

Contributed articles

Regulation of motor vehicle advertising: Toward a framework for compliance research

by Robert J Donovan^{1,2}, Lynda J Fielder², Michael Ewing³ and Robyn Ouschan²

¹Centre for Behavioural Research in Cancer Control, Curtin University, Perth

²School of Marketing, Curtin University, Perth

³Department of Marketing/Faculty of Business and Economics, Monash University, Melbourne

Abstract

There is concern that certain content within some motor vehicle television advertising may negatively influence the driving attitudes and behaviours of viewers, particularly young people, and hence have a negative impact on road safety. In recognition of this concern, many developed countries have adopted a self-regulatory approach to motor vehicle advertising. The basic elements of self-regulation are a code of practice or guiding principles governing advertising content and the establishment of a process for hearing and adjudicating complaints about alleged breaches of that code. However, as in other areas, the effectiveness of self-regulation is being questioned in that many motor vehicle advertisements in Australia and elsewhere appear non-compliant with self-regulatory codes. Applying lessons from studies of alcohol advertising, this paper first reviews the research assessing the content of motor vehicle advertising. A suggested research framework is then proposed to inform the development of motor vehicle advertising regulatory codes where they do not exist, and to better monitor compliance with codes where they do exist. The research framework suggested includes expert content analysis of ads, the impact of advertising on risk-taking cognitions and decisions in computer-simulated traffic situations, and assessing audience perceptions of, and reactions to, messages in advertisements mapped against regulatory code content. An example of audience reaction research is also presented.

Keywords

Advertising codes, Advertising research, Advertising self-regulation, Motor vehicle advertising, Road safety

Introduction

Road traffic crashes are a leading cause of death and injury worldwide. In 2008, over 1.2 million deaths were recorded and road traffic injuries ranked as the tenth leading cause of death worldwide [1]. By 2020, road traffic crashes are predicted to be the third leading cause of Disability Adjusted Life Years lost [2,

3]. In Australia, the Australian Transport Council reports that an average of four people die and 90 people are seriously injured on Australian roads every day, with subsequent substantial cost to the community both in economic loss and personal suffering [4].

Young people are disproportionately affected by road traffic injuries, representing 50% of overall global mortality [2, 3], with young males at higher risk for road traffic fatalities than females in every age group under 25 years [5]. In Australia, 25% of drivers killed or seriously injured are aged 17-25 year olds, although this group comprise only 16% of the total adult population [4]. Behavioural risk factors, amongst the young in particular, include risk-taking propensity, driver confidence, and lack of driver experience and skill, with speed a main contributing factor [6].

Motor vehicle advertising and marketing

Worldwide, global advertising expenditure in 2005 totalled approximately US\$569.8 billion [7], with automotive advertising topping the category list (\$22.7 billion). In 2009, 16 of the top 100 global advertisers were automotive companies, who collectively spent US\$18.5 billion on advertising [8]. Ten of these companies also appeared in the top 100 national advertisers in the United States (US) in 2010, spending \$11.3 billion on advertising [9].

In Australia, the 2010 advertising spend among the automotive sector was only exceeded by that of the retail sector: A\$1.06 billion vs. A\$2.18 billion respectively [10]. In 2004, Toyota, General Motors and Ford Motor Co. were amongst Australia's top ten advertisers [11], and in 2006 were amongst the top 15 Australian advertisers [12].

Motor vehicle manufacturers develop products or product lines targeting specific demographic or lifestyle groups, with many lower-priced 'entry' models clearly targeted at young people. A number of studies, as well as reports in the trade press and advertising texts, describe the nature of appeals in motor vehicle advertising [7, 11, 13-15]. Functional benefits promoted

include fuel economy, driver comfort, ease of handling, safety features, passenger comfort, internal spaciousness, electronic components, engineering design and so on [16, 17]. However, these are often supporting benefits to an overall ‘user’ positioning, whereby the (potential) owner is depicted in terms of personality or lifestyle, such as young and cool, sexy, progressive, an adventurer, cosmopolitan, sophisticated, and so on. It is also common in motor vehicle advertising targeting young people (and those who think they still are) to show an additional benefit of the owner being admired by a member of the opposite sex. These appeals are embedded in a variety of execution styles, which often include unsafe driving practices [18-20]. Concerns that some content of motor vehicle advertising encourages negative driving behaviours and attitudes are growing in the US, Australia and elsewhere [14, 18, 20, 21].

The impact of advertising

Social Learning Theory [22] suggests that behaviours and values portrayed and rewarded in advertising can have a major influence on viewers, particularly young viewers, and often in unnoticed ways [23-25]. Although children and young people have some awareness of advertising techniques, their ability to cope with the complex constructs and appeals they are exposed to in the current media-saturated environment is limited, and they may be particularly susceptible to certain execution techniques and their associated emotions [14, 26, 27].

Portrayed behaviours can become normalised or aspired to [28]. Hence lifestyle and user positioning executions can have potentially negative effects where portrayed behaviours are inherently undesirable, but are shown being reinforced and without any negative effects [20].

A substantial literature confirms the influence of advertising on the attitudes and behaviours of children and young people [29-32]. Studies on tobacco advertising and promotion show a strong association between tobacco promotions and susceptibility to tobacco use [31, 33-35]: aggressive marketing and advertising to children is related to increased consumption of high energy, non-nutritious foods [26, 36-39] and alcohol advertising has been identified as increasing receptivity to alcohol and alcohol consumption [18, 28, 40-43].

Motor vehicle advertising

While no research was found directly linking the influence of motor vehicle advertising on attitudes and intentions with respect to unsafe driving practices, a number of studies suggest that themes used in motor vehicle advertising may promote and encourage speed and unsafe, risk-taking behaviour, particularly among young people [2, 14, 18, 20, 44-46]. Young people are particularly vulnerable to engaging in impulsive, risk taking behaviours anyway, particularly young males [21, 47]. Young males are also more vulnerable to peer pressure in relation to driving behaviour, and weight the benefits of risky activities more positively than females [14, 44]. The content of motor

vehicle advertising uses a variety of mechanisms to appeal to young males, including user positioning and the over-representation of male drivers and male voice-overs [18]. Furthermore, neurobiological changes that are occurring in adolescents may stimulate attraction to impulsive, risk-taking behaviours depicted in motor vehicle advertising [44, 45]. Given advertising’s known effects in other areas, and evidence that playing video racing games is related to increased salience of risk-taking cognitions and aggressive road behaviours in simulated driving situations [48], there is a real likelihood that motor vehicle advertising showing unsafe road behaviours in a favourable context will promote more favourable attitudes toward and encourage such behaviours amongst young people.

Advertising regulatory codes

Most countries have restrictions on the amount or type of advertising that can be shown on television and/or when various products can and cannot be shown. Tobacco advertising and promotion are now severely restricted in virtually all developed countries, and increasingly so in developing countries. Mindful of the vulnerability of young audiences, the World Health Organisation has called on member countries to discourage the marketing of junk food to children [49], and self-regulatory codes exist in most countries to limit the sort of benefits and lifestyle aspects that can be associated with alcohol consumption.

Given a concern that some motor vehicle advertising content may have a negative influence on driving attitudes and behaviours, many developed countries have adopted self-regulation codes for motor vehicle advertising. In Europe, the European Advertising Standards Alliance (EASA) [50] represents the collaboration between advertising industry organisations and national advertising self-regulatory organisations (SROs) that apply the principles of a regulatory code of practice of advertising regulation (the International Code of Advertising Practice). The principles of this code are based on a socially responsible approach to motor vehicle advertising and are supported by six detailed rules referring to unacceptable motor vehicle advertising practices: avoiding the portrayal or encouragement of unsafe, inconsiderate or aggressive driving practices; avoiding messages based on speed, performance and acceleration; avoiding encouraging a false sense of security leading to dangerous or irresponsible driving due to advertised technical advances and safety features; showing respect for the environment; making it clear where appropriate that demonstration sequences do not take place on the public highway; and adherence to relevant laws, good safety practice and highway codes [50].

The United Kingdom (UK) supplements these principles with more specific standards regulated by the Office of Communications (Ofcom). On UK television, the portrayal of any theme considered to encourage or condone irresponsible driving is tightly and specifically restricted [51, 52]. In the United States, the US Federal Trade Commission protects public interest by monitoring responsible advertising. However, there is no regulatory body specific to motor vehicle

advertising. Media organisations are responsible for policies and standards and advertisers are required to present material that is acceptable [20, 53]. Thus, the decision of whether content is irresponsible or misleading is usually the responsibility of a senior manager representing the manufacturer of the advertisement or the advertised product [20, 53]. US surveys revealed that these managers were more likely to reject advertising due to a breach of taste rather than the protection of consumers from harm [53].

In Australia, the Advertising for Motor Vehicles Voluntary Code of Practice [54] was introduced by The Federal Chamber of Automotive Industries in 2002, in response to growing concern by road safety experts about the level of content in motor vehicle advertisements depicting speed and aggressive driving practices [55]. The Code's purpose is to provide guidance for responsible content of motor vehicle advertising and to govern compliance by advertisers. Provisions provided to advertisers support a responsible approach to advertising, for example in ensuring advertisements do not depict, encourage or condone dangerous, illegal, or reckless driving. The Code guidelines are summarised in Appendix 1. Whilst the Code was reviewed in 2004, with subsequent improvements, it appears that many advertisements remain non-compliant, with unsafe driving practices continuing to be portrayed in car advertisements [15]. In 2005, motor vehicles ads attracted 15% of all product complaints received by the Australian Advertising Standards Bureau, second only to food advertising complaints (21%) [56]. However, few of these complaints were upheld, suggesting that mechanisms for enforcement of the code also need to be reviewed.

Toward a research framework to better monitor motor vehicle advertising compliance: lessons from the monitoring of alcohol advertising

While global concerns over the impact of alcohol advertising on underage youths and young adults resulted in most countries having voluntary or non-voluntary restrictions on the content and screening schedules of alcohol advertising, concerns with non-compliance with these codes spawned considerable research in an attempt to have advertising codes revised and enforced. In Australia, a review of the Australian Beverages and Advertising Code (ABAC) was conducted in 2004. This process resulted in increased compliance with the ABAC by advertisers and a decrease in complaints against alcohol advertising. In 2004, of all advertising complaints received by the national monitoring body, the Advertising Standards Bureau (ASB), the highest number of product category complaints (21%) were in response to alcohol advertisements [56]. Following the review, this proportion decreased in 2005, with alcohol advertising accounting for 7% of complaints received [57].

Research on alcohol advertising is considerably more extensive than that on motor vehicle advertising to date, and provides a

possible research framework to assess the impact of motor vehicle advertising on audiences, as well as to inform the content of, and assess compliance with, motor vehicle advertising codes. Studies of alcohol advertising and self-regulatory code compliance can be categorised into three main types of approach:

- content analysis of themes in alcohol ads
- underage youths' and young adults' perceptions of the messages in alcohol ads
- the impact of advertising on underage youths' and young adults' alcohol attitudes, purchase intentions and consumption.

Content analysis of advertisements

Content analysis refers to analysing the major themes in the advertising copy and visuals. These consist of messages about the product being advertised (i.e., product attributes and benefits) and messages about the users of the advertised product (i.e., lifestyle and personality characteristics). These messages may be explicitly stated in the copy or are implicit in the visual signs and symbols used in the execution of the ad. The themes identified in the content analysis can then be mapped against regulatory code articles to indicate whether or not an ad breaches the code.

For alcohol advertising, there have been three types of content analysis studies. In the first type, the authors have simply content-analysed the advertisements and then conducted a broad post hoc comparison with regulatory codes. Most of these types of study have concluded that many alcohol advertisements contain appeals such as sexual and social success and therapeutic benefits that are attractive to young people and *could* contravene their country's alcoholic beverages advertising code [41, 58][59][43, 60]. The major weaknesses in these sorts of studies are that the identified themes are not based on any systematic mapping against the regulatory code articles, and the conclusions with respect to breaches are simply speculative.

The second type of study takes a more systematic approach by using the articles of regulatory codes as the content analysis framework. For example, Donovan et al. [61] used trained coders to assess the content of 93 alcohol advertisements appearing in magazines popular with young people in Australia on 28 measures specifically constructed to reflect the articles of the five sections of the Australian Alcoholic Beverages Advertising Code (ABAC). Their results revealed that 52% of the ads appeared to be in breach of one or other articles in the Code [61].

The content analyses in most studies of regulatory code compliance have been conducted by the authors or members of their research groups and hence have been open to the criticism of a public health bias. To avoid such criticism, Jones and Donovan [66] assessed compliance with the ABAC by using independent marketing experts to judge whether or not nine alcohol advertisements that had been assessed by the Advertising Standards Board (ASB) breached any articles of the

Code. The marketing experts (university professors of marketing) were supplied with a copy of the Code and each of the advertisements and asked to indicate whether each ad breached any Code articles, and if so, which one(s). The majority of the expert judges perceived seven out of the nine alcohol advertisements to be in breach of at least one (or more) of the Code articles. (The Australian Advertising Standards Board had ruled that none of the ads breached any articles of the Code.) The use of independent expert judges constitutes a third – and the recommended – type of content analysis study to assess regulatory code compliance.

Content analyses of motor vehicle advertising appear to be limited to the first type above. For example, Ferguson, Hardy and Williams [20] analysed 561 US motor vehicle television ads aired in 1998. Trained coders identified 22 themes using various cues to identify these themes; for example the theme of performance was identified by cues including rapid acceleration, vehicle moving at speed, vehicle cornering at speed, and claims of turning radius. Themes depicted in each ad were classified as primary if they were the dominant theme. The results showed that performance was depicted in 50% of all advertisements and was the most frequently depicted primary theme, being the primary theme in 17% of the advertisements. Within the theme of performance, manoeuvrability was the most frequent cue, with speed and power the next most common being present in 49% and 46% respectively of ads with a performance theme [20]. Ferguson et al. [20] imply that such ads would contravene a code that disallowed the use of speed in motor vehicle advertising.

Shin, Hallet, Chipman, Tator and Granton [18] content-analysed 250 automobile and truck advertisements containing a driving sequence greater than three seconds that aired in the United States and Canada over a four year period (1998-2002). Using over 20 cues (such as excess speed, racing, tailgating, no seatbelt, various distractions, and miscellaneous traffic violations), the ads were analysed for content depicting what they considered to be unsafe driving activities. They found that 45% of the ads contained a sequence of unsafe driving. Tamburro et al. [19] content-analysed 191 motor vehicle ads and 41 auto accessories ads screened in the 50 top rating sporting events televised in the US in 2001-2002. They found that 21% of the vehicle ads and 27% of the accessories ads depicted unsafe behaviour. Both Tamburro et al. [19] and Shin et al. [18] comment that televised sports commonly viewed by children appeared to air a large proportion of advertisements portraying risk-taking behaviour.

Following the 2004 review of the Australian Motor Vehicle Advertising Code, Schonfeld, Steinhardt and Sheehan [15] applied Ferguson et al.'s [20] themes framework to 97 ads aired after the revised code came into effect and 115 ads aired under the original Code. They found a reduction in the occurrence of 'performance' and 'fun to drive' themes in Australian advertisements. However, within the performance theme, the sub-themes of acceleration and power showed no change, and

speed showed a non-significant decline. A more extensive report by the same authors confirmed these results [62]. In short, many advertisements were still not compliant with the Australian code.

None of the identified studies systematically content-analysed motor vehicle advertising using self-regulatory codes as the specific theme framework or used expert judges to determine code breaches. However, Shin et al.'s [18] coding frame for unsafe driving practices was developed in conjunction with traffic police and critical care physicians who were able to provide expert opinion on behaviours considered likely to increase the risk of a crash and increase the severity of the consequences of a crash.

Perceived messages in advertisements

For alcohol advertisements, the aim has been to establish whether or not viewers perceive messages in alcohol advertisements that are disallowed by the self-regulatory code [40]. This approach avoids the criticism that even expert judges might disagree on possible code breaches and particularly where the wording of code articles is imprecise or ambiguous. Furthermore, in some cases, a breach of the code might not be literal but conveyed by visual images or symbols. Hence, a further – and logical – check on compliance would be to assess whether audiences perceived messages in ads that were specifically not permitted by the code.

For example, using standard advertising copy test procedures, Jones and Donovan [40] assessed young people's perceived messages in three Australian ads for a vodka-based, pre-mixed alcohol beverage and the extent to which these perceptions appeared to be consistent with the industry's voluntary code (the ABAC). The results indicated that the advertisements appeared to contravene the ABAC in that young people perceived the main messages in the ads to include that consumption of the product contributed to sexual success, social success and a significant change in mood.

With respect to motor vehicle advertising, Chapman and Blows [46] showed Sydney drivers aged 18-35 years a sample of 26 Australian motor vehicle advertisements 'selected because of obvious speed themes'. The ads were screened on Australian television from 2002 to 2003. Respondents were asked to indicate whether the ads featured any of twelve appeals and to rate these appeals as 'very obvious', 'a minor theme' or 'not present'. Over 50% of respondents identified speed as 'very obvious' in 15 of the 26 ads [46]. However, the results also showed that more than 50% did not rate speed as 'very obvious' in 11 of the 26 ads and the authors do not state how many respondents did not think the speed theme was present in each ad. Focus group participants in Sofoulis et al. [14] and Sheehan et al. [62] discussed their perceptions of motor vehicle advertising, but other than Donovan et al. [63, 64] discussed below, no other quantitative studies were found that reported on people's perceived main messages in motor vehicle ads.

Advertising impact on attitudes, intentions and behaviour

While many cross-sectional and longitudinal studies show that alcohol advertising and promotion predict attitudes to alcohol and drinking behaviours, few studies have looked at the immediate impact of specific alcohol advertisements. However, these have confirmed that alcohol advertisements *do* impact attitudes towards alcohol (expectancies), purchase intention and consumption, and primarily via advertising likeability. For example, Miller and Mizerski [65] examined the impact of beer advertising on young Australians aged 12 to 16 years and concluded that beer advertising has a potentially causal influence on underage teens' intentions to consume beer [65].

Chen et al. [58] investigated the affective responses of underage youth to specific elements commonly used in US alcohol television advertisements, such as animated characters, music, storyline and humour. They found that liking of specific elements contributed to the overall likeability of the advertisements and subsequent purchase intent of the product and brand promoted. At a population level, Snyder et al. [42] collected data from random samples of individuals aged 15 to 26 years from households in 24 US media markets as well as alcohol advertising expenditures in these markets. Their results indicated higher rates of alcohol consumption among youth who saw more alcohol advertisements. Further, youth in markets of higher expenditure drank more than those in markets of lower expenditure. Snyder et al. [42] concluded that alcohol advertising does contribute to increased alcohol consumption of youth.

No motor vehicle advertising studies were found that attempted to systematically assess the impact of motor vehicle advertising on viewers' attitudes towards unsafe driving practices or on actual unsafe driving behaviour.

While assessing perceived message take-out and attitudinal effects are comparable for motor vehicle advertising and other product advertising, assessing the impact of motor vehicle advertising on risk-taking and unsafe driving behaviours is far more challenging than assessing the impact of alcohol, tobacco and food advertising on consumption. However, research for assessing the impact of video games on risk cognitions and driving behaviour could be adapted for this purpose. Fischer et al [48] used measures of risk-related cognitions and risk-related affect to assess the effects of playing racing games versus neutral games. Such measures could be incorporated in standard copy testing methods applied to measuring motor vehicle advertising effects. Further, following Fischer et al. [48] individuals can be exposed to either motor vehicle advertising depicting risky and unsafe driving or to neutral advertising prior to undertaking simulated critical driving tasks that measure willingness to take risks in traffic situations. The extent to which the former display more risk-taking practices or make more risky decisions would indicate the impact of these depictions.

A research framework for improving motor vehicle advertising compliance with advertising codes

The above review suggests that more focused research would be helpful for identifying motor vehicle advertising that fosters or reinforces undesirable attitudes and behaviours and breaches applicable codes. Following the example of alcohol advertising, it is recommended that research into motor vehicle advertising include both expert content analysis and audience impact of the advertising, and that the results of the research be used to refine and revise self-regulatory codes on an ongoing basis. Following alcohol advertising research, it would be important to assess the impact of motor vehicle advertising on young people under the driving age as well as those of driving age.

Specifically it is recommended that:

- (1) A systematic sample of motor vehicle advertising – electronic and print - be drawn on an ongoing annual basis.
- (2) Content analysis of advertising themes be undertaken and mapped against code articles to identify possible breaches. Following Jones and Donovan [66] these judgements should be conducted by independent marketing experts using coding frameworks developed in conjunction with road safety experts.
- (3) Target audience reactions to the ads, including message take-out, personal relevance and ad likeability be measured, along with impact on attitudes to driving practices. Where applicable, message take-out and other impact measures to be mapped against code articles for potential breaches and specific execution elements identified that impact on undesirable driving practices and attitudes.
- (4) Target audience reactions be obtained for both underage youth and licensed drivers with an emphasis towards younger drivers (up to 25 years).
- (5) Target audience reaction to the ads should be assessed following copy testing methods commonly used by commercial advertising researchers. These techniques naturally focus on the extent to which the ads can achieve their brand attitude and purchase intentions, and need to be augmented with measures that assess the unintended or undesirable impacts of advertising, in particular in this case, risk-related cognitions and affect. Such copy testing methods have been adopted and adapted for assessing the potential effectiveness for a variety of health and social marketing campaigns, including road safety advertising [67].
- (6) Where indicated by the content analysis or audience reaction data, behavioural impact should be assessed using post exposure measures of risk taking in computer-simulated road traffic situations.

Evidence from the above would provide a sound basis to make and support relevant recommendations to better inform the content of motor vehicle advertising regulatory codes and to monitor compliance with these codes.

Target audience reactions to motor vehicle advertising: an example of improved monitoring of code compliance

The Federal Chamber of Automotive Industries (FCAI) Code in Appendix 1 states that the use of fantasy and exaggeration should not be used in a way that undermines the Code. The Code also asks advertisers to consider both explicit and implicit messages conveyed in advertisements. However, a perusal of Advertising Standards Board (ASB) deliberations suggests that members focus on explicit literal interpretations of Code articles in ads and simply ignore any implicit messages. Similarly, ASB members appear to use the fantasy exclusion as justification for dismissing complaints rather than taking steps to assess whether these executions convey messages contrary to the Code. While such actions may be seen to demonstrate a bias towards the advertising industry that employs them for this task, an alternative explanation is that the ASB members are simply not qualified to make judgements about implicit and indirect communications. Hence target audience reactions can be a useful source of information for the ASB when assessing ads against the Code.

In a recently published study [63] the authors selected three motor vehicle ads that had been the subject of speed and other performance complaints to the Australian Advertising Standards Bureau. Complaints about one ad had been upheld but complaints about the other two had been dismissed, largely on the grounds that although vehicular performance attributes were depicted, the ads used 'fantasy' or 'clearly exaggerated' executions to depict these attributes. The implication of the ASB's rulings is that when performance attributes are communicated in exaggerated or fantasy executions, then their impact is largely neutralised. This is a rather puzzling situation for an advertising industry body given abundant evidence that the creative use of visual metaphors or special effects can be equally, if not more, effective at communicating desired messages than literal executions [68, 69], possibly because such executions bypass the critical analyses that literal executions are subject to [70].

We exposed the three complained-about ads to N= 463, 14–55 year olds to assess the extent to which their perceptions of the content of the ads communicated themes that were contrary to the Australian self-regulatory code. Two types of message take-out variables were developed to assess Code compliance: one set relating to literal interpretations of vehicular depictions and messages in the ads and one set relating to indirect messages resulting from vehicular depictions. The first set focused on vehicular attributes being promoted in the ads and whether or not these complied with the Code (reported in [63]), and the second set focused on whether the vehicular depictions promoted positive expectancies about unsafe driving practices (reported in [64]).

With respect to literal Code interpretations, based on vehicular actions in the ads and the articles of the FCAI Code, respondents were asked whether they thought that the advertisement 'implied or suggested' that the advertised vehicle 'can take corners at high speeds', 'can accelerate quickly', and, relative to other vehicles, 'is more powerful' and 'can go faster'

(than other vehicles). (Reflecting the claim in the one advertisement, the powerful and faster attributes were measured relative to sports cars). It was found that almost two thirds or more of respondents considered that each of these performance attributes was implied or suggested in all three ads. Overall, approximately 90% of respondents nominated at least one of these performance attributes as being promoted in the advertisement. That is, for the vast majority of viewers, all three advertisements were seen to be promoting the vehicle's performance, and, in particular, power, acceleration or speed capabilities even though the ASB had upheld complaints about only one of the ads. These results confirm that the use of metaphor, fantasy and exaggeration can be equally effective in communicating product attributes - in this case, performance attributes - of motor vehicles. They also show that advertisers can make use of this 'loophole' to avoid the Code's restrictions.

The Code also refers to not depicting driver behaviours that would be illegal. Hence respondents were asked whether the driver behaviour shown in the ad would attract the attention of police, and, if so, what action the police would take. Almost two thirds or more for each ad stated that police would stop the vehicle and issue an infringement notice or an official caution.

With respect to perceptions of positive expectancies about undesirable driving behaviours, again based on the actual vehicle depictions in the ads and the Code articles with respect to performance attributes, respondents were asked whether the advertisement implied or suggested that 'it's cool to drive a powerful car', 'it's a good feeling to go fast', 'you can make other drivers get out of your way when you drive a powerful car', and 'it's fun to race other cars'. It was found that almost two thirds or more of viewers considered these advertisements were implying or suggesting 'it's cool to drive a powerful car' and 'it's a good feeling to go fast' while approximately one third or more considered that the ads implied or suggested 'you can make other drivers get out of your way when you drive a powerful car' and 'it's fun to race other cars'. Overall, approximately four in five viewers of each ad considered that the advertisement promoted at least one of these positive expectancies.

Given the potential influence of modelling in advertising and as a further measure of implicit messages, respondents were presented with the following alternative driver descriptions and asked to nominate which alternative each advertisement was 'implying or suggesting' described people who drive the advertised vehicle: 'take risks when driving or be very careful when driving; exceed the speed limit when they think they can get away with it or always stay at the speed limit; be an aggressive driver or a courteous driver; try to beat other cars at lights or not try to beat other cars at the lights; take chances when overtaking or not take chances when overtaking'. It was found that between almost two thirds and three quarters of viewers of each advertisement nominated a driver with undesirable characteristics. Overall, almost all respondents nominated at least one undesirable driver characteristic for each of the three ads.

Conclusion

The above findings indicate that the current means of assessing motor vehicle advertising compliance with the FCAI are inadequate. The target audience research shows that ads that clearly breach the Code in terms of promoting speed, depicting reckless and illegal driving and promoting positive expectancies about unsafe driving behaviours, are being endorsed as compliant by the advertising regulatory body the Advertising Standards Bureau. The findings indicate that measuring target

audience reactions to ads is a useful - if not necessary (in some cases) - tool for assessment of motor vehicle advertising code compliance. Just as commercial copy testing items and methods have been adopted and adapted to assess the potential effectiveness of road safety advertising (e.g., [67, 71]), the examples described above suggest they also can (and should) be used to assess Code compliance.

Appendix 1. FCAI Voluntary Code of Practice for Motor Vehicle Advertising in Australia*

CODE OF PRACTICE FOR MOTOR VEHICLE ADVERTISING

GUIDANCE TO ADVERTISERS

The FCAI supports a responsible approach to advertising for motor vehicles. FCAI asks advertisers to be mindful of the importance of road safety and to ensure that advertising for motor vehicles does not contradict road safety messages or undermine efforts to achieve improved road safety outcomes in Australia.

Advertisers should ensure that advertisements do not depict, encourage or condone dangerous, illegal, aggressive or reckless driving. Moreover, advertisers need to be mindful that excessive speed is a major cause of death and injury in road crashes and accordingly should avoid explicitly or implicitly drawing attention to the acceleration or speed capabilities of a vehicle.

FCAI acknowledges that advertisers may make legitimate use of fantasy, humour and self-evident exaggeration in creative ways in advertising for motor vehicles. However, such devices should not be used in any way to contradict, circumvent or undermine the provisions of the Code.

In particular, it is noted that use of disclaimers indicating that a particular scene or advertisement was produced under controlled conditions; using expert drivers; that viewers should not attempt to emulate the driving depicted; or expressed in other similar terms, should be avoided. Such disclaimers cannot in any way be used to justify the inclusion of material which otherwise does not comply with the provisions of the Code.

Advertisers should avoid references to the speed or acceleration capabilities of a motor vehicle (for example, “0-100 km/h in 6.5 seconds”). Other factual references to the capabilities of the motor vehicle (for example, cylinder capacity, kilowatt power of the engine, or maximum torque generated) are acceptable, provided that they are presented in a manner that is consistent with the provisions of the Code.

In interpreting and applying the Code, FCAI asks that advertisers take into account both the explicit and implicit messages that are conveyed by an advertisement. Advertisers should make every effort to ensure that advertisements not only comply with the formal provisions of the Code but are also consistent with the objectives and guidelines expressed in these.

GENERAL PROVISIONS

Advertisers should ensure that advertisements for motor vehicles do not portray any of the following:

- (a) Unsafe driving, including reckless and menacing driving that would breach any Commonwealth law or the law of any State or Territory in the relevant jurisdiction in which the advertisement is published or broadcast dealing with road safety or traffic regulation, if such driving were to occur on a road or road-related area, regardless of where the driving is depicted in the advertisement.
- (b) People driving at speeds in excess of speed limits in the relevant jurisdiction in Australia in which the advertisement is published or broadcast.
- (c) Driving practices or other actions which would, if they were to take place on a road or road-related area, breach any Commonwealth law or the law of any State or Territory in the relevant jurisdiction in which the advertisement is published or broadcast directly dealing with road safety or traffic regulation.
- (d) People driving while being apparently fatigued, or under the influence of drugs or alcohol to the extent that such driving practices breach any Commonwealth law or the law of any State or Territory in the relevant jurisdiction in which the advertisement is published or broadcast dealing directly with road safety or traffic regulation.
- (e) Deliberate and significant environmental damage, particularly in advertising for off-road vehicles.

* Source: *Federal Chamber of Automotive Industries (2004)*

References

1. World Health Organization. Fact Sheet No. 310, The Top Ten Causes of Death. 2011.
2. World Health Organization. World report on road traffic injury prevention. Geneva: WHO; 2004].
3. United Nations. Global road safety crisis: report to the Secretary-General, Fifty-eighth session: United Nations; 2003. Report No.: A/58/150].
4. Australian Transport Council. National Road Safety Strategy 2011 - 2020. Canberra: Australian Transport Council; 2011].
5. World Health Organization. Youth and road safety. Switzerland: WHO; 2007].
6. Macaulay J, Gunatillake T, Tziotis M, Fildes B, Corben B, Newstead S. On-Road Evaluation of Perceptual Countermeasures. Canberra: Australian Transport Safety Bureau; 2004. Report No.: CR219.
7. McCann U. Insider's Report: Robert Coen presentation on advertising expenditures. New York: Universal McCann; 2005].
8. AdAge. Global Marketers 2010. 2010 [updated 2010; cited 2011 22 June]; Available from: <http://adage.com/datacenter/globalmarketers2010#106>.
9. AdAge. Marketer Trees 2011. 2011 [updated 2011; cited 2011 22 June]; Available from: <http://adage.com/datacenter/markertrees2011/>.
10. Nielsen. The Top Media Advertisers. 2011[updated 2011 cited 2011 22 June]; Available from: <http://au.nielsen.com/site/documents/NielsenTopMediaAdvtrs2010Sample.pdf>.
11. Endicott C. 19th Annual Global Marketing. November 14, 2005 ed. Chicago: Advertising Age; 2005. p. 1-53.
12. BandT. Special Report 2006 Top 50 Advertisers. www.bandt.com.au; 2006.
13. Macleod C. Global adspend trends. International Journal of Advertising. 2006;25(1):125-7.
14. Sofoulis Z, Noble G, Redshaw S. Youth, Media and Driving Messages: Report of the Transforming Drivers Media Study. An ARC Linkage Grant in partnership with the National Roads and Motorists Association Limited (NRMA). Sydney: University of Western Sydney; 2005].
15. Schonfeld C, Steinhardt D, Sheehan M, editors. A content analysis of Australian motor vehicle advertising: effects of the 2002 voluntary code on restricting the use of unsafe driving themes. Australasian Road Safety Research, Policing and Education; 2005; Wellington, NZ. Australasian Transport Safety Bureau and Queensland Transport.
16. Wheels Magazine. Australia; 2006 [updated 2006; cited]; July Issue:[Available from: http://wheels.carpoint.ninems.com.au/portal/alias__wheelsau/tabID__500851/DesktopDefault.aspx].
17. Consumer Guide Automotive. INDUSTRY INSIDER: CG's Best Buys for 2005. 2006 [updated 2006 June 30, 2006; cited 2007 15 May]; Available from: http://auto.consumerguide.com/articles/index.cfm/act/featuredarticles/article/FA_Best-Buy.html.
18. Shin P, Hallett D, Chipman M, Tator C, Granton J. Unsafe driving in North American automobile commercials. Journal of Public Health. 2005;27(4):318-25.
19. Tamburro R, Gordon P, D'Apolito J, Howard S. Unsafe and violent behavior in commercials aired during televised major sporting events. Pediatrics. 2004;114(6):694-8.
20. Ferguson S, Hardy A, Williams A. Content analysis of television advertising for cars and minivans: 1983-1988. Accident analysis and prevention. 2003;35:825-31.
21. Skaar N, Williams J, editors. Gender differences in predicting unsafe driving behaviors in young adults. Third International Driving Symposium on Human Factors in Driver Assessment, Training and Vehicle Design; 2005; Maine, USA. University of Northern Iowa.
22. Bandura A. Social Learning Theory. Englewood Cliffs, NJ: Prentice Hall, c1977; 1977.
23. Vakratsas D, Amber T. How Advertising Works: What Do We Really Know? Journal of Marketing. [MW]. 1999;63(1):26-43.
24. Ruiz S, Sicilia M. The impact of cognitive and/or affective processing styles on consumer response to advertising appeals. Journal of Business Research. 2004;57:657-64.
25. Buijzen M, Valkenberg P. The unintended effects of television advertising: a parent-child survey. Communication Research. 2003;30(5):483-503.
26. Story M, French S. Food advertising and marketing directed at children and adolescents in the US. International Journal of Behavioral Nutrition and Physical Activity. 2004;1(3):1-17.
27. Moses L, Baldwin D. What can the study of cognitive development reveal about children's ability to appreciate and cope with advertising? Journal of Public Policy and Marketing. 2005;24(2):186-201.
28. Rhen N, Room R, Edwards G. Alcohol in the European Region: consumption, harm and policies. Geneva: WHO; 2001.
29. Moore E, Lutz R. Children, advertising, and product experiences: a multimethod inquiry. Journal of Consumer Research. 2000;27(1):31-48.
30. Wright P, Friestat M, Boush D. The development of marketplace persuasion knowledge in children, adolescents, and young adults. American Marketing Association. 2005;24(2).
31. Villani S. Impact of media on children and adolescents: a 10-year review of the research. J Am Acad Child Adolesc Psychiatry. 2001;40(4):392-401.
32. Valkenburg P. Media and youth consumerism. Journal of Adolescent Health. 2000;27S:52-6.
33. Altman D, Levine D, Coeytaux R, Sladem J, Jaffe R. Tobacco promotion and susceptibility to tobacco use among adolescents aged 12 through 17 years in a nationally representative sample. American Journal of Public Health. 1996;86(11):1590-3.
34. Braverman M, Aaro L. Adolescent smoking and exposure to tobacco marketing under a tobacco advertising ban: findings from 2 Norwegian National samples. American Journal of Public Health. 2004;94(7):1230-8.
35. Hastings G, Anderson S, Cooke E, Gordon R. Alcohol marketing and young people's drinking: a review of the research. Journal of Public Health Policy. 2005;26(3):296-311.
36. Wiecha J, Peterson K, Ludwig D, Kim J, Sobol A, Gortmaker S. When children eat what they watch: impact of television viewing on dietary intake in youth. Archives of Pediatrics and Adolescent Medicine. 2006;160(4):436-43.
37. Coon K, Tucker K. Television and children's consumption patterns. A review of the literature. Minerva Pediatr. 2002;54(5):423-36.
38. McLellan F. Marketing and advertising: harmful to children's health. The Lancet. 2002;360:1001.
39. Caroli M, Argentieri L, Cardone M, Masi A. Role of television in childhood obesity prevention. International Journal of Obesity. 2004;28:S104-S8.
40. Jones S, Donovan R. Messages in alcohol advertising targeted to youth. Australian and New Zealand Journal of Public Health. [KD]. 2001;25:126-31.
41. Carroll T, Donovan R. Alcohol marketing on the Internet: new challenges for harm reduction. Drug and Alcohol Review. [KD]. 2002;21:83-91.
42. Snyder L, Fleming Millici F, Slater M, Sun H, Yulia S. Effects of alcohol advertising exposure on drinking among youth. Archives of pediatrics and Adolescent Medicine. [RO]. 2006;160:18-24.

43. Austin E, Hust S. Targeting Adolescents? The content and frequency of alcoholic and nonalcoholic beverage ads in magazine and video formats November 1999-April 2000. *Journal of Health Communication*. 2005;10:769-85.
44. Gardner M, Steinberg L. Peer influence on risk taking, risk preference and risky decision making in adolescence and adulthood: an experimental study. *Developmental Psychology*. 2005;41(4):625-35.
45. Pechmann C, Levine L, Loughlin S, Leslie F. Impulsive and Self-Conscious: Adolescents Vulnerability to Advertising. *Journal of Public Policy and Marketing* 2005;24(2):202-21.
46. Chapman S, Blows S, editors. Self-regulation of speed themes in Australian motor vehicle advertising: perceptions of 204 young drivers. Paper presented at the Road Safety Research, Policing and Education Conference; 2003 Sydney.
47. Walker L. Car culture, technological dominance, and young men of the working class. (eds) ISTaMM, editor. North Melbourne: Pluto Press; 2003.
48. Fischer P, Kubitzki J, Guter S, Frey D. Virtual driving and risk taking: Do racing games increase risk-taking cognitions, affect, and behaviors? *Journal of Experimental Psychology: Applied*. 2007;13(1):22-31.
49. World Health Organization. Global Strategy on diet, physical activity and health. Geneva: WHO; 2004c.
50. European Advertising Standards Alliance. EASA Issue Brief on Motor Vehicle Advertising and Road Safety. 2004 [updated 2004; cited 22 May 2006]; Available from: <http://www.easa-alliance.org>.
51. ITC. 2003 [cited viewed 5 June 2006]. Available from: <http://www.itc.org.uk/>.
52. Broadcasting - TV [database on the Internet]. Ofcom. 2006 [cited viewed 5 June 2006]. Available from: <http://www.ofcom.org.uk/tv/>.
53. Rotfeld J, Jevons C, Powell I. Australian media vehicles' standards for acceptable advertising. *Journal of Advertising*. 2004;33(4):65-73.
54. Federal Chamber of Automotive Industries. Code of practice relating to advertising for motor vehicles. Canberra: FCAI; 2004 Contract No.: Document Number].
55. Australian Transport Safety Bureau. Road Safety in Australia: A Publication Commemorating World Health Day 2004. Canberra: Commonwealth of Australia; 2004b.
56. Advertising Standards Bureau. Review of operations 2004. Canberra; 2005.
57. Advertising Standards Bureau. Review of operations 2005. Canberra: ASB; 2006.
58. Chen M, Grube J, Bersamin M, Waiters E, Keefe D. Alcohol Advertising: What makes it attractive to youth? *Journal of Health Communication*. 2005;10:553-65.
59. Fleming K, Thorson E. Alcohol advertising exposure and perceptions: links with alcohol expectancies and intentions to drink or drinking in underaged youth and young adults. *Journal of Health Communication*. 2004;9(1):3-29.
60. Hill S, Thomsen S, Page R, Parrott N. Alcohol advertisements in youth-oriented magazines: persuasive themes and responsibility messages. *American Journal of Health Education*. 2005;36(5):258-65.
61. Donovan K, Donovan R, Howat P, Weller N. The content and frequency of alcoholic beverage advertisements and sales promotions in popular magazines. *Drug and Alcohol Review*. 2007;26:73-81.
62. Sheehan M, Steinhardt D, Schonfeld C. A content analysis of Australian motor vehicle advertising. Civic Square, ACT: Australian Transport Safety Bureau.; 2006. Report No.: CR228.
63. Donovan R, Fielder L, Ouschan R, Ewing M. Self-Regulation of Motor Vehicle Advertising: Is it Working in Australia? *Accident Analysis and Prevention*. 2011a;43(3):631-6.
64. Donovan RJ, Fielder LJ, Ouschan R. Do motor vehicle ads that promote vehicle performance attributes also promote undesirable driving behaviour? *Journal of Public Affairs*. 2011b;11(1):25-34.
65. Miller R, Mizerski D, editors. Using the RCE scales to test the effect of beer ads in underage teen intention to consume and reported consumption of beer. ANZMAC Conference: Advertising/Communication Issues; 2005; Fremantle.
66. Jones S, Donovan R. Self-regulation of Alcohol Advertising: Is it working for Australia. *Journal of Public Affairs*. [RD]. 2002;2(3):153-65.
67. Donovan R, Jalleh G, Henley N. Executing effective road safety advertising: are big production budgets necessary? *Accident Analysis and Prevention*. 1999; 31:243-52.
68. McQuarrie EF, Mick DJ. Visual rhetoric in advertising: text-interpretive, experimental, and reader-response analyses. *Journal of Consumer Research*. 1999;26:37-54.
69. Ang L. Towards a structural theory of creativity in print advertising: the remote associate matching model. In: Cadeaux J, Uncles M, editors. Australian and New Zealand Marketing Academy Conference 1999; Sydney, NSW. 1999.
70. Pollay RW. The distorted mirror: reflections on the unintended consequences of advertising. *Journal Marketing*. 1986;50(April):18-36.
71. Lewis IM, Watson BC, White KM. Response efficacy: the key to minimizing rejection and maximizing acceptance of emotion-based anti-speeding messages. *Accident Analysis and Prevention*. 2010;42(2):459-67.