Diabetes Awareness Advertisement Testing for 45 to 70 year old Western Australians

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CONTENTS

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1. Background

As part of its ongoing efforts to increase the knowledge and salience of diabetes within the community, the Diabetes Association of Western Australia Incorporated (DAWA) instigated the project *Making Diabetes a Front Page Health Issue: Increasing Diabetes Brand Knowledge*. On behalf of DAWA, the Centre for Behavioural Research in Cancer Control (CBRCC) conducted six focus groups in Perth, Bunbury and Geraldton in November 2002 with 48 males and females aged 45 years and older. The aim of this project was to inform the development of media concepts that were acceptable, credible, personally relevant and salient to Western Australians. These focus groups revealed that almost half of the participants described diabetes as a 'serious' disease but had difficulty articulating the nature of this seriousness. Few (less than one-in-seven) were personally worried about contracting the disease but most were very surprised to learn both the widespread *prevalence* and severe *consequences* of diabetes. *Prevalence* and *consequence* information were both found to be novel and equally effective at gaining participants' attention. However only information on the *consequences* of diabetes appeared to increase the personal relevance of the disease to participants. The recommendations stemming from this research were that in order to gain the attention of the target audience, opening statements for media advertisements should be about the *prevalence* of diabetes, followed by the major emphasis being on the *consequences* of diabetes (Carter, Donovan and Jalleh, 2002).

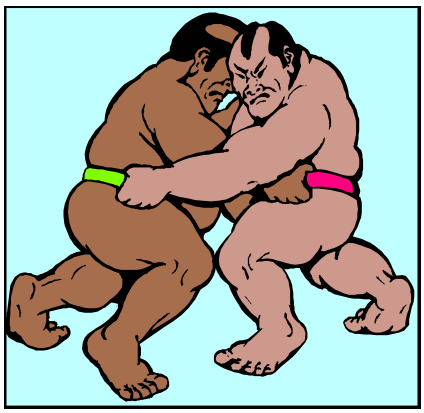
2. The Concept Advertisements

Three concept advertisements were developed by Gatecrasher Advertising based upon the CBRCC recommendations. The concept advertisements were thirty seconds each and followed an animatic format (i.e. storyboards with still images, limited sound effects and voice-overs). The outline of each concept advertisement is described below.

2.1. Storybook

A large book with a pleasant looking cover entitled "Diabetes" is displayed with a voice-over saying "Most people think that diabetes is fairly innocent – but it's not". A hand then turns the pages. Each page illustrates (gruesome) images of eye surgery, open heart surgery scars, lower limb amputation, and other miscellaneous surgical procedures. Concurrently a voice-over describes the consequences of the disease including blindness, heart disease and stroke, limb amputation, kidney failure and impotency. The advertisement finishes by saying that anyone who is over forty, overweight and has a lack of exercise is at risk of contracting diabetes. The voice-over suggests that anyone who is interested in learning more should contact the DAWA telephone number, which is displayed on the screen.

2.2. Mr "D"



The advertisement is set in a wrestling arena. A wrestler is portrayed with "Diabetes" emblazoned upon his jumpsuit. A voice-over says "Most people think diabetes is harmless – but it's not". The wrestler then descends upon an ordinary looking, slightly overweight, middle-aged man in the opposite corner and proceeds to poke him in the eyes, kick him in the groin, punch him in the chest, elbow him in the kidneys and bite at his legs. The voice-over concurrently describes the corresponding consequences of diabetes such as blindness, impotency, heart failure and stroke, kidney failure and lower limb amputation. The advertisement finishes by saying that anyone who is over forty, overweight and has a lack of exercise is at risk of contracting diabetes. The voice-over suggests that anyone who is interested in learning more should contact the DAWA telephone number, which is displayed on the screen.

2.3. Eye

The opening scene of the advertisement is set in a surgical theatre. Graphic images of eye surgery are displayed and accompanied by a voice-over stating "500,000 Australians are blind to the fact that they have diabetes – which is funny because it is the biggest cause of blindness in people under 60". The advertisement then switches to a middle-aged, slightly overweight man dressed in a singlet, gazing out a window and the voice-over says that anyone who is over forty, overweight and has a lack of exercise is at risk of developing diabetes. The voice-over suggests that anyone who is interested in learning more should contact the DAWA telephone number, which is displayed on the screen.

3. The Adtests

The CBRCC tested the three concept advertisements (*Storybook*, *Mr "D"* and *Eye*) by recruiting individuals in shopping malls in the city centre. Respondents were shown one of the three concept advertisements before completing a series of questions about the advertisement. The main objectives of the exercise were to assess:

- The effect of the advertisements on viewers' perceptions of the seriousness of diabetes;
- The effect of the advertisements on viewers' intentions to be tested for diabetes;
- The viewers' reactions and emotions evoked by the advertisements;
- The viewers' comprehension of the messages contained within the advertisements; and
- The perceived relevance and credibility of the messages to the viewers.

3.1 Methodology

3.1.1 Subjects

A total of 225 respondents was recruited between the ages of 45 and 70 years. All respondents were screened to ensure that they were Western Australian residents, did not work within the medical or health professions, and did not have diabetes. The number, age and sex distributions of participants were equally proportioned for each concept advertisement tested. The health behaviours of respondents were also measured and levels of exercise and alcohol, tobacco, fruit and vegetable consumption were found to be similar for respondents viewing each concept advertisement.

Table 1: Age, Sex and Health Behaviours of Subjects for each Ad-test

		Storybook	*Mr "D"*	*Eye*	Mean
Age	45 to 55 years	61%	61%	60%	**61%**
	56 to 70 years	39%	39%	40%	**39%**
Sex	Male	49%	49%	52%	**50%**
	Female	51%	51%	48%	**50%**
Average days per week of:					
excessive alcohol consumption*		1.0	0.5	1.0	**0.9**
eating two pieces of fruit		4.2	4.9	4.3	**4.5**
eating two cups of vegetables		5.4	5.4	4.9	**5.2**
exercise		4.1	3.4	4.0	**3.9**
Proportion who smoke		12%	13%	15%	**13%**

* defined as five or more standard drinks for males and three or more standard drinks for females

3.1.2 Materials

The concept advertisements were displayed to participants on televisions in an adtest centre centrally located within the city centre. A standardised questionnaire was administered to each participant after watching one of the concept advertisements. The questionnaire consisted of five open-ended and 21 close-ended items with five screening questions, five health related questions, and sixteen items covering topics

such as demographics and thoughts, feelings, reactions, believability, relevancy, comprehension and attitudes towards the concept advertisements.

3.1.3 Procedure

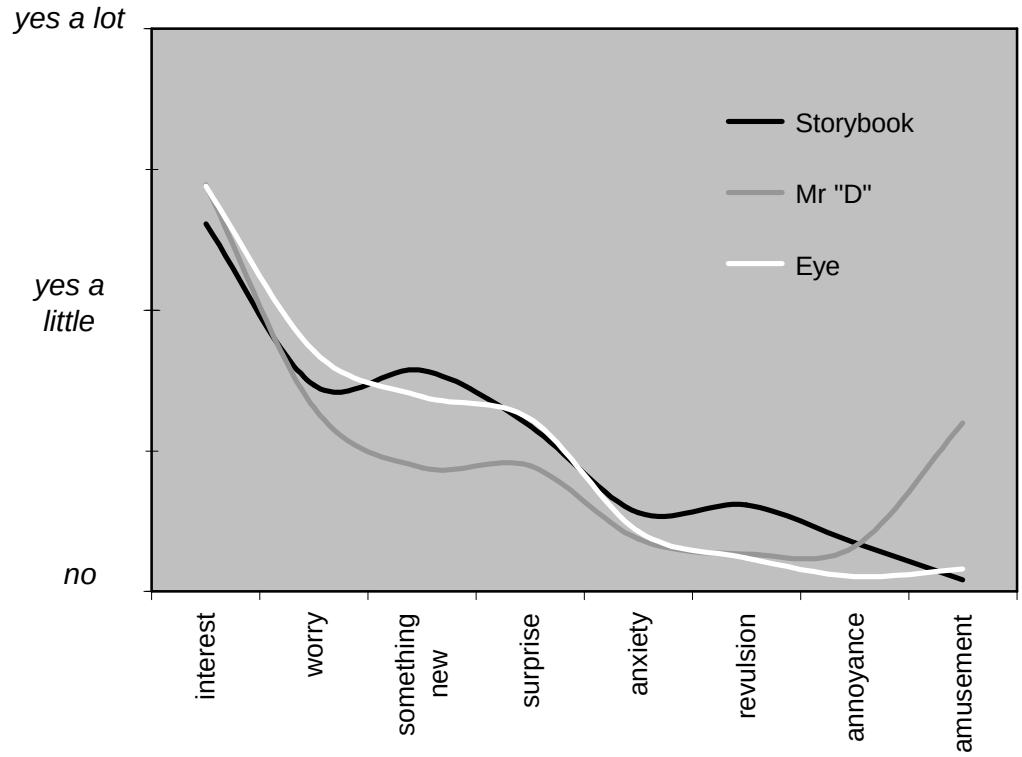
Professional interviewers approached individuals on the street and introduced themselves as from Curtin University. They explained they were conducting research on people's opinions about health issues and asked the individuals whether they would like to participate. It was explained that the entire procedure would take approximately ten minutes to complete. Those that agreed and met the selection criteria were invited to participate by accompanying the interviewer to an adtest room nearby. Participants were then shown a video recording of one of the three concept advertisements twice before being asked a series of items from the standardised questionnaire administered by the interviewer. Participants were then debriefed, thanked and allowed to leave.

3.2 Results

3.2.1 Emotions Evoked

Participants were read a list of emotions and asked whether they experienced each when watching the advertisement. Responses were recorded as either "yes, a lot", "yes, a little" or "no". Results are illustrated in Figure 1 below.

Figure 1: Average emotional ratings evoked by each advertisement



Participants rated all three advertisements as highly interesting but found *Storybook* and *Eye* more worrisome, novel and surprising than *Mr "D"*. *Mr "D"* was rated as much more amusing than the other two advertisements and *Storybook* was rated as evoking more anxiety and revulsion. Statistical analyses confirmed that *Mr "D"* was rated as significantly less novel ($p<.05$)[1] and significantly more amusing ($p<.001$)[2] than either *Storybook* or *Eye*. *Storybook* was also rated as significantly more revolting ($p<.05$)[3] than its counterparts. It is interesting to note that *Mr "D"* was rated as containing significantly less novel information, considering that *Storybook* contained the same information but in a different format. Although rated as highly interesting, it

[1] one-way ANOVA $F(2,222)=3.746$, $p=.025$
[2] one-way ANOVA $F(2,222)=33.297$; $p=.000$
[3] one-way ANOVA $F(2,222)=3.311$, $p=.038$

appears that the more "amusing" nature of *Mr "D"* served to distract from other desired emotional responses to the information it was attempting to portray.

3.2.2 Change in Perceptions of the Seriousness of Diabetes

Participants were asked how much more or less serious they thought diabetes was after watching the advertisements. Responses were recorded along a five-point rating scale from "much more serious", "more serious", "about the same", "less serious" to "much less serious". Results are illustrated in Figure 2 below.

Figure 2: Changes in the perceived "seriousness" of diabetes after watching each advertisement

Results suggest that all three advertisements were successful at increasing the perceived seriousness of diabetes for nearly half of participants (mean = 45%). No advertisement was statistically superior to the others.[4] However *Storybook* was the most successful of the advertisements with 24% of participants rating diabetes as "much more serious" in comparison to either *Eye* (16%) or *Mr "D"* (16%). A small majority of participants rated their perceived seriousness of diabetes as "about the same" (mean = 54%). This is not necessarily a cause for concern of itself. The focus

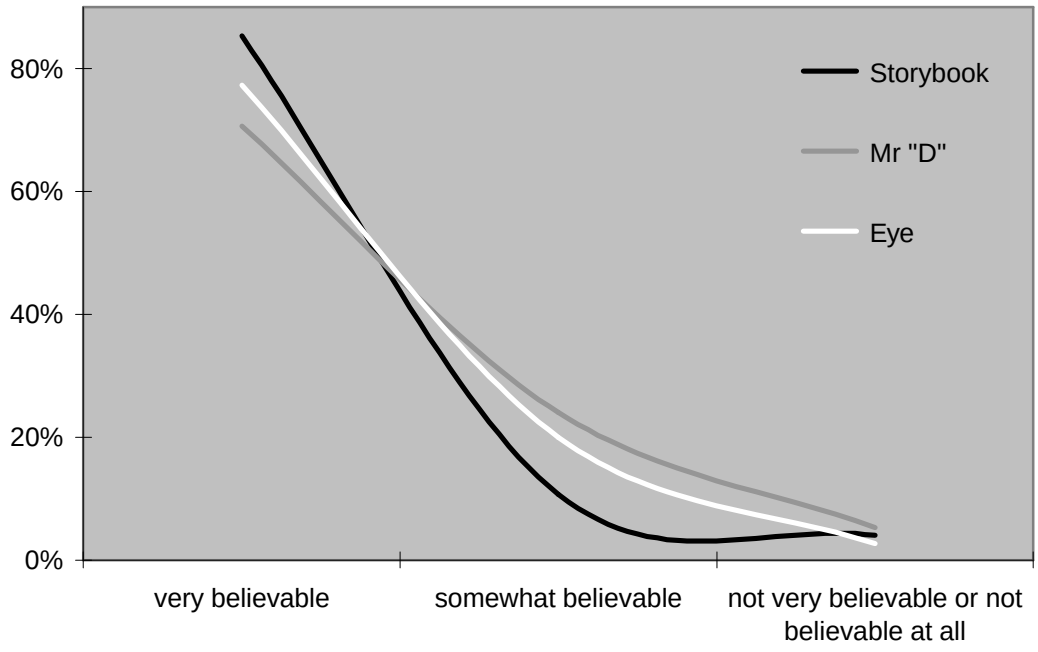
[4] one-way ANOVA: $F(2,222)=.548$; $p=.633$.

groups conducted by CBRCC prior to the adtests revealed that even before prompting, 46% of their sample considered diabetes to be "one of the most serious diseases within Australia" (Carter, Donovan & Jalleh, 2002, p.4.). Therefore the three concept advertisements presented to the current sample may have simply confirmed existent knowledge that diabetes is a serious disease, rather than minimised or reduced their perceptions of its seriousness. Less than 1% of respondents rated their perceived seriousness of diabetes as "less serious" or "much less serious" as a result of viewing the concept advertisements.

3.2.3 Believability of the Messages Imparted

Participants were asked how believable they thought the message contained within each advertisement was, with responses recorded along a four-point scale from "very believable", to "somewhat believable", "not very believable" and "not at all believable". Results are illustrated in Figure 3 below.

Figure 3: The believability of the messages of each advertisement



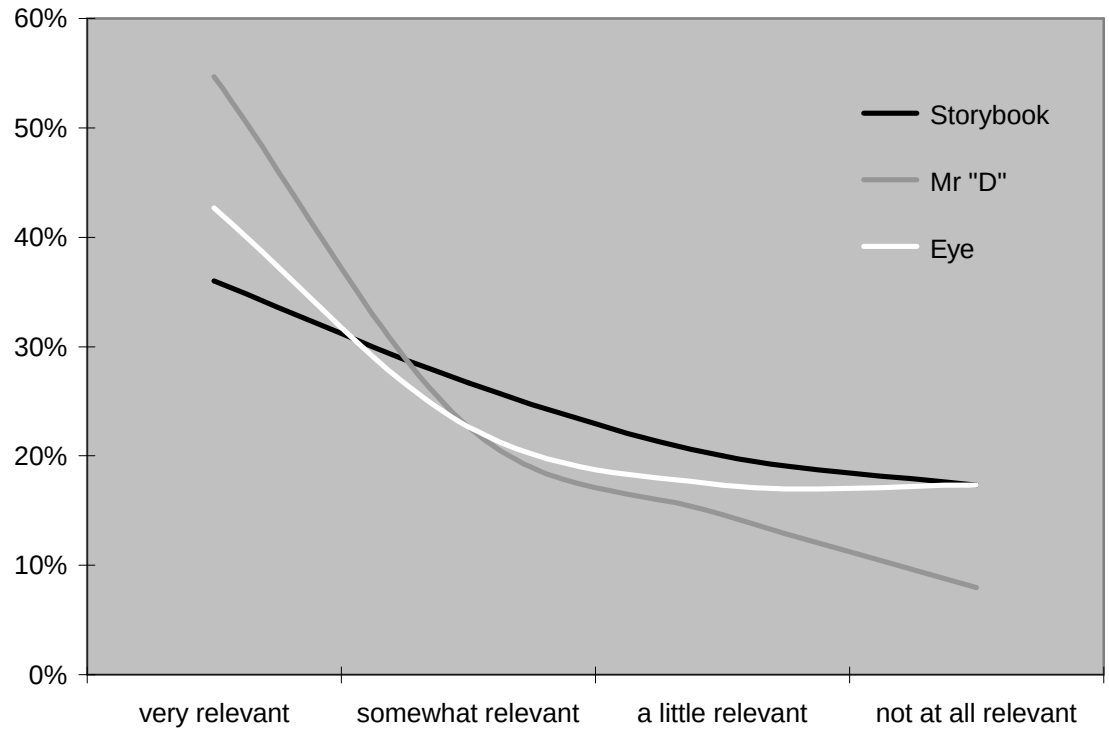
Results indicate that the vast majority of participants thought all three advertisements were "very believable" (mean = 78%) and nearly all of the remainder thought they were "somewhat believable" (mean = 18%). Very few rated any of the advertisement as "not very believable" (mean = 4%) or "not believable at all" (mean <1%). This is a reliable indication that all three advertisements were considered credible. No

advertisement was statistically superior to the others[5], but *Storybook* was rated as "very believable" by more participants (85%) than either *Eye* (77%) or *Mr "D"* (71%). While ratings for *Mr "D"* were still very favourable, it is possible that once again its "amusing" character may have minimised the impact of the message it was imparting.

3.2.4 Personal Relevance of Each Advertisement

Participants were asked how personally relevant they felt the message of the advertisements was, with responses being recorded along a four-point scale from "very relevant", to "somewhat relevant", "a little relevant" and "not at all relevant". Results are illustrated in Figure 4 below.

Figure 4: The Personal Relevance of Each Concept Advertisement



The *Mr "D"* advertisement was most successfully rated as personally relevant to participants, with a majority (55%) rating it as "very relevant" in comparison to *Eye* (43%) and *Storybook* (36%). A larger proportion of respondents (78%) also rated *Mr*

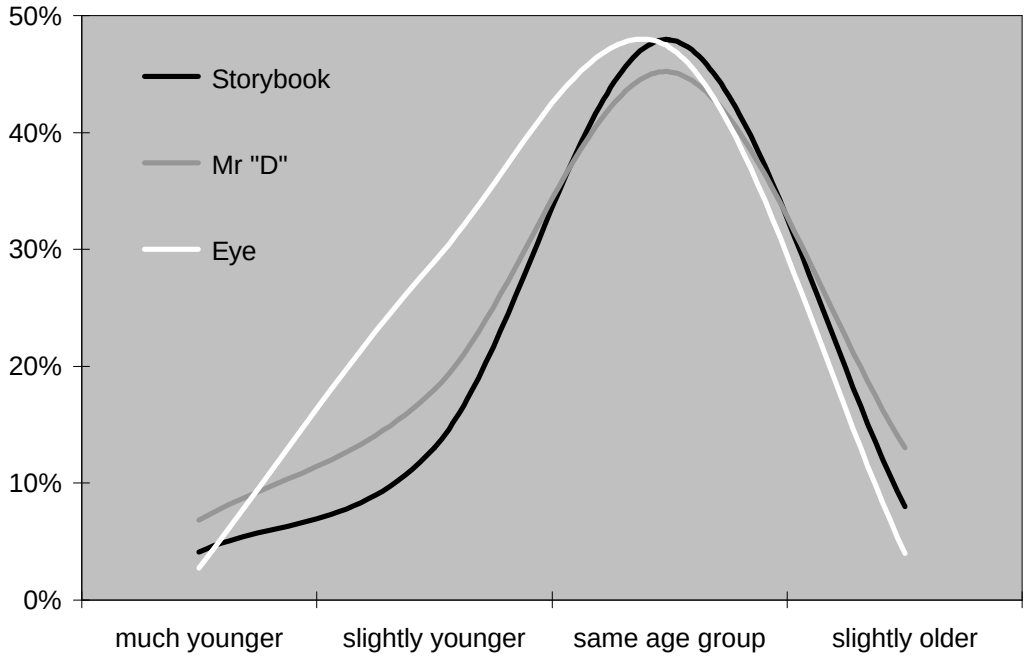
[5] one-way ANOVA: $F(2,222)=1.638$; $p=.197$.

"D" as either "very" or "somewhat" relevant, in comparison to *Eye* (66%) and *Storybook* (63%). Statistical analysis confirms that *Mr "D"* was rated as significantly more personally relevant by participants[6], with post hoc analysis revealing that it was superior to *Storybook* ($p<.05$)[7] but not to *Eye* (p=.144).[8] This is an interesting result given that *Storybook* was rated as more "novel", and portrayed the affects of diabetes as more "serious" and more "believable". Perhaps the fact that *Storybook* was rated as more "revolting" and *Mr "D"* as more "amusing" meant that the latter portrayed diabetes as less threatening to participants who were therefore less defensive about personally incorporating the message.

3.2.5 Perceived Target Age Group

Participants were asked whether the advertisements were, in their opinion, aimed at people older than them, in the same age group, or younger than them. Responses were recorded along a five-point scale from "much older than me", to "slightly older than me", "in my age group", "slightly younger than me", and "much younger than me". Results are illustrated in Figure 5 below.

Figure 5: The perceived target age group for each advertisement relative to the participants' own ages



[6] one-way ANOVA: F(2,222)=3.229, p=.041.
[7] Tukey HSD: Mean Difference=-.41; p=.043.
[8] Tukey HSD: Mean Difference=-.33; p=.144.

Most respondents thought all three advertisements were aimed at their own age group and no advertisement was statistically different to the others.[9] An analysis by age revealed that respondents in the older aged group (56 to 70 years) were significantly more likely to rate any of the three advertisements as aimed at people younger than themselves ($p<.001$).[10] However there was no significant interaction of age by advertisement.[11] The greatest proportion of respondents thought *Eye* was aimed at a "much younger" or "slightly younger" age group (31%) compared to *Mr "D"* (25%) or *Storybook* (16%). A greater proportion also thought *Mr "D"* was aimed at a "slightly older" age group (12%) than either *Storybook* (8%) or *Eye* (4%). Interestingly, over one-quarter (27%) thought that *Storybook* was aimed at "all ages" compared to either *Mr "D"* (18%) or *Eye* (18%). These data suggest that all three advertisements were successful at targeting the desired age-group, but *Storybook* was the most successful of these.

3.2.6 Information Recall

Participants were asked in an open-ended manner to relate what the main message of the advertisement was. Responses were coded into the six most common answers and are outlined in Table 2 below.

Table 2: Perceived main message of the advertisements

Message	*Storybook*	*Mr "D"*	*Eye*	**Mean**
Risk factors (e.g. over 40 years)	39%	55%	76%	**57%**
Get a check up	55%	52%	59%	**55%**
Diabetes is a serious disease	53%	55%	31%	**46%**
Single consequence of diabetes	15%	9%	57%	**27%**
Multiple consequences of diabetes	33%	36%	5%	**25%**
Diabetes is preventable	12%	17%	17%	**15%**

There was great variation in the ability of each advertisement to elicit the *risk factors* associated with diabetes from respondents, with *Eye* being well above average and *Storybook* being well below. There was little variation between the three

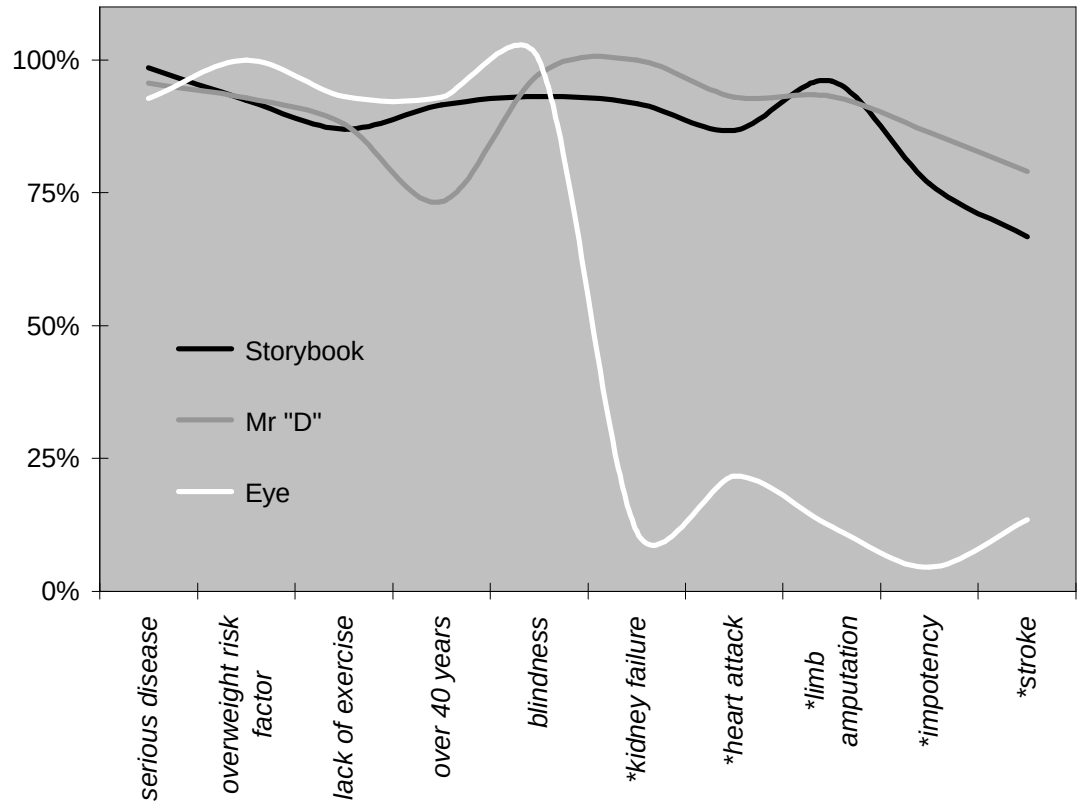
[9] one-way ANOVA: $F(2,222)=2.138$; $p=.120$.
[10] 2 X 3 ANOVA: F(1,223)=16.476; p=.000
[11] 2 X 3 ANOVA: F(2,222)=1.220; p=.298

advertisements in terms of emphasis on *getting a check up* for diabetes, with all three yielding reasonably high recall rates. Both *Storybook* and *Mr "D"* were better at emphasising the *serious* nature of diabetes, with *Eye* being well below average. This is likely to be a result of the emphasis that both *Storybook* and *Mr "D"* placed on the *multiple consequences* of diabetes. Few respondents who watched either *Storybook* or *Mr "D"* recalled emphasis on a *single consequence* of diabetes, which would be expected as each portrayed several consequences, but *Eye* yielded much greater recall of the single consequence it portrayed (blindness). The *preventable* nature of diabetes did not seem to be emphasised well by any of the advertisements, but this might be expected as it was only indirectly alluded to in all three.

3.2.7 Information Recognition

Participants were read a series of statements about diabetes and asked whether the advertisement specifically made such statements. Results are collated in Figure 6.

Figure 6: Recognition rates of specific messages contained within each advertisement



* Not mentioned in the *Eye* advertisement

Rates of recall suggest that all three advertisements were successful at emphasising that diabetes is a serious disease, and that being overweight and inactive are risk factors. However *Mr "D"* appeared less successful at emphasising the risk factor of being over 40 years old (73%) in comparison to *Eye* (93%) and *Storybook* (92%). The *Eye* advertisement was most successful on average at emphasising all risk factors (95%), followed by *Storybook* (92%) and *Mr "D"* (87%), with statistical analysis indicating that *Eye* was significantly more successful than *Mr "D"*.[12] In terms of consequences of diabetes, and as would be expected, the rate of recognition of blindness as a consequence was most successful for *Eye* (100%), however both *Mr "D"* (97%) and *Storybook* (93%) were also highly successful. The *Eye* advertisement did not mention any other consequences of diabetes and the 13% average recognition rate for other consequences should be ignored as spurious data.

In terms of the other two advertisements, statistical analysis revealed that on average the recognition rate of consequences for viewers of *Mr "D"* (91%) was significantly better than *Storybook* (85%) ($p<.05$).[13] In particular *Storybook* was less successful than *Mr "D"* at emphasising that diabetes can lead to impotency (77% vs. 86%) and stroke (67% vs. 79%). It therefore appears that *Eye* was most effective at emphasising the general risk factors contributing to diabetes, but this could be a simple function of the advertisement containing less information about consequences than its counterparts. In terms of *Mr "D"* versus *Storybook*, the former appears superior in terms of consequences but the latter superior in terms of risk factors.

3.2.8 Prompt for a diabetes check up

Participants were asked to what extent watching the advertisements made them think that they should find out whether or not they have diabetes. Responses were recorded along a five-point scale from "a lot", to "quite a bit", "a little", "not much" and "not at all". Results are illustrated in Figure 7 overleaf.

[12] one-way ANOVA: F(2,222)=3.131, p=.046; Post hoc Tukey HSD: Mean Difference=-.30; p=.036.
[13] t(99)=-2.479; p=.015

Figure 7: Extent to which each advertisement made respondents want to find out whether they had diabetes

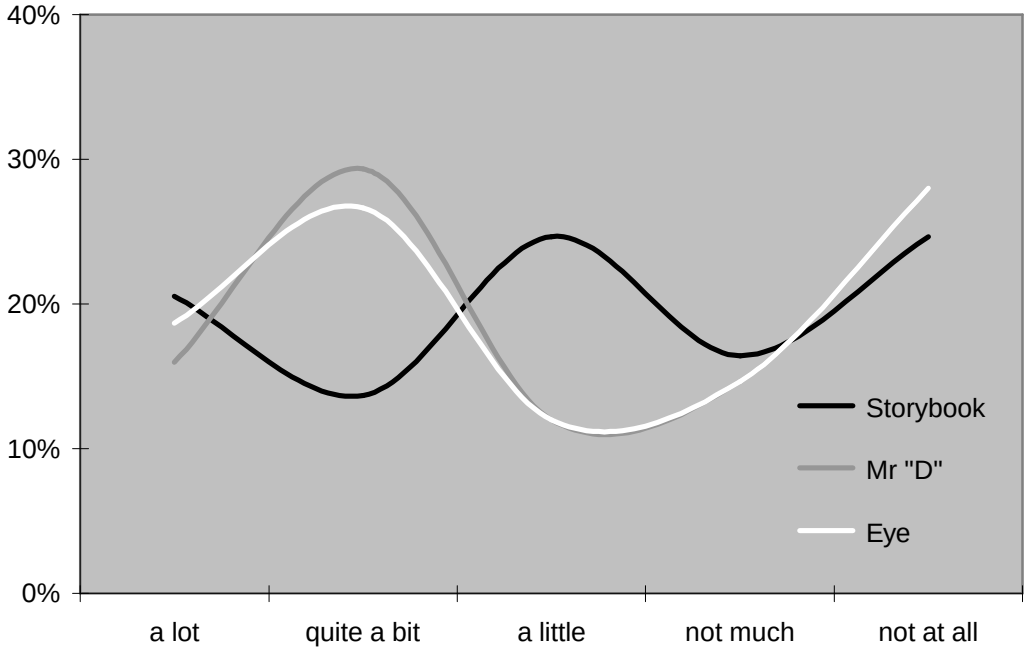


Figure 7 suggests that the largest number of respondents claimed that *Storybook* made them want to find out whether they had diabetes "a lot" (21%) in comparison to *Eye* (19%) or *Mr "D"* (16%). However *Eye* and *Mr "D"* were equally successful at prompting a larger proportion of respondents (45% each) to check if they had diabetes either "a lot" or "quite a bit" in comparison to *Storybook* (34%). Also a slightly smaller proportion of respondents rated *Storybook* as making them want to find out whether they had diabetes "not much" or "not at all" (41%) in comparison to *Eye* (43%) and *Mr "D"* (43%). Therefore while *Eye* and *Mr "D"* are more likely to prompt "a lot" or "quite a bit" of action from viewers, *Storybook*, *Eye* and *Mr "D"* are all equally likely to prompt at least "a little" action (59%, 58% and 57% respectively). Statistical analysis revealed that there were no significant differences between advertisements.[14]

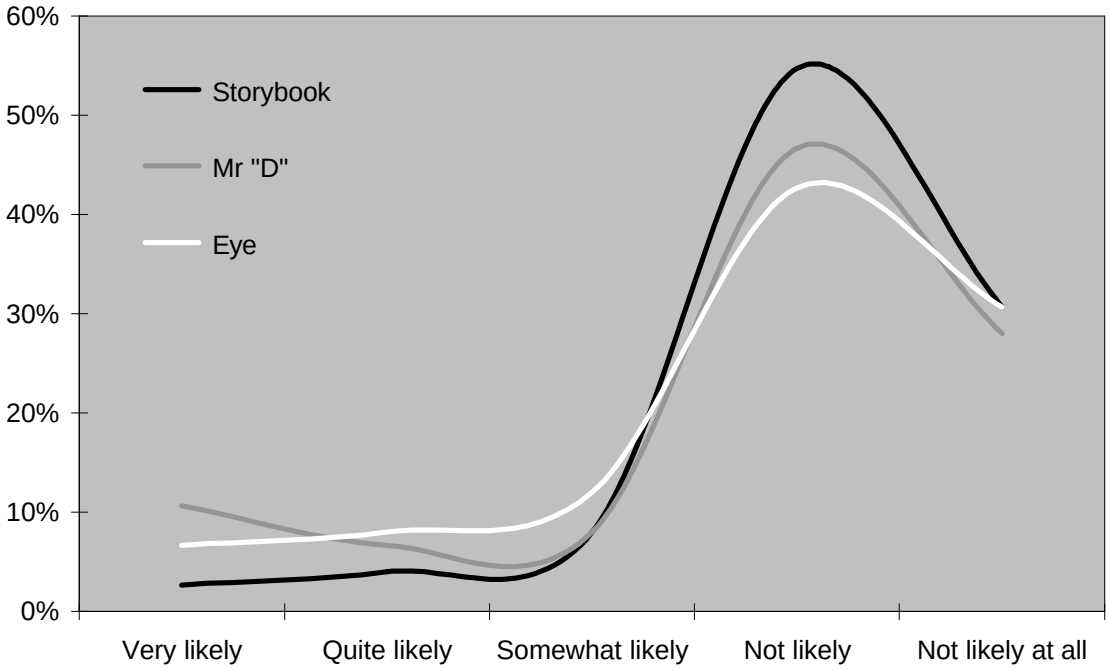
3.2.9 Likelihood of contacting the Diabetes Information Advice Line

Participants were also asked how likely they were to ring the *Diabetes Information Advice Line* with responses being recorded along a five-point scale from "very

[14] one-way ANOVA: $F(2,222)=.353$, $p=.703$

likely", to "quite likely", "somewhat likely", "not likely" and "not likely at all". Results are illustrated in Figure 8 below.

Figure 8: Likelihood of participants contacting the *Diabetes Information Advice Line* by advertisement



Results indicate that the majority of respondents watching any of the three advertisements were "not likely" or "not likely at all" to contact the *Diabetes Information Advice Line* as a simple function of viewing the advertisements twice. A statistical analysis revealed that there were no differences between advertisements.[15] The proportion who claimed they would be "not likely" or "not likely at all" to phone ranged from 86% for *Storybook*, to 75% for *Mr "D"* and 74% for *Eye*. The proportion who claimed they would be "very likely" or "quite likely" to phone the advice line ranged from 17% for *Mr "D"*, to 15% for *Eye* and 7% for *Storybook*. Therefore, although none of the three advertisements was particularly successful at motivating respondents to contact the advice line, *Mr "D"* and *Eye* appeared to be slightly more motivating than *Storybook*.

[15] one-way ANOVA: $F(2,222)=1.700$, $p=.185$

4. Conclusion

On the whole, all three advertisements performed well according to the various measures. However based upon the objectives of the adtests, *Storybook* outperformed both *Mr "D"* and *Eye* as it was considered the most credible, it evoked the strongest range of appropriate emotions, it was the most effective at portraying diabetes as a serious disease, and was more likely to be perceived as directed at the desired age group. *Eye* resulted in the best recognition rates of the risk factors associated with diabetes and was rated as the most likely to prompt viewers to contact the information line. *Mr "D"* was rated as the most amusing and least novel concept advertisement yet the most personally relevant.

Given the single consequence focus of *Eye* and potential difficulties with *Mr "D"* in appropriately executing an advertisement containing violent scenes, it is recommended that *Storybook* be adopted. It is also recommended that consideration be given to fifteen-second versions of *Storybook* that focus upon a single consequence that could be aired following a period of the multiple consequence launch.

5. References

Carter, O., Donovan, R. & Jalleh, G. (2002) *An Investigation of Strategies to Increase Public Awareness of Diabetes in Western Australia*. CBRCC Report 021216, Curtin University of Technology.