A Content Analysis of Australian Motor Vehicle Advertising: Effects of the 2002 Voluntary Code on Restricting the Use of Unsafe Driving Themes[1]

Cynthia Schonfeld, Dale Steinhardt, Mary Sheehan
Centre for Accident Research and Road Safety – Queensland (CARRS-Q)

The Federal Chamber of Automotive Industries (FCAI) introduced its "Advertising for Motor Vehicles Voluntary Code of Practice" in August 2002 for newly produced advertisements, expanding its scope in December 2002 to apply to all Australian motor vehicle advertisements. The code has since been revised in July 2004 as a result of stakeholder feedback. The current project, coordinated by CARRS-Q, funded by Queensland Transport and the Australian Transport Safety Bureau, aims to evaluate the effectiveness of the Australian code and its subsequent revision in regulating the content of motor vehicle advertising in this country. A random sample of 380 Australian motor vehicle manufacturer advertisements from 1999-2004 was selected for the study to enable a comparison of content before and after the introduction of the voluntary code and its revision. The content analysis utilised an extensive list of major and minor themes described in an earlier study by Ferguson et al (2003) and built on using additional themes identified in the Australian code and similar overseas advertising codes active in New Zealand, Europe and the United Kingdom. The results will be used to inform a review of the FCAI code.

Expenditure by motor vehicle companies both in Australia and globally indicates that a significant amount of their money and resources is spent on advertising. Ford's global 2003 budget for advertising alone was reported as being $2.7 billion US (Ford Motor Company, 2003). Similarly large advertising budgets are reported by General Motors with advertising expenses averaging $4.4 billion US annually from 2001 to 2003. To put these figures in perspective, research and development expense averaged $5.9 billion US annually in the same time period (General Motors Corporation, 2003). Honda has also recently spent $80 million US in a single campaign to launch two new vehicles (Halliday, 2000). These figures suggest that motor vehicle advertisers have considerable resources and potential to deliver their messages to consumers.

Advertising has been conceptualised as both a dominant medium capable of controlling and forming people's attitudes and choices and as an influence that is effective only when it is tapping into existing predispositions to strengthen intentions to perform certain behaviours (Sandage, Fryburger, & Rotzoll, 1979). The Perception / Experience / Memory model of advertising postulates that perceptions formed through prior experience can be reaffirmed by an advertisement, as well as changed or reversed entirely due to the subjective interpretations gleaned from the advertisement (Hall, 2002). It is debatable though whether advertising is capable of manipulating the culture of a society as a "monolithic" entity, or if it merely reflects thoughts and perceptions already present (cp Holbrook, 1987; Pollay, 1986). Pollay (1986) favours advertising as a manipulative agent, but recognizes that it still reflects the current climate of society, albeit in a distorted fashion. Advertising is suggested to work at multiple levels, impacting on social interaction, family structure, personal perceptions and targeted consumer-related outcomes (Buijzen & Valkenburg, 2003; Pollay, 1986).

These multiple paths of influence are particularly relevant to behaviours in the road safety field where the influences of peers, social groups and the media have been noted as important. The behaviour of peers has been shown to have an influence on general antisocial behaviours of adolescents such as delinquency (Elliott & Menard, 1996) and alcohol use (Bray, Adams, Getz, & McQueen, 2003) as well as specific road safety measures such as the

incidence of drink driving (Brown, 1998; Gibbons, Lane, Gerrard, Pomery, & Lautrup, 2002) and the display of 'risky driving' (Fergusson, Swain-Campbell, & Horwood, 2003).

Advertisers utilise particular paths of influence depending on their target audience. Analysis of advertisements targeting younger audiences have been shown to rely more on actively engaging the consumer, while non-age specific advertisements tend to use more linguistically complex terminology and evidence-based methods more appropriate to older consumers (Rovinelli & Whissell, 1998). Through such methods, advertising can shape perceptions to the degree that certain ways of acting and feeling are associated with a brand image. Baran and Blasko (1984) demonstrate how perceptions of the advertisement-based expected behaviour of others can be shaped by the car one drives or the toothpaste one uses.

The nature and effectiveness of public health advertising campaigns have been a focus of past research both generally and in the domain of road safety (Donovan, Jalleh, & Henley, 1999; Fry, 1996; Glendon & Cernecca, 2003; Griffeth & Rogers, 1976; Robertson, 1976; Rossiter & Thornton, 2004; Tay & Watson, 2002). Extensive public health campaigns are cited as a key reason for the culture-shift that has occurred towards the condemnation of drink-driving behaviour in Australia (Danton, Done, Misselke, & Bacon, 2003). However, it has only been recently that researchers have begun to look at public health advertisements in the context of a larger commercial presence which may be working against the positive messages. For example, alcohol advertising research has referred to public-health advertisements as 'counter-ads' to the themes presented by manufacturers in industry commercials(Agostinelli & Grube, 2002)The effectiveness and possibility of using counter-advertising has been recently highlighted by alcohol researchers. Although this research has identified the potential benefits of challenging those images presented in commercial advertising, further refinement of the best way to do this remains an aim for future research (Agostinelli & Grube, 2002).

One reason cited for the relatively small road safety impact of driver education is its relatively minor influence on driving behaviour in comparison to the myriad of other factors (Mayhew & Simpson, 2002). This research raises the question as to whether vehicle advertising can contribute to a broad driving culture that glorifies speed and dangerous driving. Particular focus in this sense should be given to young drivers who have been shown through research to be attentive to speed themes shown in advertisements. An Australian study by Chapman and Blows (2003) showed that the proposed messages of motor vehicle advertisements are able to be clearly transferred to groups of 18-35 year-old drivers. The researchers showed the sample of young drivers a subset of 26 motor vehicle advertisements that were thought to use themes promoting speed. The theme of speed was identified readily by the participants suggesting the performance messages are being received by this population group (Chapman & Blows, 2003). Results from a driving survey given to 88 Canadian novice drivers also showed that the only question on which a significant gender difference was found was "It is important to have a car that is powerful and fast" (Tilleczek, 2004). Young drivers are also more likely to value the symbolic, rather than functional, benefits of their vehicles and driving (Steg, 2005). A study by the UK Automobile Association in 1992 found that although most teenagers did not consider themselves to be the target of motor vehicle advertisements, young males in particular took note of the depictions of speed and danger featured (Automobile Association, 1992).

Several international jurisdictions have established advertising codes in response to concerns with the messages being conveyed in motor vehicle advertising. Specific codes in relation to road safety content are currently in operation in some mainland European countries, the United Kingdom and New Zealand. In the mid 1980s when the New Zealand Consumer Product Safety Commission (CPSC) introduced an advertising regulatory action regarding the advertising of all terrain vehicles (ATV), research was conducted to examine the resulting trends in relevant media. A content analysis of 948 print ATV advertisements in 47 publications was conducted (Ford & Mazis, 1996) comparing the time periods before and after advisory action began. Although the number of safety messages delivered through ATV

advertisements increased, a reduction was not found in the number of messages about racing or claims about operating on rough terrain, both of which were prohibited by the decree. Ford and Mazis (1996) appealed to the CPSC to revise the approach taken to guiding the advertising of ATVs.

In a longitudinal study of American motor vehicle advertisements, content analysis was used to compare recent advertising in 1998 to advertisements from the sample years of 1993, 1988, and 1983 (Ferguson, Hardy, & Williams, 2003). Five hundred and sixty one advertisements were selected from 1998, and approximately 100 further advertisements were selected from each of the comparison years. Each advertisement was analysed using twenty-two primary themes, each broken down into various attributes. The results showed performance was the focus of 17% of advertisements in 1998 making it the most commonly used theme in car advertisements for that year (Ferguson et al., 2003). Surprisingly, 'Exciting/ fun to drive', a theme possibly related to 'Performance' was ranked as the equal lowest used theme (1%). 'Safety' (2%) was also ranked as an uncommon theme in motor vehicle advertising despite 84% of consumers reporting that this is an extremely or very important factor in buying a vehicle (Insurance Institute for Highway Safety, 2000).

In Australia, the 'Advertising for Motor Vehicles Voluntary Code of Practice' (herein referred to as 'the Code') (Federal Chamber of Automotive Industries, 2002) was introduced by the Federal Chamber of Automotive Industries (FCAI) to govern the content of motor vehicle advertisements. The code applied to new advertisements from the 8th of August 2002 and all advertisements from 1st of December 2002. The Code provides guidance to advertisers on themes and driving practices appropriate to depict in motor vehicle advertising. In setting these boundaries, the Code recognised the "legitimate use of motor sport, fantasy, humour and self-evident exaggeration in creative ways" (FCAI, Federal Chamber of Automotive Industries, 2002, p2) so far as they do not undermine related road safety efforts. Additionally, the Code recommended that when applying the guidelines special consideration must be made for off-road and four wheel drive vehicles travelling on non-road related areas. In the year following the implementation of the Code, the Australian Transport Safety Bureau (ATSB), State and Territory road authorities and the Australian Automobile Association (representing the State and Territory motoring associations) discussed with the FCAI their concerns about both the strength of the Code and the way it was being applied by the Advertising Standards Board (ASB) in its decisions. For example, in some cases apparently dangerous driving was accepted because it was not depicted on a road, or because humour or 'self-evident exaggeration' was employed. Road safety researchers raised concerns about the ASB's interpretation of this part of the Explanatory Notes to the Code acting as exemption clauses, allowing the promotion of the exact themes that the Code seeks to regulate (Chapman & Blows, 2003). In response to dissatisfaction amongst road safety agencies with the outcomes of the code and its regulation, the FCAI undertook a comprehensive review in 2004, in consultation with a number of safety agencies and other stakeholders, of both the vehicle advertising Code and the way it is administered,. A revised version of the Code has since been developed, coming into effect on the 1st of July, 2004 (Federal Chamber of Automotive Industries, 2004).

The current project, coordinated by CARRS-Q and funded by the Australian Transport Safety Bureau and Queensland Transport, aims to evaluate the effectiveness of the Australian code and its subsequent revision in regulating the content of motor vehicle advertising in this country. This study has adopted the methodology used by Ferguson et al (2003) to analyse the content of American motor vehicle advertisements. The same methodology and coding frameworks were adapted to accommodate the Australian context.

AIMS

1) To examine the content of Australian motor vehicle television advertisements since 1999 to determine the degree of presentation of safe and unsafe driving themes. Safe themes have been defined in this study as the presentation of either tertiary protection devices (eg: airbags and other crash protection devices), crash prevention technologies (eg: traction control) or socially-responsible driving behaviour (eg: allowing vehicles to merge). Unsafe themes on the other hand involve the depictions of unnecessary speed, loss of control, breaking of road rules or implications of the vehicle or driver being involved in such actions.

2) To assess the changes in presentation methods used in motor vehicle advertisements in relation to safe driving as a result of the introduction of the FCAI code in 2002 and the amended code in 2004.

METHOD

The same coding materials (themes and sub-themes) as used by the Ferguson et al (2003) study were used in the current study, although some adjustments were made to make the sub-themes more relevant to Australia or to add sub-themes which were relevant to either the FCAI code or other identified road safety advertising codes. Each theme and sub-theme was specifically annotated inside the codebook and coding definitions. In addition, coders were asked to nominate, out of all those primary themes that occurred in an advertisement, which were the dominant themes for that advertisement.

There were 168 advertisements viewed and coded from the period from January 1999 till 8th August 2002, when the first Australian code was introduced for new advertisements. Between the introduction of the original code and the amended code (1 July 2004), 115 advertisements were viewed and coded. Since the introduction of the amended code, and up until 31 March 2005, 97 advertisements were viewed and coded. There were a further 40 advertisements that occurred in the period 8 August 2002 until 31 December 2002, when advertisements which were being shown for the first time in Australia had to comply with the code but established advertisements did not. At the time of writing, the researchers were trying to establish which of the advertisements selected from that small time period were being shown for the first time, and which were established advertisements. As this would affect how they should be classified in terms of being pre-code or post-code advertisements, it was decided to exclude them from the current analyses. This leaves a sample of 380 advertisements to be considered in this analysis. Advertisements from each group were randomly sampled from the lists provided by an Australian media intelligence agency.

RESULTS

Three research assistants were trained in the coding process and a number of different techniques trialled until an optimum method was developed for both efficiency and accuracy. Reliability analyses were carried out on a sample of advertisements during the second week. The results of these reliability checks are presented in Table 1 below. Simple agreement refers to an averaged figure of the agreement between the three coders for each of the 22 primary themes used in the study. To control for inflation of this statistic due to chance agreement, the percentage agreement was calculated again excluding those cases where a theme was not identified by any of the coders (100% agreement). Two further stringent measures of inter-rater reliability were calculated, the intra-class correlation and Kappa statistics, both of which also control for any chance correlation. Both of these statistics showed a better than chance agreement between coders.

Table 1. Inter-rater Reliability Statistics

Ad	Simple (0-100%)	Simple-adj (0-100%)	Intra-class Correlation (0-1)	Avg Kappa (0-1)
1	90.7	66.0	0.38	0.14
2	90.7	70.9	0.60**	0.31
3	95.4	79.6	0.86**	0.66
4	86.1	66.0	0.37	0.32
5	92.3	71.6	0.76**	0.48
6	86.1	69.4	0.60**	0.32
7	87.6	69.8	0.55*	0.27
8	95.4	74.5	0.72**	0.48
9	89.2	73.6	0.74**	0.43
10	92.3	75.7	0.76**	0.51
11	87.6	72.8	0.75**	0.42
12	93.8	72.8	0.72**	0.50
Avg	90.6	71.9	0.65	0.40

* statistically significant, $p < .05$
** statistically significant, $p < .01$

Of the 12 advertisements analysed as part of this reliability analysis, 10 showed statistically significant correlations between the 3 coders used in the analysis. The correlations of 7 of these 10 significant advertisements fell between the commonly considered "reasonable" (0.7+) and "good" (0.8+) ranges.

Changes over time were tested using the Chi Square statistic and a significance level of $p<.01$ was accepted as indicating a true difference in occurrence of themes. Trends that do not meet this level of significance are also reported where appropriate. The primary themes emerging from the three time periods are presented in Table 2.

Table 2. Primary Themes from Content Analysis of Advertisements Pre-code to Post-revision

Primary Theme	Pre-Code		Post-Code		Post-Revision	
	Freq	%	Freq	%	Freq	%
Performance **	94	56.0	71	61.7	31	32.0
Exciting/Fun to Drive **	89	53.0	49	42.6	29	29.9
Attractive Styling	77	45.8	49	42.6	42	43.3
Comfort/Convenience	41	24.4	22	19.1	21	21.7
Luxury/Prestige **	40	23.8	18	15.7	7	7.2
For Families	20	11.9	9	7.8	4	4.1
New/Different	19	11.3	21	18.3	9	9.3
For Younger People	18	10.7	18	15.7	9	9.3
Safety	17	10.1	17	14.8	5	5.2
Incentives/Sales **	15	8.9	27	23.5	39	40.2
...						
Heritage **	1	0.6	7	6.1	0	0.0

** statistically significant, $p < .01$

The primary themes which showed a statistically significant decrease in occurrence (statistically significant) over the three time periods were 'Performance', 'Exciting/Fun to drive', 'Luxury/Prestige' and 'Safety'. 'Incentive' increased significantly in occurrence. Heritage decreased, but the cell sizes were very small and it could be argued that the changes are therefore not meaningful.

The data were then examined for dominant themes amongst the primary themes. Table 3 gives a summary of themes that coders considered were dominant in the

advertisements. A comparison of the ranking of a theme's occurrence over the three stages of the code was used as a measure of the changes in theme dominance. Performance was the most often dominant theme in both the pre-code and post-code phases, but dropped to 3rd in the rankings in the post-revision period. Although Exciting/fun to drive stayed at a ranking of 2nd over all three periods, it was mentioned proportionately less often post-code and even less often again post-revision. The largest increase up the rankings was Incentive/sales, which increased from being mentioned as the dominant theme in 6.6% of advertisements pre-code up to 35.1% of advertisements post-revision and it moved up the rankings from 6th to 1st. Safety was considered to be the dominant theme in only a small number of advertisements over all time periods. Apart from safety, which was included as a theme of interest, this table has only listed the top 10 themes ranked by dominance pre-code.

Table 3. Dominant Themes Compared from Pre-code to Post-revision

Dominant Theme	Pre-Code			Post-Code			Post-Revision		
	Freq	%		Freq	%		Freq	%	
Performance	83	49.4	(1)	51	44.3	(1)	21	21.7	(3)
Exciting/Fun to Drive	66	39.3	(2)	31	27.0	(2)	22	22.7	(2)
Luxury/Prestige	27	16.1	(3)	11	9.6	(5)	6	6.2	
Comfort/Convenience	22	13.1	(4)	9	7.8		15	15.5	(5)
Attractive Styling	19	11.3	(5)	21	18.3	(3)	17	17.5	(4)
For Families	11	6.6	(6)	5	4.3		3	3.1	
For Younger People	11	6.6	(6)	6	5.2		3	3.1	
Incentives/Sales	11	6.6	(6)	21	18.3	(3)	34	35.1	(1)
Economy/Good Value	10	6.0		11	9.6	(5)	11	11.3	(6)
Quality, Reliability, Durability	9	5.4		6	5.2		5	5.2	
...									
Safety	6	3.6		8	7.0		0	0.0	

Secondary themes were examined for the major areas of interest: 'Performance', 'Exciting/Fun to drive', and 'Safety'. These were the three primary themes that were of major interest to this research and significant changes did occur over the period of investigation. Changes in these secondary themes are documented in Tables 4-7.

Table 4. Performance - Secondary Themes from Content Analysis of Advertisements from Pre-code to Post-revision

Secondary Theme	Pre-Code		Post-Code		Post-Revision	
	Freq	%	Freq	%	Freq	%
Acceleration	31	18.5	12	10.4	11	11.3
Speed	43	25.6	29	25.2	12	12.4
Power	7	4.2	14	12.2	12	12.4
Manoeuvrability/Ride/Handling	52	31.0	44	38.3	21	21.6
Traction**	58	34.5	37	32.2	16	16.5
Stopping/Braking	14	8.3	8	7.0	6	6.2
Aerodynamics	1	0.6	2	1.7	0	0.0

** statistically significant, $p < .01$

'Traction' was the only 'Performance' sub-theme that changed significantly, being noted less often post-revision. Although not statistically significant, 'Speed', 'Power' and 'Manoeuvrability/Ride/Handling' all showed a trend to change in frequency of occurrence. The occurrence of 'Speed' halved post-revision and 'Manoeuvrability/Ride/Handling' also decreased. 'Power' occurred more often after the code was introduced and this could be explained by the explanatory notes to the revised code saying that advertisers should avoid direct references to speed or acceleration but that other references to vehicle power are

acceptable so long as it was within the spirit of the code.

Table 5 gives the changes over time for the sub-themes of 'Exciting/fun to drive'. 'Social experience' remained consistent, while 'Personal experience' (eg. laughing and enjoying driving) and 'Performance experience' (eg thrill riding or getting a 'kick' out of the performance of the vehicle) both decreased significantly after the introduction of the code.

Table 5. Exciting / Fun to drive -Secondary themes from content analysis of advertisements from pre-code to post-revision

Theme	Pre-code		Post-code		Post-revision	
	Freq	%	Freq	%	Freq	%
Social experience - friends	21	12.5	12	10.4	10	10.3
Social experience - family	13	7.7	7	6.1	3	3.1
Personal experience**	58	34.5	30	26.1	16	16.5
Performance experience**	82	48.8	46	40.0	22	22.7

 ** statistically significant, p < .01

'Safety' had two categories of themes: 'Safety in General' and 'Safety Features.' Table 6 shows that there were no significant changes in the general safety sub-themes. Table 7 indicates that 'Airbags' were mentioned more often post-revision, although the numbers are small at all stages and the change was not statistically significant.

Table 6. Safety in General - Secondary Themes from Content Analysis of Advertisements from Pre-code to Post-revision

Theme	Pre-code		Post-code		Post-Revision	
	Freq	%	Freq	%	Freq	%
Protection in a crash	1	0.6	1	0.9	1	1.0
Protects Children	0	0.0	0	0.0	0	0.0
Accident Avoidance	0	0.0	0	0.0	0	0.0
Personal Security	2	1.2	2	1.7	0	0.0
Vehicle Security	0	0.0	1	0.9	2	2.1
Protection from Elements	2	1.2	2	1.7	0	0.0
Aid after an accident	0	0.0	0	0.0	1	1.0
Brand supports safe driving	2	1.2	1	0.9	0	0.0

Table 7. Safety Features - Secondary Themes from Content Analysis of Advertisements from Pre-code to Post-revision

Theme	Pre-code		Post-code		Post-revision	
	Freq	%	Freq	%	Freq	%
Air Bags	8	4.8	5	4.3	12	12.4
Driver	6	3.6	4	3.5	9	9.3
Passenger	4	2.4	4	3.5	9	9.3
Side Impact	0	0.0	1	0.9	3	3.1
Communication Systems	0	0.0	0	0.0	0	0.0
Antilock Brakes (ABS)	5	3.0	6	5.2	7	7.2
Crush Zones	1	0.6	0	0.0	0	0.0
Child Safety Seats	1	0.6	0	0.0	0	0.0
Traction Control	9	5.4	6	5.2	1	1.0
Infrared detectors	0	0.0	0	0.0	0	0.0

DISCUSSION

The most encouraging result was that the occurrence of the primary themes of 'Performance' and 'Exciting/Fun to drive', both of which have some sub-themes which could be interpreted as encouraging unsafe driving, have diminished significantly since the code was introduced. 'Performance' was noted as a primary theme in 56% of advertisements prior to the introduction of the code, increased slightly (62%) after the code was first introduced, but decreased to 32% after the code was revised. While this is a positive outcome, if indeed performance themes in advertisements are likely to encourage unsafe driving practices, then it would be desirable to encourage manufacturers to continue this good work and steadily reduce the occurrence of performance in future motor vehicle advertisements. This reduction within the post-revision period may also indicate manufacturers adjusting and becoming more familiar with the code. The continued "educative process" of manufacturers described in the revised code will serve an important purpose of encouraging safe depictions in motor vehicle advertising.

Examination of the trends in sub-themes of 'Performance' show that the slight increase in 'Performance' after the introduction of the Code could be attributable to the increase in 'Manoeuvrability/Ride/Handling,'[2] which increased from 31% to 38%, and 'Power,'[3] which also increased in occurrence (4% up to 12%) in that period, although neither of these changes was statistically significant. Other sub-themes including 'Acceleration'[4], 'Speed'[5] and 'Traction'[6] all decreased after the introduction of the code or after the code was revised (only Traction showed statistical significance). This separation of performance sub-themes is important in so much as only some are associated with unsafe depictions. While acceleration and speed are commonly depicted in terms of quick take-off and the ability of the vehicle to move quickly, handling and power can associated with less contentious themes such as superior road-handling and the ability to function well as a "utility" vehicle.

'Exciting/Fun to drive' was a primary theme that also decreased significantly in occurrence after the introduction (53% down to 43%) and subsequent revision of the code (30%). Within that primary theme there were two sub-themes that showed the same pattern of decreased occurrence: 'Personal experience'[7] and 'Performance experience'[8]. These two sub-themes had an element of "thrill" driving, and it seems the code has lessened exposure to these themes. The other two sub-themes showed no meaningful change in pattern of occurrence.

There were no statistically significant changes in occurrence of any of the 'Safety' sub-themes, which is not surprising since 'Safety' as a primary theme showed no overall significant change. It is interesting to note however that 'Safety' increased slightly after the introduction of the code but was present less often after the code was revised. There were a few other primary themes which changed in one direction after the introduction of the code but then reversed that direction after the code was revised, although most of these patterns of change were not statistically significant (eg 'Luxury/Prestige', 'Comfort/Convenience', 'Durability', 'Well-engineered', 'For younger people' and 'New/Different'). These patterns may reflect the effects of having the code made much clearer as a result of the revision with manufacturers having a better understanding of what was acceptable and what was not acceptable. Another possible interpretation is that manufacturers were trying new approaches to comply with the code but modified these when the code was revised.

'Incentive/Sales' was a primary theme that increased significantly in occurrence

---

[2] vehicles turning, especially quick movements or slow movements into tight situations, claims about turning radius
[3] Hauling/pulling heavy objects, engine torque, displacement
[4] Vehicle rapidly accelerating, speedometer moving, claims of 0-60, first person view of motion,
[5] Vehicles at high speed, race cars, speed runs on test tracks, first person view of motion, mention of top speeds
[6] Driving in slick conditions, rain, snow, mud. Demonstrations/descriptions of traction control systems
[7] The pleasure of driving the vehicle (pictures of driver smiling). Thrill of driving (close-ups of pupils dilating)
[8] The vehicle itself in an implied "fun" use (thrill riding)

across the three time periods and also was rated more often as a dominant theme both after the introduction of the code and after the code was revised, to the extent that it moved from being the 6th highest ranking theme for dominance to the highest ranking theme. It seems that manufacturers have turned to this theme as the most likely replacement for Performance and Exciting/Fun to drive.

'Luxury/Prestige' was another primary theme that decreased in occurrence and it is difficult to interpret this change. A check was made on the sampling of the major luxury' vehicles and it was quite consistent across the three time periods. It therefore seems that the change in occurrence of this primary theme may have been attributable to influences other than the introduction of the code.

The main purpose of this research was to ascertain whether the 'Advertising for Motor Vehicles Voluntary Code of Practice' which was introduced by the Federal Chamber of Automotive Industries (FCAI) to govern the content of motor vehicle advertisements has significantly influenced the depiction of various themes and sub-themes in motor vehicle advertisements in this country. The most encouraging result was that the occurrence of the primary themes of 'Performance' and 'Exciting/Fun to drive', both of which have some sub-themes which could be interpreted as encouraging unsafe driving, have diminished significantly since the code was introduced. While this is a positive outcome, if indeed performance themes in advertisements are likely to encourage unsafe driving practices, then it would be desirable to encourage manufacturers to continue this good work and steadily reduce the occurrence of performance in future motor vehicle advertisements. The continued "educative process" of manufacturers described in the revised code may serve an important purpose of encouraging safe depictions in motor vehicle advertising.

REFERENCES

Agostinelli, G., & Grube, J. W. (2002). *Alcohol Counter-Advertising and the Media*. Retrieved 29 June, 2004, from http://www.niaaa.nih.gov/publications/arh26-1/15-21.htm

Automobile Association. (1992). *Unwanted But Not Unnoticed: Responses to Speedy Car Advertisements*. Basingstoke: AA Public Policy Department.

Baran, S. J., & Blasko, V. J. (1984). Social perceptions and the by-products of advertising. *Journal of Communications, 34*(3), 12-20.

Bray, J. H., Adams, G. J., Getz, J. G., & McQueen, A. (2003). Individuation, peers, and adolescent alcohol use: A latent growth analysis. *Journal of Consulting and Clinical Psychology, 71*, 553-564.

Brown, S. L. (1998). Associations between peer drink driving, peer attitudes toward drink driving, and personal drink driving. *Journal of Applied Social Psychology, 28*, 423-436.

Buijzen, M., & Valkenburg, P. M. (2003). The unintended effects of television advertising: A parent-child survey. *Communication Research, 30*, 483-503.

Chapman, S., & Blows, S. (2003). *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, Sydney.

Danton, K., Done, J., Misselke, L., & Bacon, R. (2003). Attitudes of young people toward driving after smoking cannabis or after drinking alcohol. *Health Education Journal, 62*(1), 50-60.

Donovan, R. J., Jalleh, G., & Henley, N. (1999). Executing effective road safety advertising: Are big production budgets necessary? *Accident Analysis & Prevention, 31*, 243-252.

Elliott, D. S., & Menard, S. (1996). Delinquent friends and delinquent behavior: Temporal and developmental patterns. In J. D. Hawkins (Ed.), *Delinquency and crime: current theories* (pp. 28-67). New York: Cambridge University Press.

Federal Chamber of Automotive Industries. (2002). *Code of practice relating to advertising for motor vehicles.*

Federal Chamber of Automotive Industries. (2004). *Review of Motor Vehicle Advertising Code of Practice*. Retrieved 26th November, 2004, from http://www.autoindustries.com.au/files/Key_Findings__Recommendations_as_at_24.05.pdf

Ferguson, S. A., Hardy, A. P., & Williams, A. F. (2003). Content analysis of television advertising for cars and minivans: 1983-1998. *Accident Analysis and Prevention, 35*, 825-831.

Fergusson, D., Swain-Campbell, N., & Horwood, J. (2003). Risky driving behaviour in young people: prevalence, personal characteristics and traffic accidents. *Australian and New Zealand Journal of Public Health, 27*, 337-342.

Ford, G. T., & Mazis, M. B. (1996). Informing buyers of risks: Analysis of the marketing and regulation of all terrain vehicles. *The Journal of Consumer Affairs, 30*, 90-122.

Ford Motor Company. (2003). *2003 Annual Report*. Rochester: Ford Motor Company.

Fry, T. R. L. (1996). Advertising wearout in the transport accident commission road safety campaigns. *Accident Analysis & Prevention, 28*, 123-129.

General Motors Corporation. (2003). *2003 Annual Report*. Detroit: General Motors Corporation.

Gibbons, F. X., Lane, D. J., Gerrard, M., Pomery, E. A., & Lautrup, C. L. (2002). Drinking and driving: a prospective assessment of the relation between risk cognitions and risk behavior. *Risk Decision and Policy, 7*, 267-283.

Glendon, A. I., & Cernecca, L. (2003). Young drivers' responses to anti-speeding and anti-drink driving messages. *Transportation Research: Part F, 6*, 197-216.

Griffeth, R. W., & Rogers, R. W. (1976). Effects of fear-arousing components of driver education on students' safety attitudes and simulator performance. *Journal of Educational Psychology, 68*, 501-506.

Hall, B. F. (2002). A new model for measuring advertising effectiveness. *Journal of Advertising Research, 42*, 23-31.

Halliday, J. (2000). Honda takes duo for $80 mil spin. *Advertising Age, 71*, 1 -2.

Holbrook, M. B. (1987). Mirror, mirror, on the wall, what's unfair in the reflections on advertising? *Journal of Marketing, 51*, 95-103.

Insurance Institute for Highway Safety. (2000). Car commercials don't focus on safety, despite consumer interest. *Status Report, 35*, 1-3.

Mayhew, D. R., & Simpson, H. R. (2002). The safety value of driver education and training. *Injury Prevention, 8*, 3-8.

Pollay, R. W. (1986). The distorted mirror: reflections on the unintended consequences of advertising. *Journal of Marketing, 50*, 18-36.

Robertson, L. (1976). The great seat belt campaign flop. *Journal of Communications, 26*(4), 41-45.

Rossiter, J. R., & Thornton, J. (2004). Fear-pattern analysis supports the fear-drive model for antispeeding road-safety TV ads. *Psychology & Marketing, 21*, 945-960.

Rovinelli, L., & Whissell, C. (1998). Emotion and style in 30-second television advertisements targeted at men, women, boys, and girls. *Perceptual and Motor Skills, 86*, 1048-1050.

Sandage, C. H., Fryburger, V., & Rotzoll, K. (1979). *Advertising Theory and Practice* (Tenth ed.). Homewood: Richard D. Irwin.

Steg, L. (2005). Car use: lust and must. Instrumental, symbolic and affective motives for car use. *Transportation Research Part A, 39*, 147-162.

Tay, R., & Watson, B. (2002). Changing drivers' intentions and behaviours using fear-based driver fatigue advertisements. *Health Marketing Quarterly, 19*(4), 55-68.

Tilleczek, K. C. (2004). The illogic of youth driving culture. *Journal of Youth Studies, 7*, 473-498.