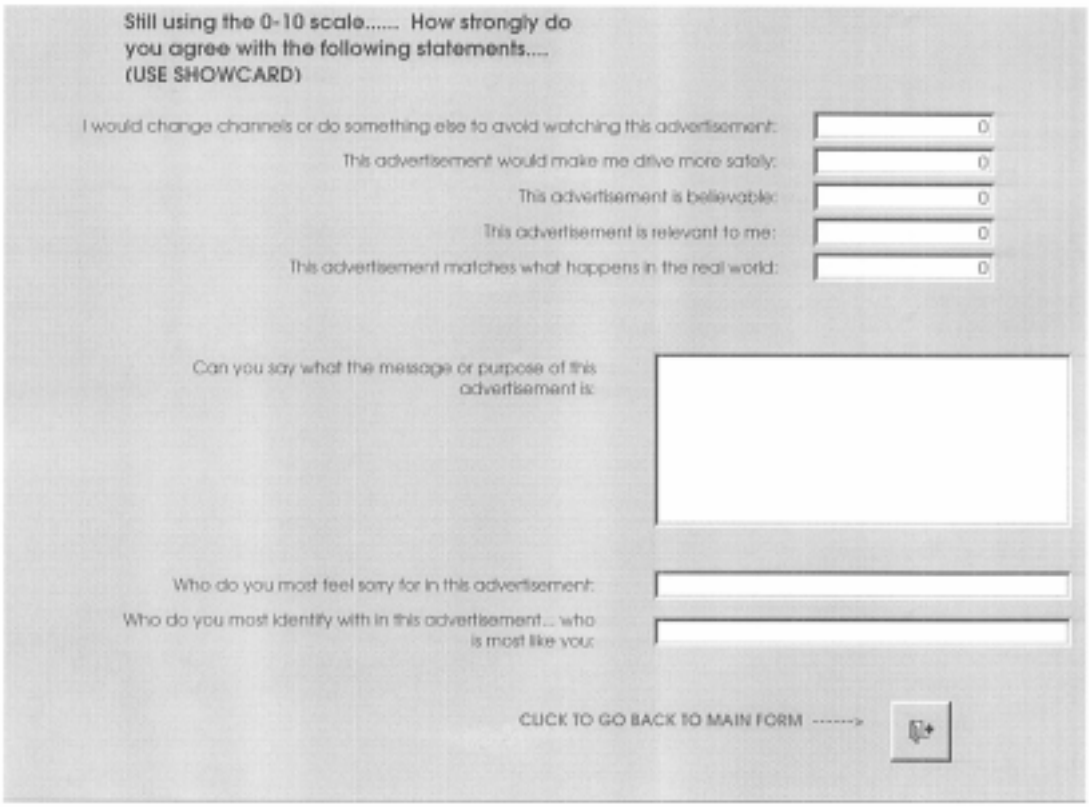
Ad 31 on a sep. tape

Enter any unprompted responses made by the participant:

Thinking about this advertisement and using the 0-10 scale where 0 means you do not agree and 10 means you agree very strongly (USE SHOWCARD), how strongly do you agree with the following statement....

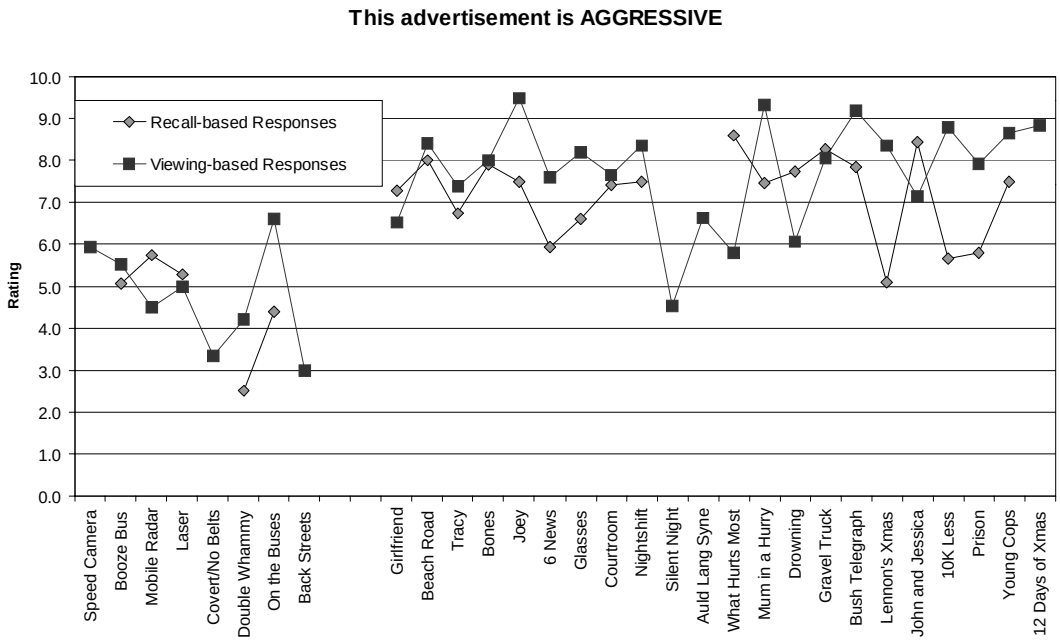
This TAC advertisement is.....

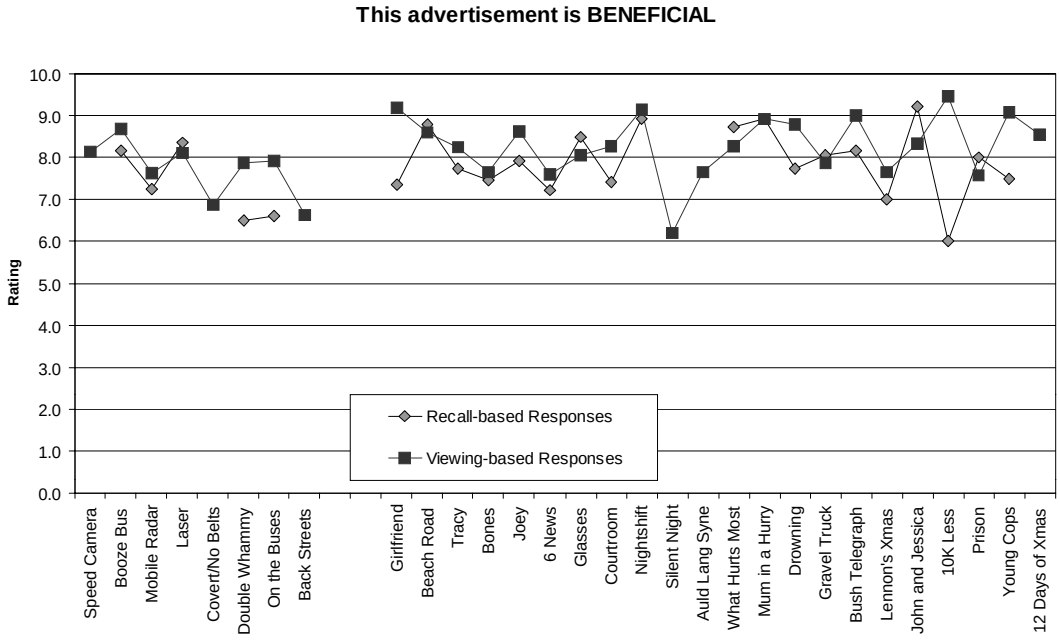
Aggressive:	0	Important:	0
Beneficial	0	Informative:	0
Cheerful:	0	Irresponsible:	0
Clever:	0	Likeable:	0
Cold:	0	Original:	0
Complicated:	0	Pleasant:	0
Confusing:	0	Practical:	0
Cruel:	0	Positive:	0
Daring:	0	Rational:	0
Dull:	0	Realistic:	0
Effective:	0	Responsible:	0
Emotional:	0	Sensitive:	0
Forceful:	0	Serious:	0
Frank:	0	Simple:	0
Frightening:	0	Thought-provokin	0
Helpful:	0	Tough:	0
Humorous:	0	Upsetting:	0


Still using the 0-10 scale..... How strongly do you agree with the following statements.... (USE SHOWCARD)
I would change channels or do something else to avoid watching this advertisement:
0
This advertisement would make me drive more safely:
0
This advertisement is believable:
0
This advertisement is relevant to me:
0
This advertisement matches what happens in the real world:
0
Can you say what the message or purpose of this advertisement is:
Who do you most feel sorry for in this advertisement:
Who do you most identify with in this advertisement... who is most like you:
CLICK TO GO BACK TO MAIN FORM ------>

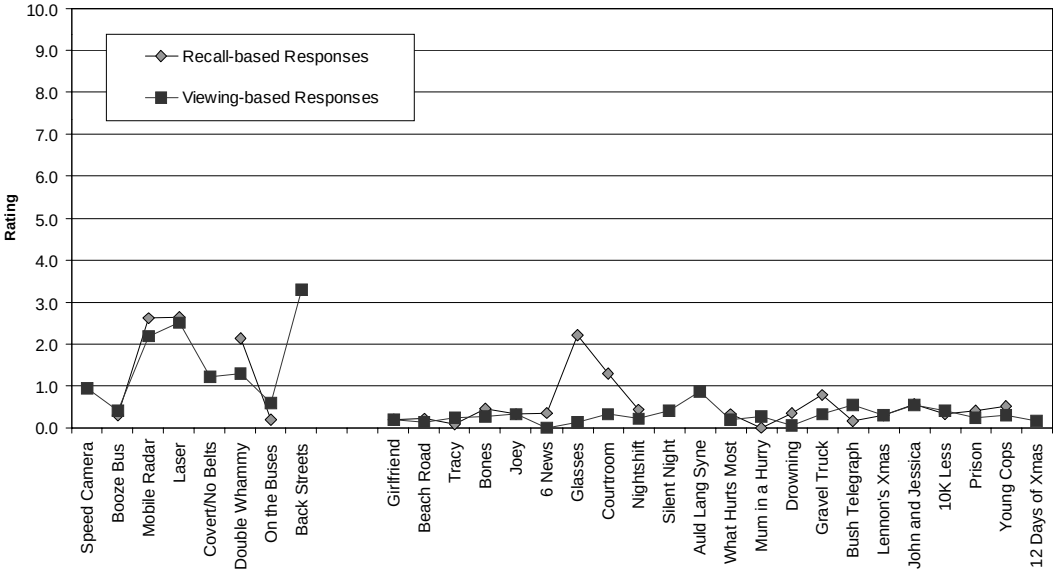
APPENDIX B ANALYSES OF SPECIFIC ADVERTISEMENTS

It was considered important to include the responses of participants to each advertisement used in the study. These are included as a series of graphs in this Appendix. Each graph provides the recall-based and viewing-based responses to items for each advertisement.

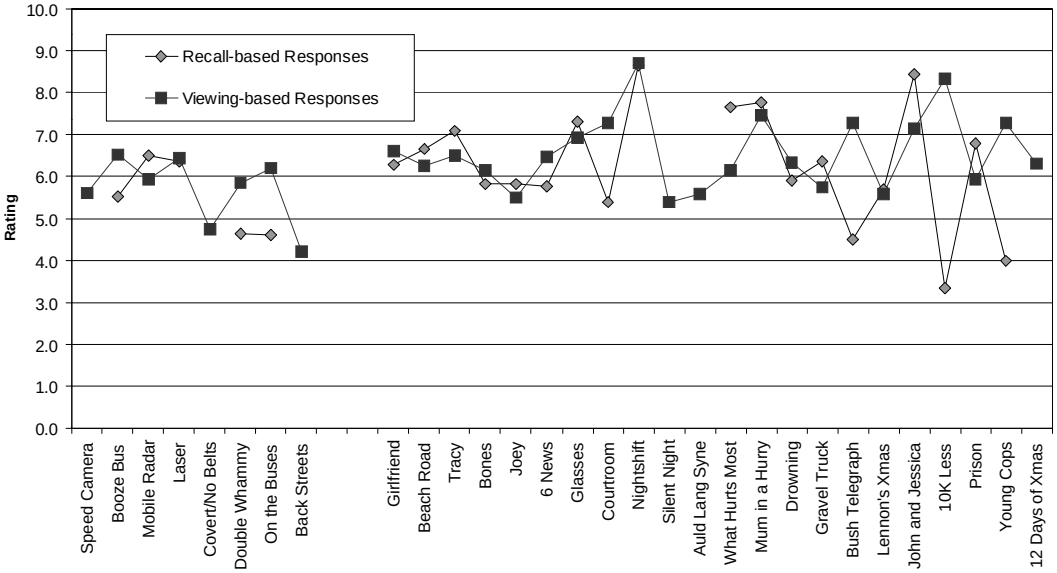




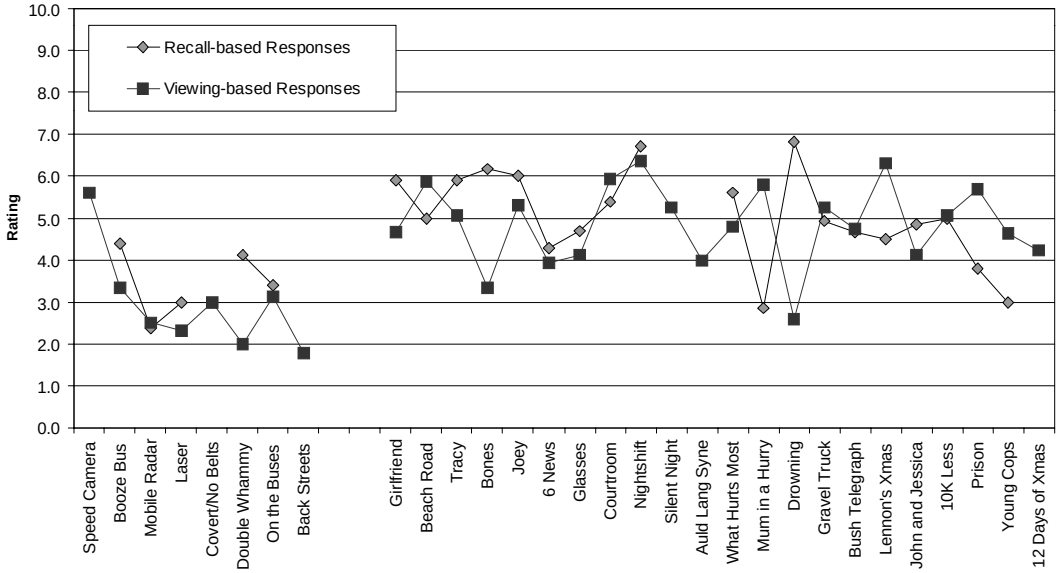
This advertisement is CHEERFUL



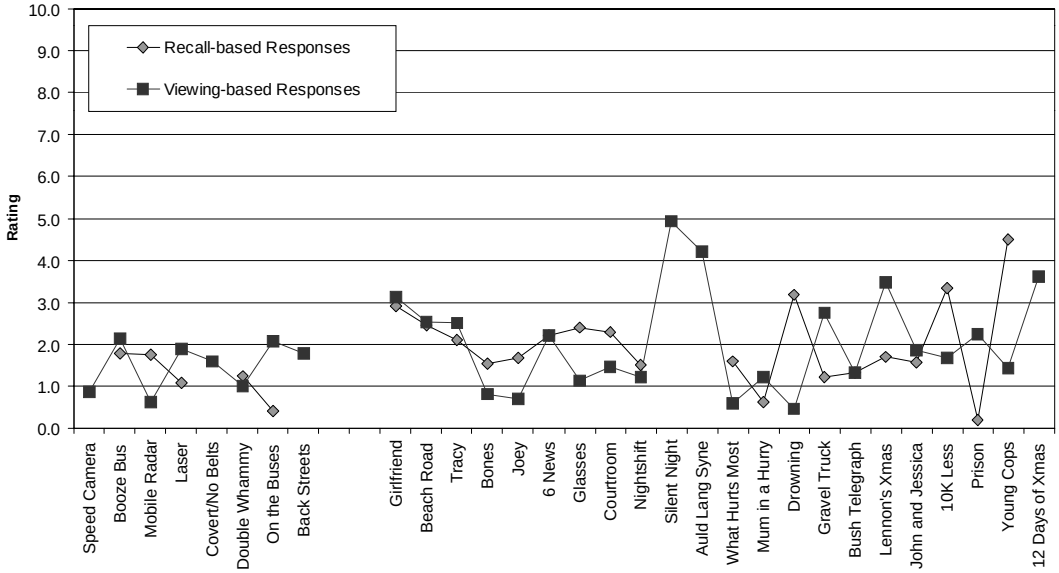
This advertisement is CLEVER



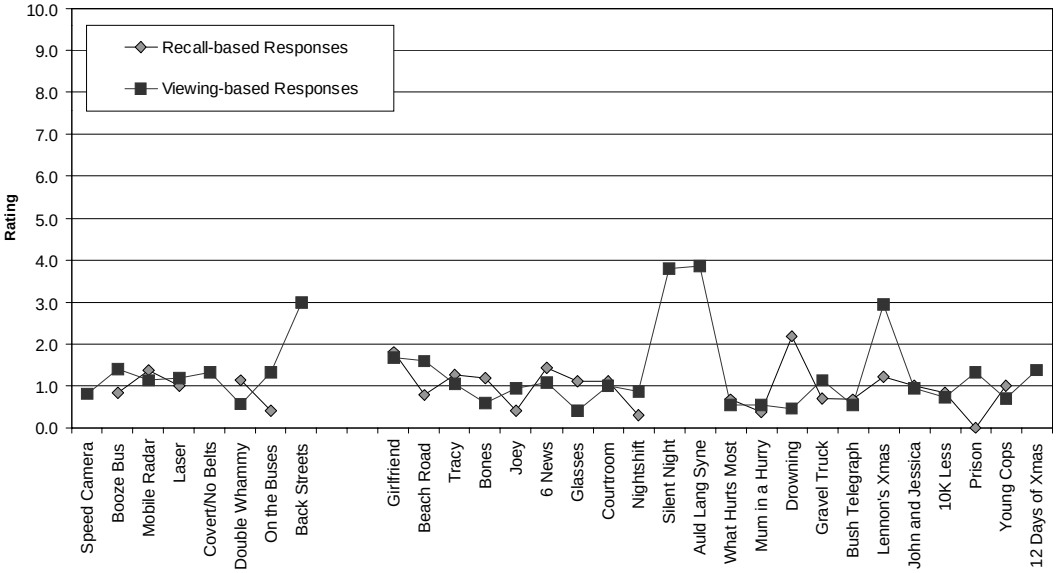
This advertisement is COLD



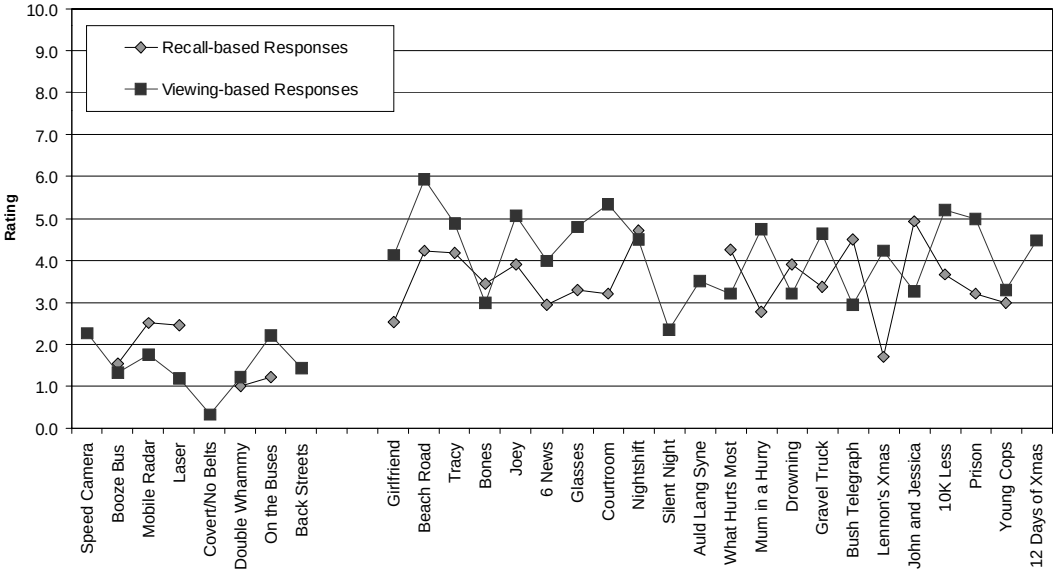
This advertisement is COMPLICATED



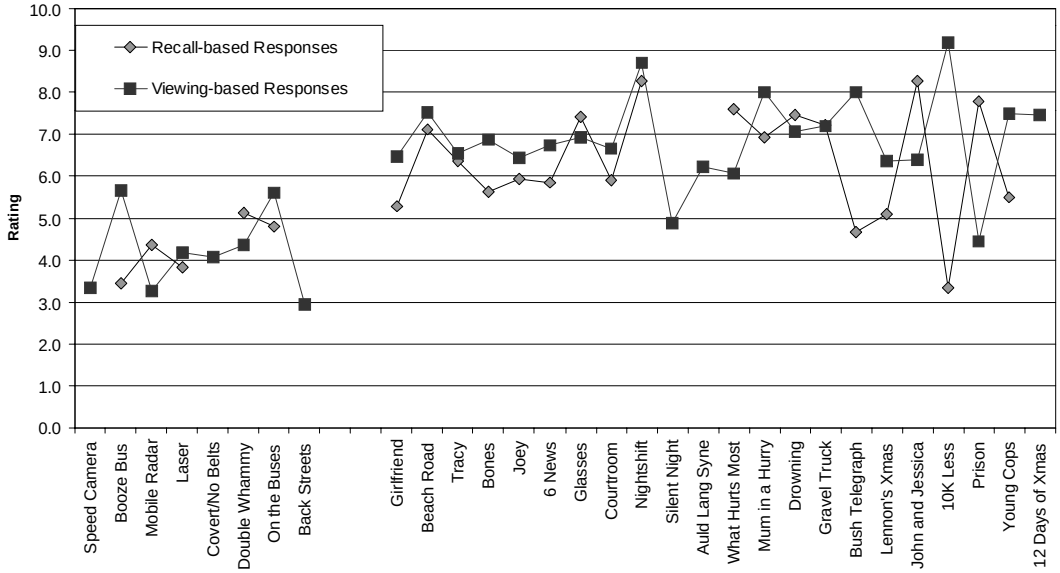
This advertisement is CONFUSING



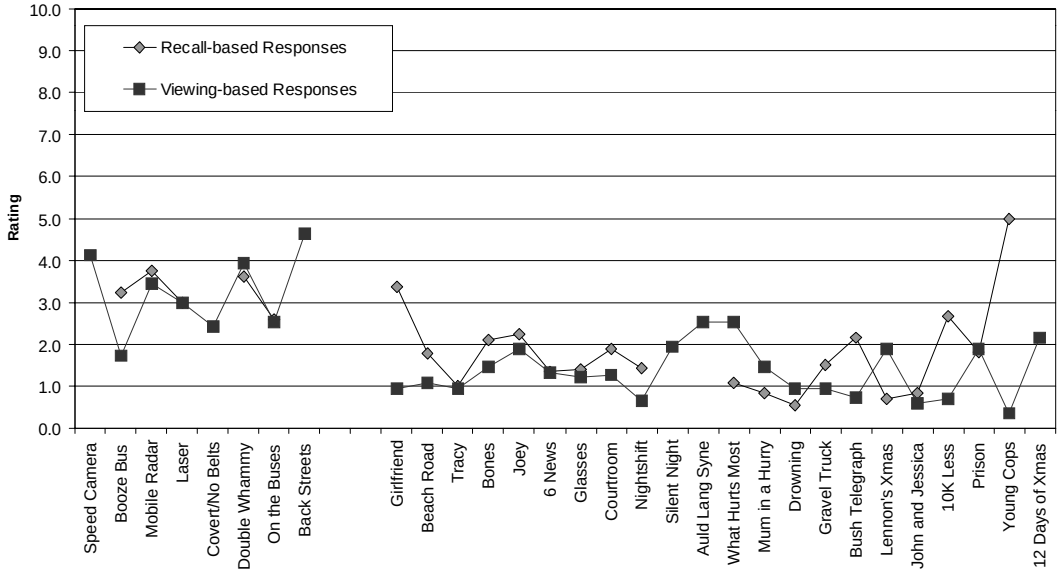
This advertisement is CRUEL



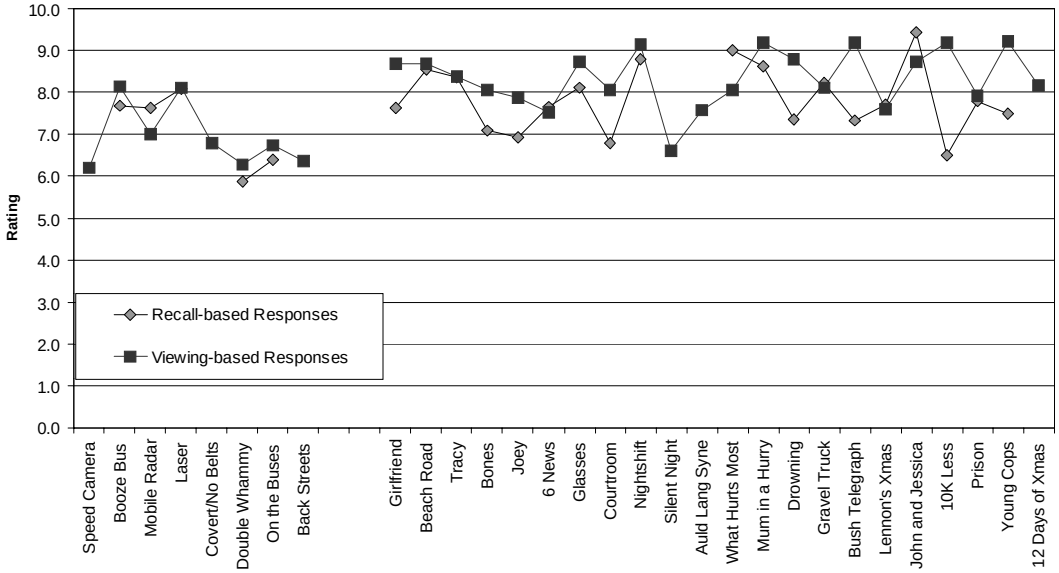
This advertisement is DARING



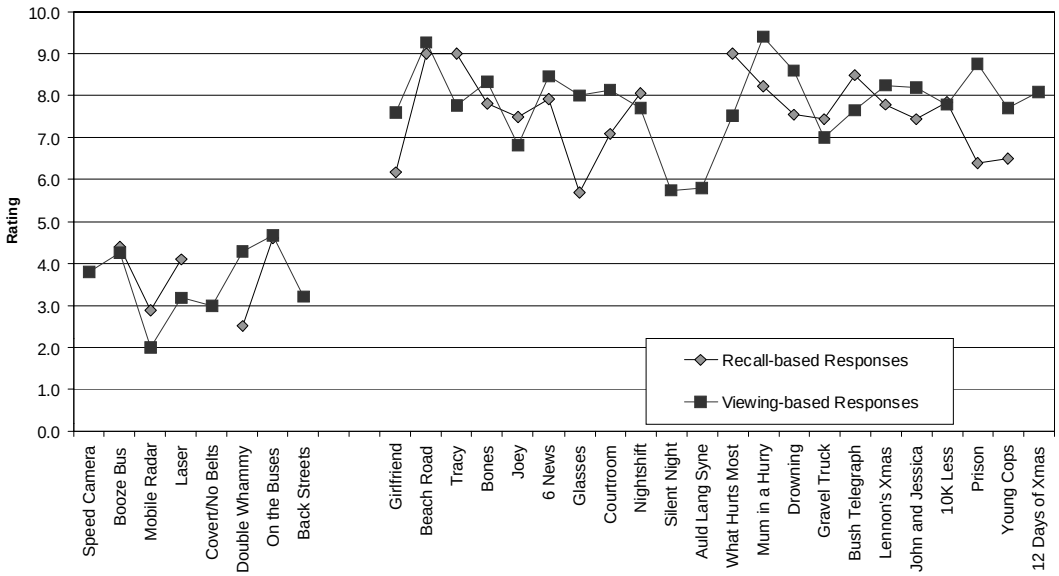
This advertisement is DULL



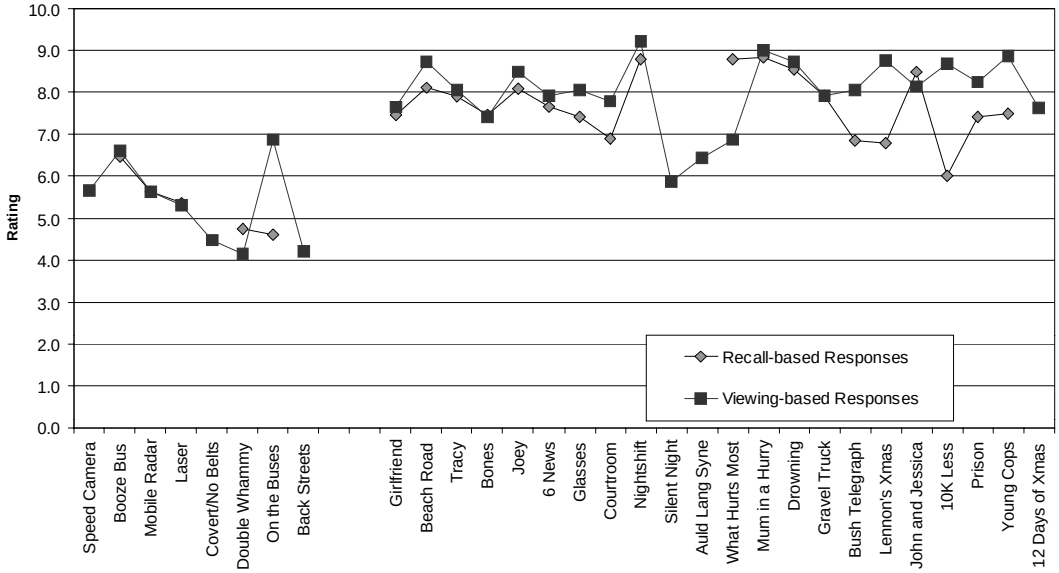
This advertisement is EFFECTIVE



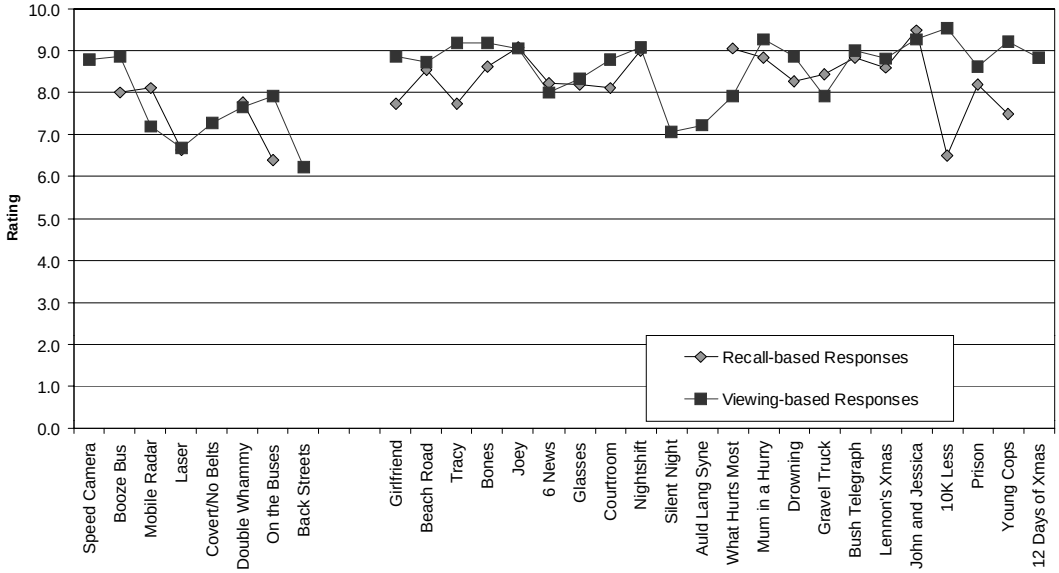
This advertisement is EMOTIONAL



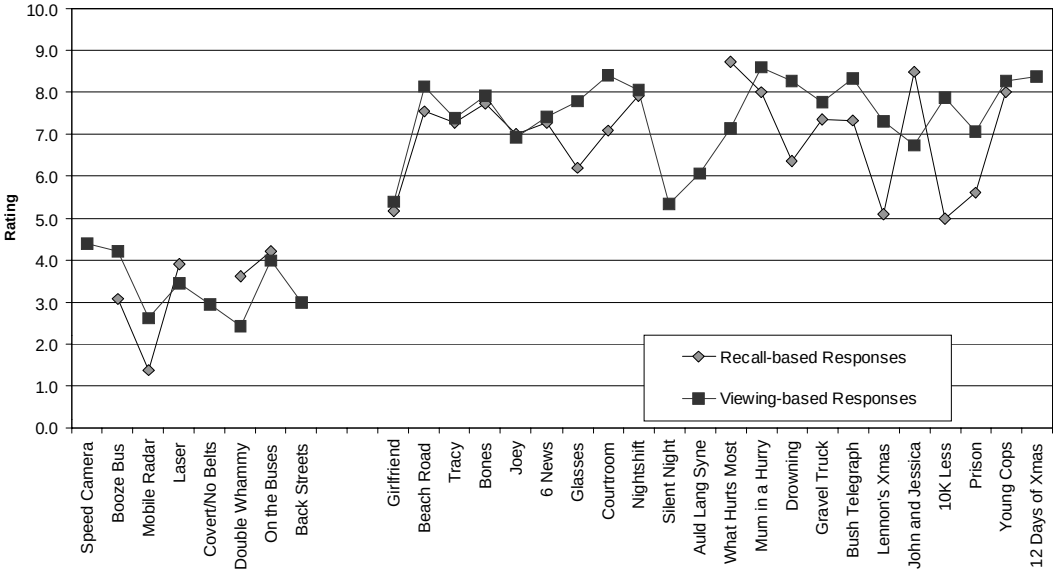
This advertisement is FORCEFUL



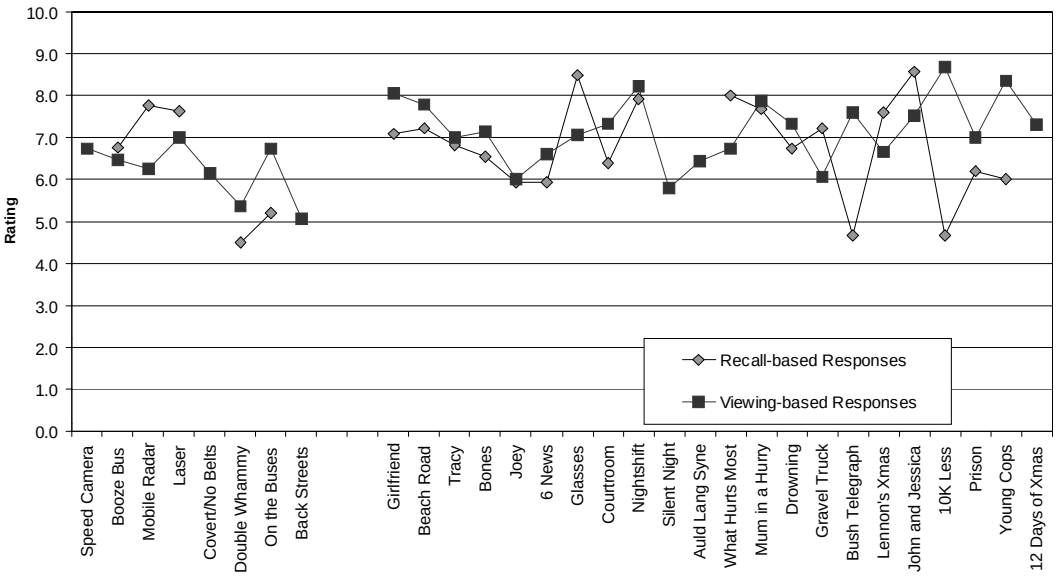
This advertisement is FRANK



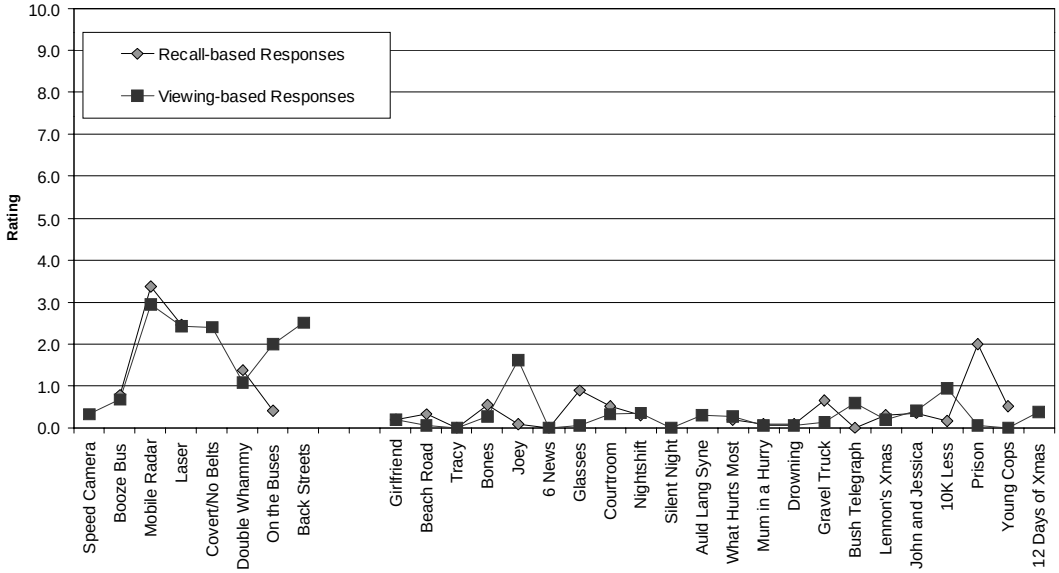
This advertisement is FRIGHTENING



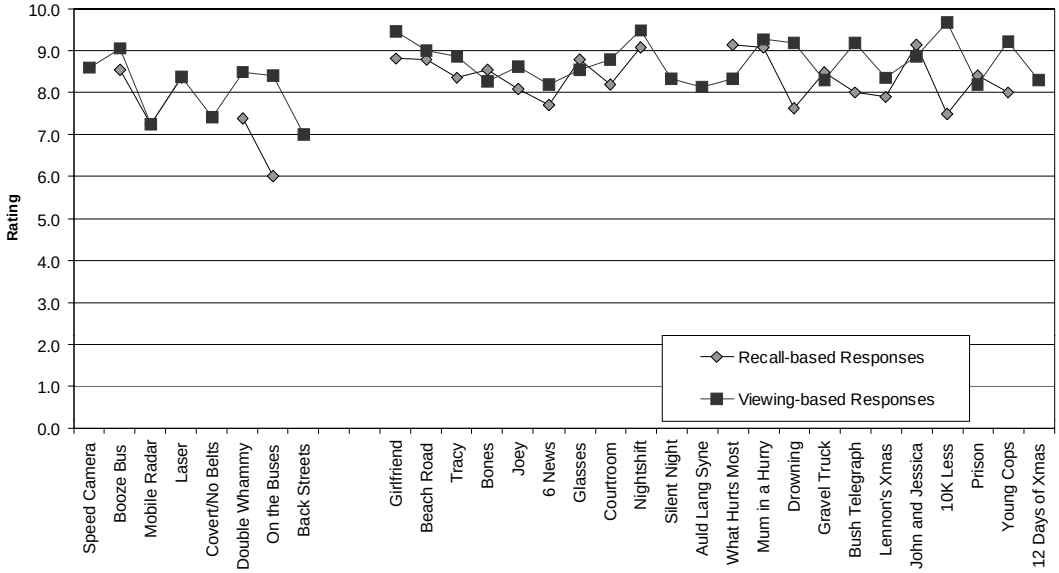
This advertisement is HELPFUL



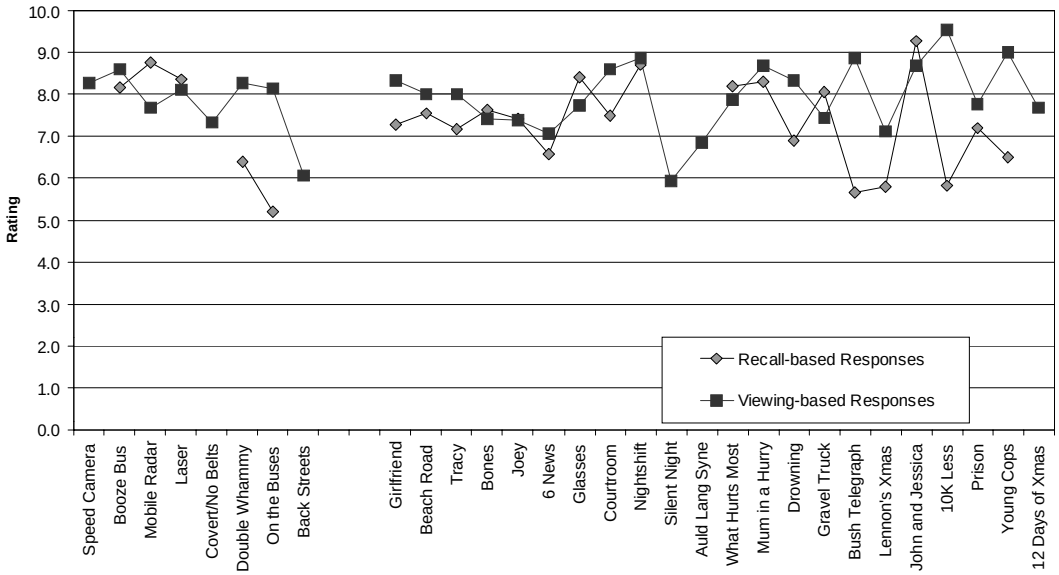
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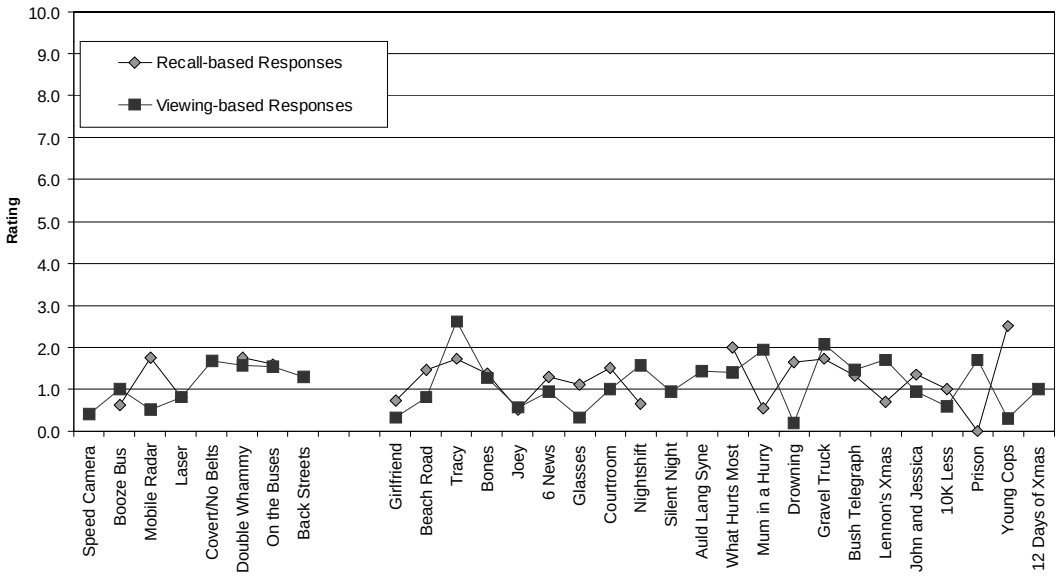
This advertisement is IMPORTANT



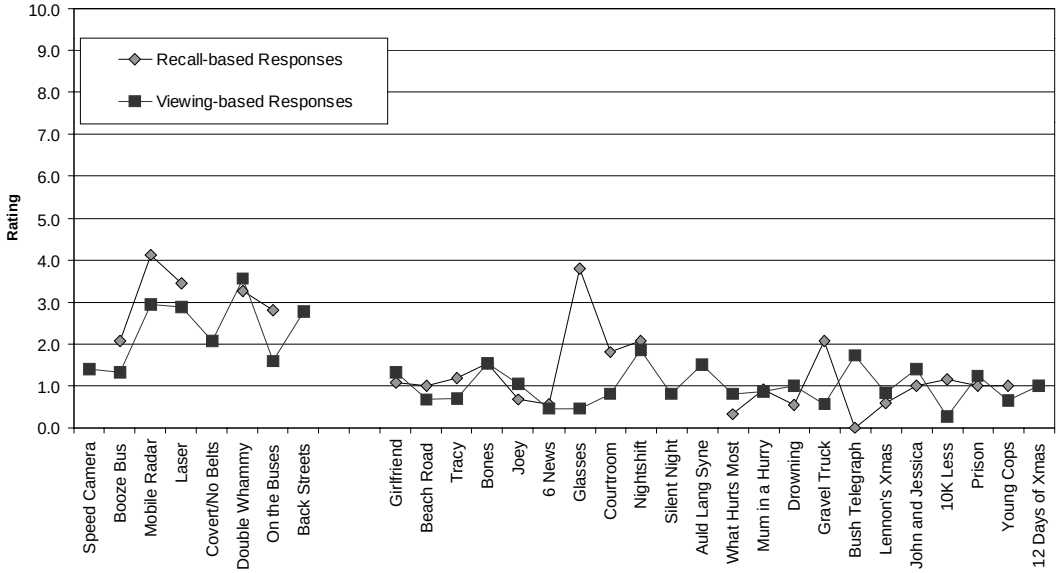
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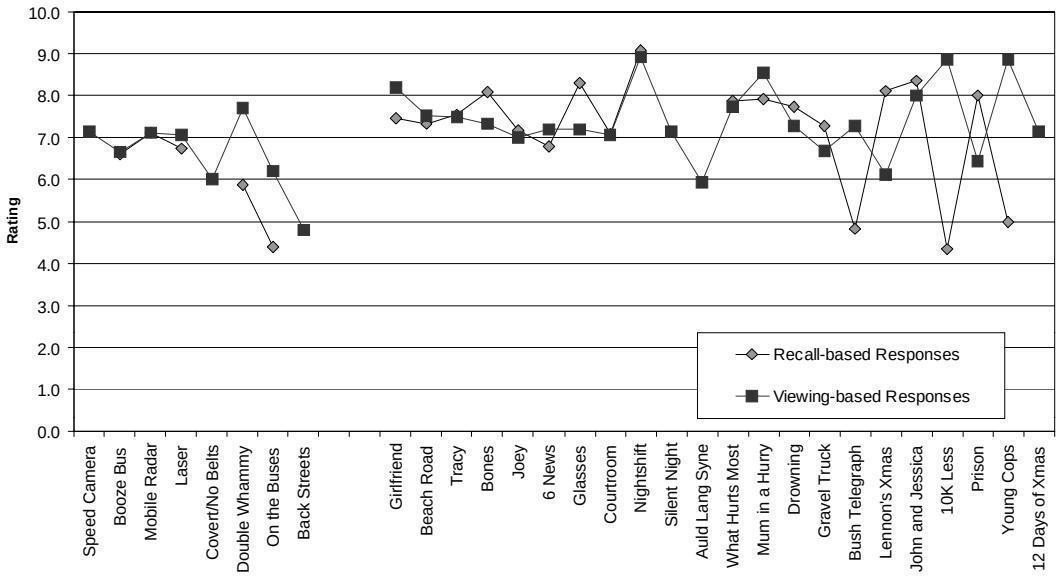
This advertisement is IRRESPONSIBLE



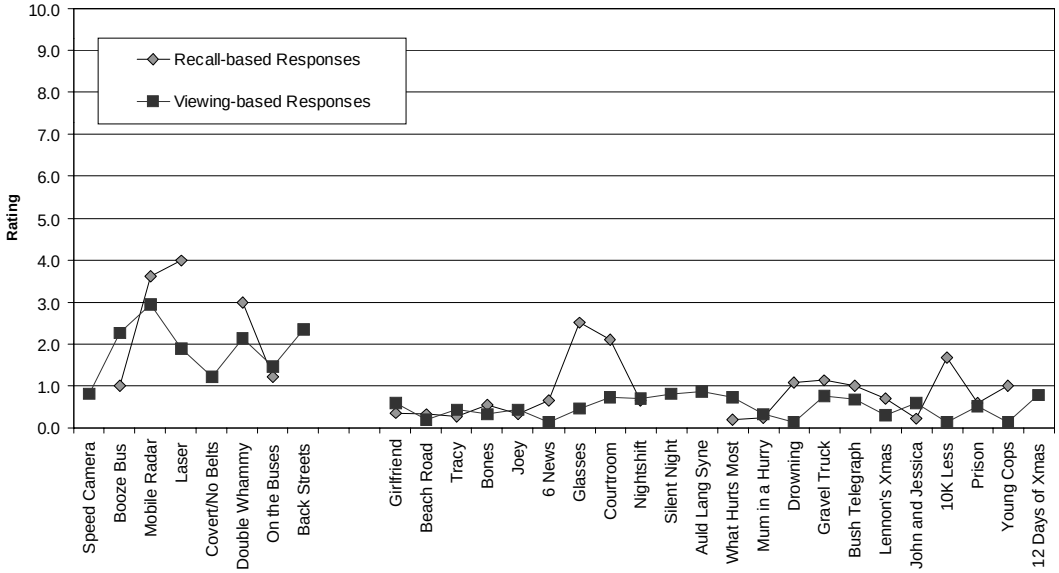
This advertisement is LIKEABLE



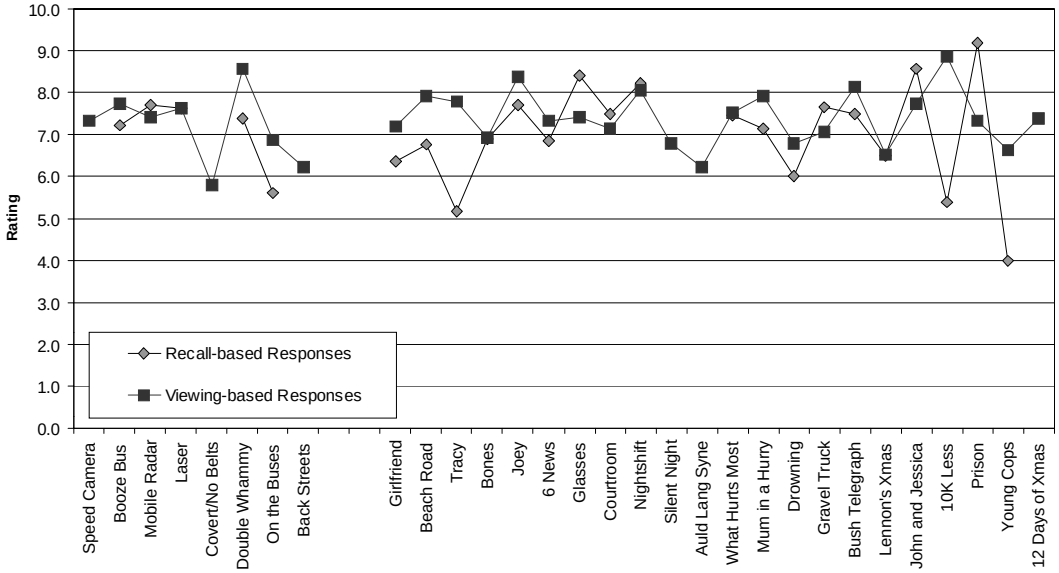
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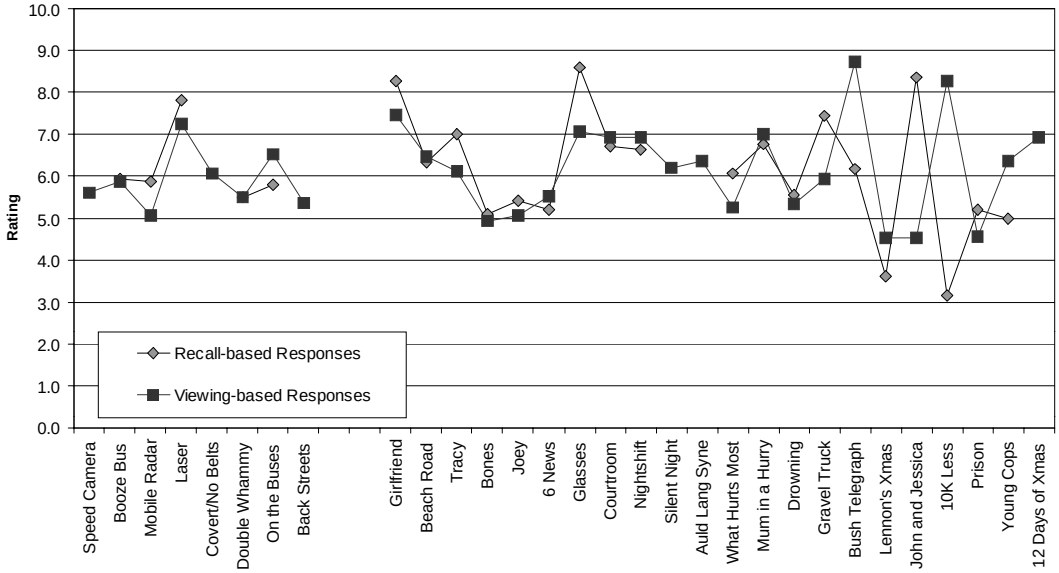
This advertisement is PLEASANT



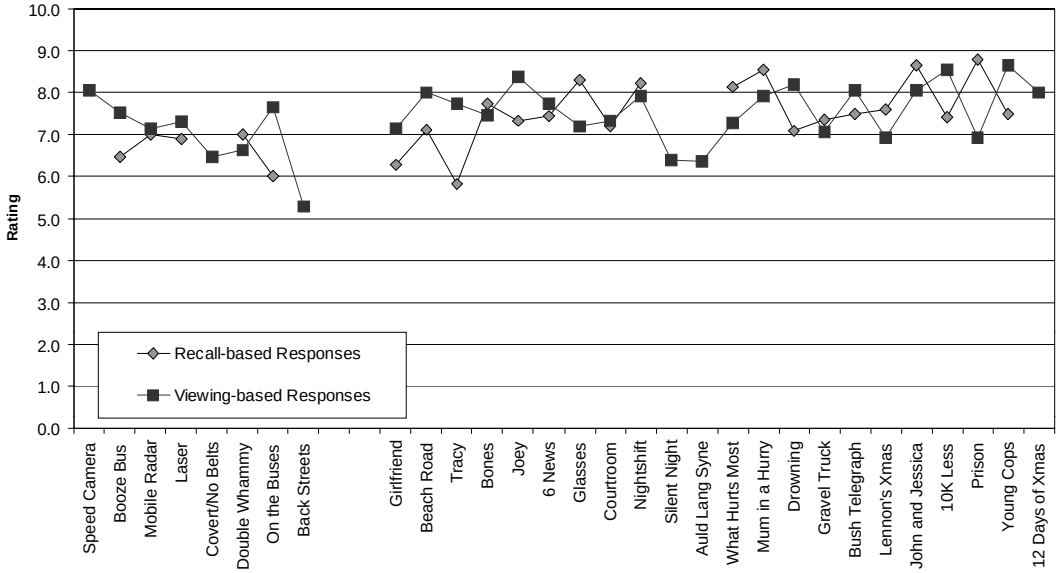
This advertisement is PRACTICAL



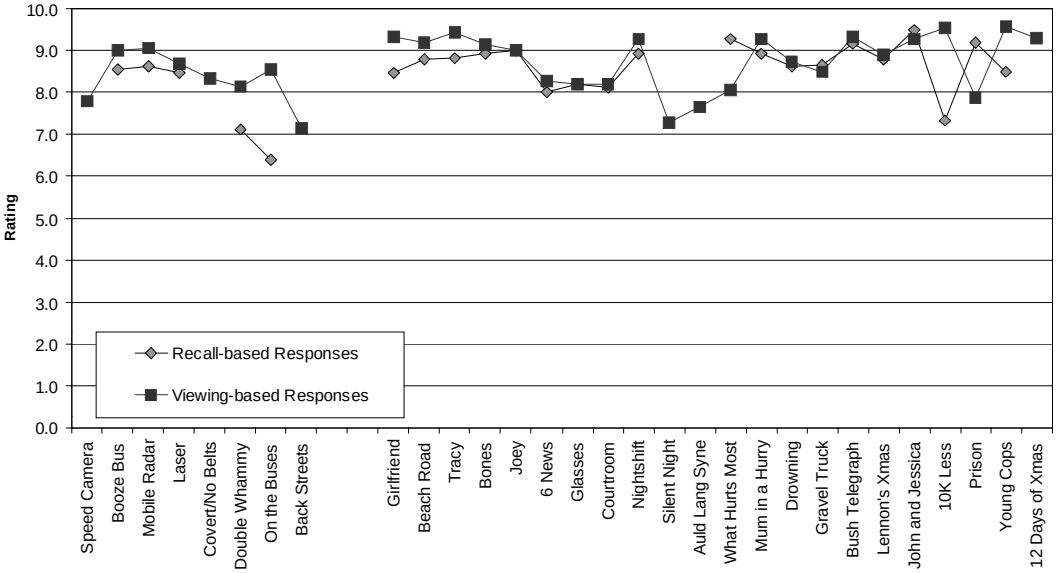
This advertisement is POSITIVE



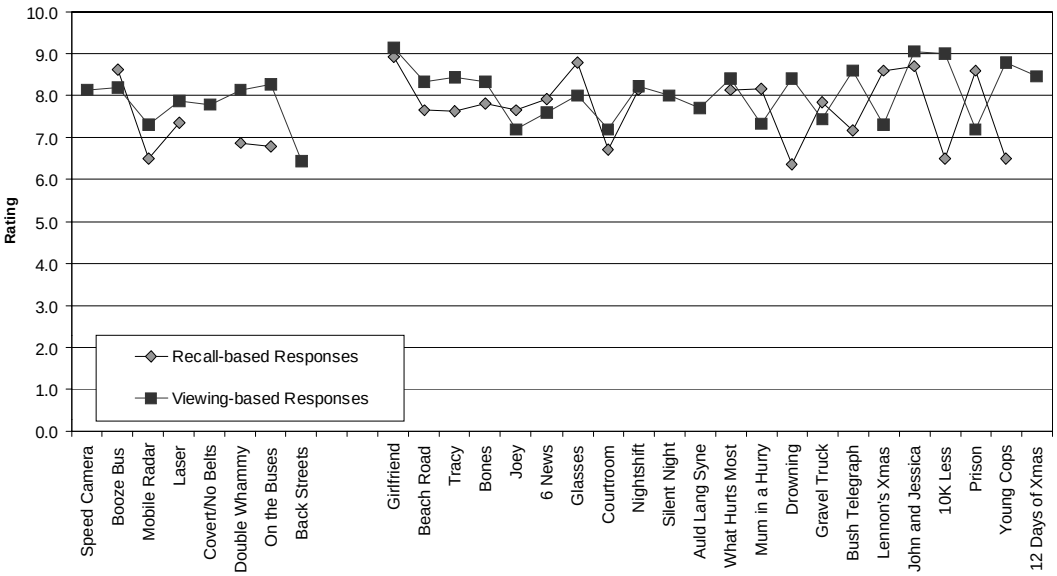
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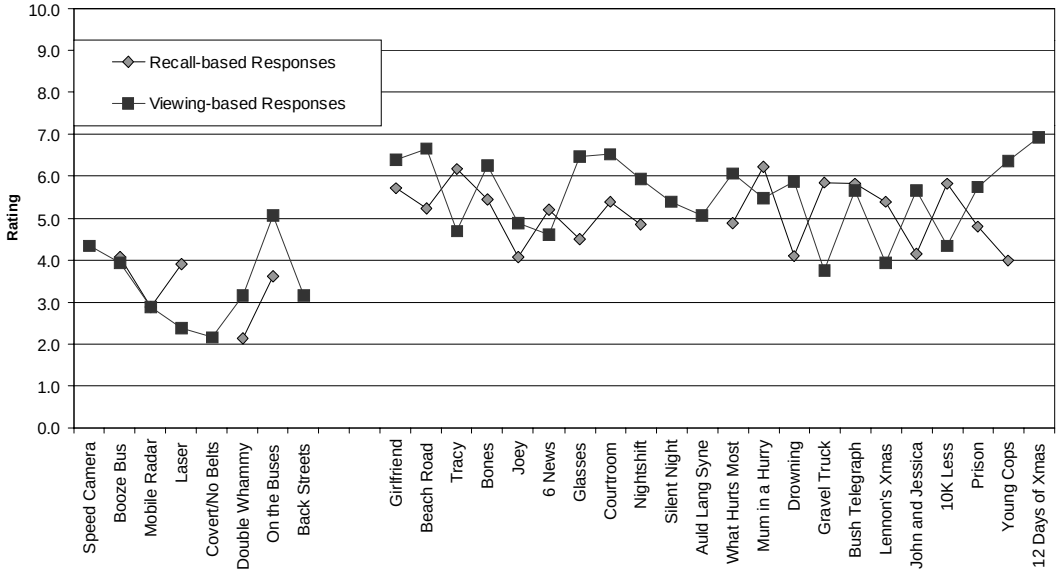
This advertisement is REALISTIC



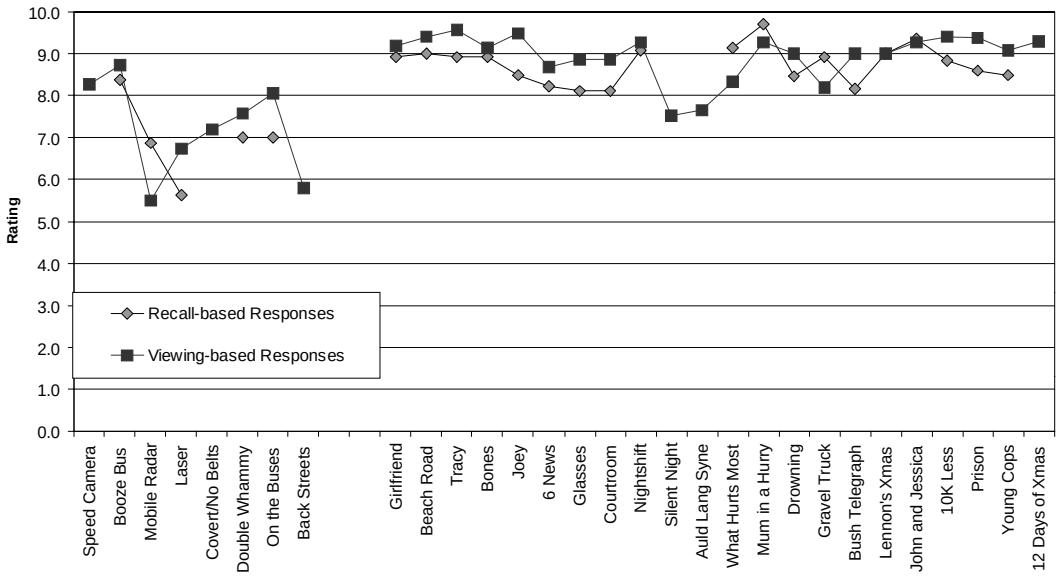
This advertisement is RESPONSIBLE



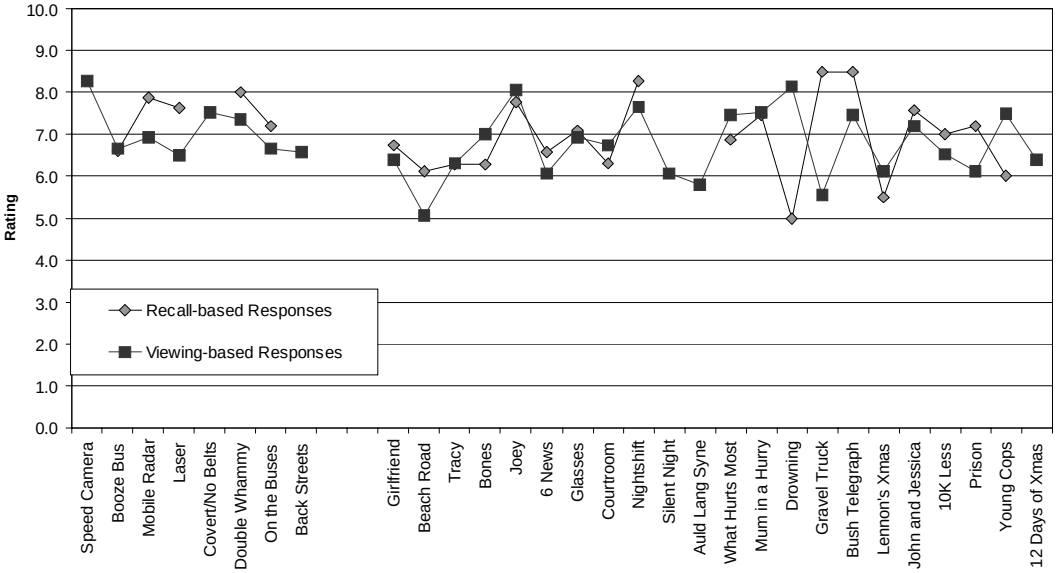
This advertisement is SENSITIVE



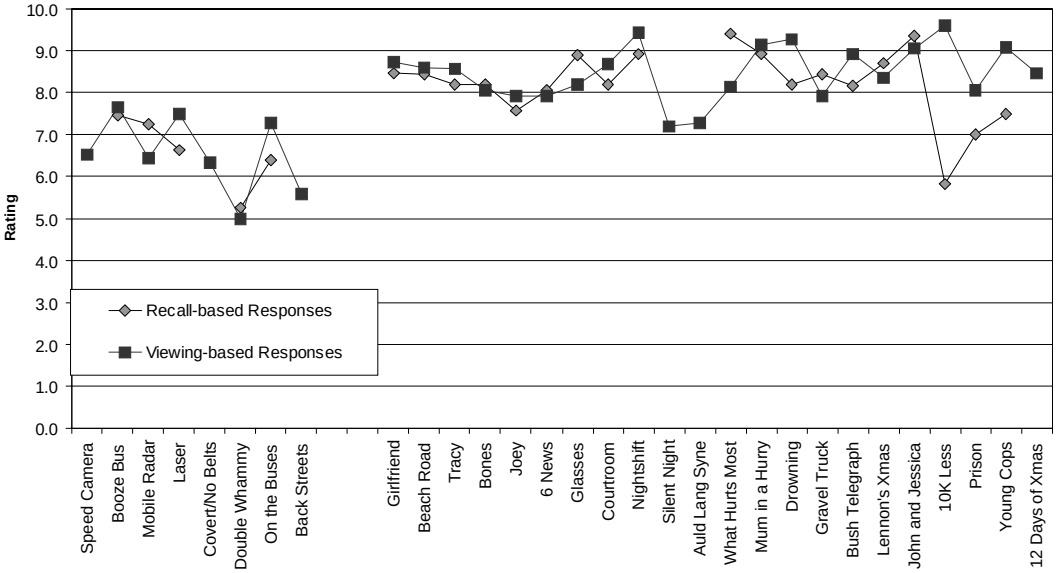
This advertisement is SERIOUS



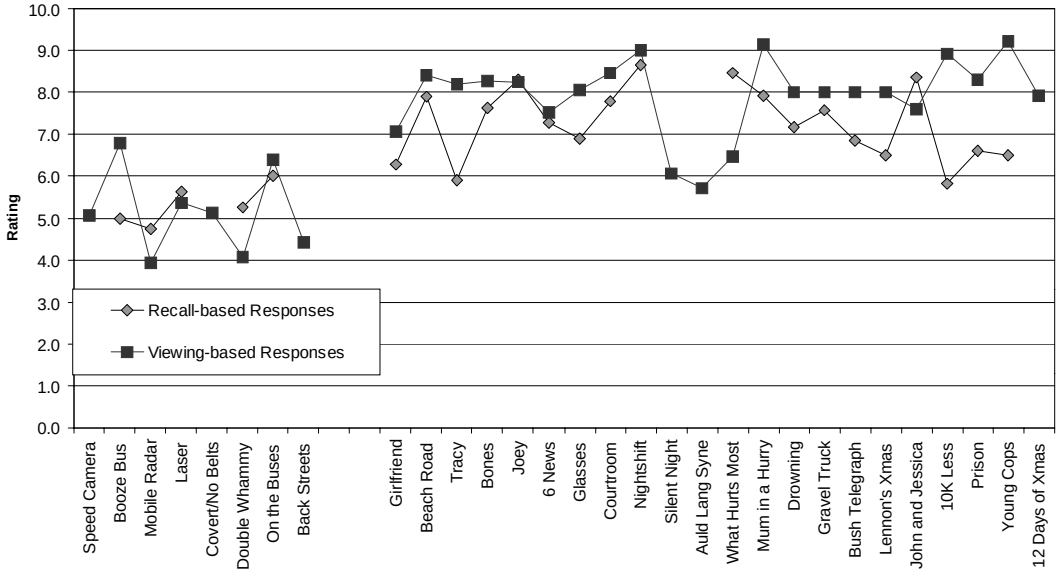
This advertisement is SIMPLE



This advertisement is THOUGHT-PROVOKING



This advertisement is TOUGH



This advertisement is UPSETTING

