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Positive, Negative or Both? Assessing Emotional Appeals Effectiveness in Anti-Drink Driving Advertisements

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Coming from a multimedia & digital marketing background, Murooj is passionate about engaging people with different messages and the right media platforms. Her vision is to master the role of emotions in social marketing programs to design more effective behaviour change messages. Murooj's mission is to develop a clear guide for social advertisers and social marketers to help them create the most effective behaviour change advertising campaigns. To understand human engagement and interaction with different messages, Murooj utilises biometric technologies such as eye-trackers, skin conductors and heart rate monitors to identify the most persuasive and effective emotional-based advertisements.

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Background – The use of advertising to influence social behaviour is one element of social marketing campaigns. While it is known that informational appeals are less effective in changing social perceptions and behaviours, the literature presents mixed and inconsistent results of which appeal (i.e. positive negative or both) is more effective in changing social behaviour. The purpose of this study is to investigate the effectiveness of positive, negative and a combination of both appeals on young adults' drink driving perceptions.

Focus - This article is related to research and evaluation of the social marketing field.

Research Question - Which, if any, of positive, negative or combination of both emotional appeals, is most effective in changing young adults' drink driving attitudes, norms and intentions and how well do intentions explain behaviour?

Importance to the Field - The study builds on, and extends previous research exploring the effectiveness of emotional appeals, contributing to the literature by exploring both emotional appeals along the testing of each appeal separately. The research also validates the TRA's utility beyond previously explored contexts. At a practical level, the research informs the work of advertising message design. It is recommended that, social marketers consider combined emotional appeals approach when designing messages.

Methods - Respondents were randomly exposed to one of three emotional appeals (positive, negative or both) and asked to complete a questionnaire about their attitudes, norms and intentions to drink drive before and after exposure. Two analyses were used, Partial Least Squares Structural Equation Modelling to validate the Theory of Reasoned Action (TRA), and paired sample t-tests to assess change of perceptions over time between the three groups.

Results - First the study found the TRA to have a strong predictive utility in explaining drink driving intentions. Second, the combination of both positive and negative emotional appeals was found more effective in changing drink driving attitudes, norms and intentions of young adults.

Recommendations for Research or Practice - The study recommends that, social marketers consider combined emotional appeals approach when designing messages. However, further investigation is required to confirm this recommendation and as in any campaign, pre-testing the advertisements with the target audience is a must.

Limitations - The key limitations of the study include the use of non-probability sampling, self-reported data, and varied exposure times. Future research should utilise autonomic measures to accurately assess perceptions and emotions as well as unifying the time of exposure for all emotional appeals.

1.0 Introduction

Driving ‘under the influence’ is a significant cause of avoidable death and injury. In Australia, approximately 30% of road deaths are alcohol or drug related (DPTI 2017). Road accidents cost the Australian nation \$27 billion dollars (Bureau of Infrastructure, Transport and Regional Economics 2006). Given the magnitude of financial and personal harm caused by drink driving, the Australian government is committed to creating positive social change in relation to drink driving through multiple efforts including education programs and advertising messages. Since the 1960s, alcohol and drug education programs have been conducted, evaluated and published in the literature (Beck, 1998). Over time, alcohol and drug education programs evolved to be more interactive, engaging and effective. Evidence suggest that effective alcohol and drug education programs follow certain criteria. Criteria include, interactivity, theory guidance, age and culture appropriateness, normative approaches, and the inclusion of reinforcing messages (Botvin & Griffin, 2004; Cuijpers, 2002; Knox, Kubacki, & Rundle-Thiele, 2020).

Following such criteria, the Blurred Minds program was developed in 2015 as a five-lesson program targeting Australian adolescents aged 14-16 years old (Rundle-Thiele et al., 2015). As a social marketing education program, Blurred Minds employs Andreasen's (2002) social marketing benchmark criteria (i.e. behavioural objective, audience segmentation, audience research, exchange, marketing mix and competition). The alcohol education program delivered by research team members included information sessions, discussion with students, virtual reality (VR) stimulation experience and exposure to advertising messages reinforcing safe alcohol consumption messages (Dietrich et al., 2019). Evaluations of the program along the VR stimulation was conducted, however an evaluation of the employed advertisements (i.e. communication component) is lacking (Dietrich et al., 2019).

Although millions of dollars are spent on creating anti drink driving advertisements (Department of Finance 2017), and thousands of students are exposed to such messages through alcohol and drug education programs (i.e. Blurred Minds), literature shows mixed results of their effectiveness. A possible explanation for the inconclusive and inconsistent results is the incomplete understanding of how different emotional appeals influence attitudes, social norms, intentions and ultimately behaviour (Kok, Peters, Kessels, ten Hoor, & Ruiter, 2018; Witte & Allen, 2000). Advertisements may employ positive (e.g., joy) or negative

emotional appeals (e.g., fear) in their messages. Road safety advertisements, similar to most social marketing communications, tend to use negative emotional appeals to depict the risks caused by avoidable behaviour such as drink driving, while positive emotional appeals have been employed and explored to a lesser extent (Dunstone et al., 2017). The call for social marketing communications to “push the envelop” in behaviour change by utilising commercial marketing techniques warrants the need for social marketing studies evaluating advertising effectiveness beyond the single negative advertising appeal focus in most health communication studies (Alden, Basil, & Deshpande, 2012; Hornik, Ofir, & Rachamim, 2017; Reichert, Heckler, & Jackson, 2001). Hence, Blurred Minds present both advertising appeal messages (i.e. positive along with the negative messages) to students during the program delivery. However, an understanding of the effect such message appeals have on students’ perceptions and behaviour is needed to evaluate their use and provide practical recommendation for researchers delivering such programs on which appeals to include and which to exclude to achieve positive behaviour change results.

Taken together, the inconsistent results in advertising appeals’ effectiveness and the lack of research into mixed emotional appeals are evident gaps in the literature, presenting challenges to education programs aiming to include persuasive messages. Hence, the overarching purpose of the present study is to investigate the effectiveness of positive, negative, and combination of both emotional appeals, in changing young adults’ drink driving attitudes, norms and intentions.

1.2 Literature Review: Social marketing communications

Just as in commercial marketing, communication is a critical component of social marketing, including education programs. Literature suggests that for a successful social marketing program, communication should be an integrated part of the marketing mix. Integrated social marketing communication (ISMC) is a concept that recognise promotion as a tool not only to raise awareness about an issue but to influence behaviour change by effectively inducing action (Alden et al., 2012). To achieve behaviour change however, it is not sufficient to highlight the negative aspects of behaviours by focusing on the risks of that behaviour (e.g., drink driving). Research suggest the need for a value-benefit approach, similar to commercial advertising, to highlight the positive aspects of adopting the pro-social behaviour (e.g., staying

at a mate's place and not drink drive). Such approach is rarely seen in social marketing communication, with a greater focus on negative advertising appeals (e.g., fear appeals) that highlight the risks and barriers rather than values and benefits (Tay, 2005). Recently, more interest is evident in employing positive advertising appeals including humour, joy and love in social marketing communications, in an effort to test their ability to change behaviour (Jäger & Eisend, 2013). While commercial marketing has been employing such appeals for a long time, social marketing communications have mainly focused on fear appeals, hence limiting message effectiveness.

Recent debates in the literature introduced a new advertising appeal that has persuasive advantages. The mixed or co-active advertising appeal is a relatively new concept where a message employs both positive and negative emotions, taking the audience in a journey highlighting both risks and benefits together. A review of the literature suggest mixed appeals to be more effective than negative appeals in social marketing communications including anti-cyberbullying advertisements (Alhabash, Almutairi, Lou, & Kim, 2019) and promoting sun safety behaviours (Mukherjee & Dubé, 2012). The Blurred Minds program includes two messages in students' sessions, where students are exposed to the negative ad first then the positive ad. This combination of appeals is yet to be studied to understand its effect on drink driving attitude, norms and intentions. Hence, this study aims to investigate the effectiveness of integrating a mixed advertising appeal (i.e. positive and negative) in changing drink driving attitudes, norms and intentions in young adults. We aim to move beyond knowledge, attention and memorability in testing effectiveness, following the ISMC suggestion of overcoming this limitation in social marketing studies (Alden et al., 2012; Keller & Lehmann, 2008; Plant, Reza, & Irwin, 2011). We also aim to study the connection between drink driving intentions and behaviour in young adults. This study thus addresses the aforementioned gaps in the literature guided by the following research question:

Which, if any, of positive, negative or combination of both emotional appeals, is most effective in changing young adults drink driving attitudes, norms and intentions and how well do intentions explain behaviour?

1.2.1 Emotional Appeals

An advertising appeal refers to the use of persuasion strategies to attract attention, create relevance, raise awareness and induce action (Armstrong, 2010). An advertisement can appeal to a person's rationality or emotions, with rational appeals reported as less effective in

changing social behaviour (Terblanche-Smit & Terblanche, 2010). Therefore, the use of emotional appeals in advertising messages has attracted considerable research interest. To more effectively position the reported study in the context of existing research, it is useful to succinctly review key literature relating to emotional appeals in advertising messages.

Emotional appeals focus on human emotions to convey a message (Dix & Marchegiani, 2013). Lerner and Keltner (2000) maintain that different emotions pose different effects on judgment and therefore affect perceptions and behaviours differently. Hence, some advertisements use negative emotional appeals such as fear, guilt and anxiety to prevent certain behaviours (e.g., smoking, drinking driving) (Victoria TAC 2009). Other advertisements use positive appeals such as humour and joy to promote positive behaviours (e.g., healthy eating, safe driving) (Budweiser, 2014).

Existing literature analyses negative appeals with a focus on two main emotions: fear and guilt. Mixed evidence of effectiveness has been reported across a number of studies (see for example Becheur, Guizani, & Shaaban, 2019; Brennan & Binney, 2010). Recently, fear appeals with high intensity fear messages were found to promote greater recall (Rayner, Baxter, & Ilicic, 2015) and better results for for-profit commercials (Roozen, 2013). However, fear appeals lacking a solution of high efficacy will result in a weak effect on attitudes, intentions and behaviour (Witte & Allen, 2000). The use of such appeals has also been found to result in developing a coping mechanism from the audience which in turn desensitizes viewers to these negative emotions, potentially causing these ads to be less effective (Brennan & Binney, 2010). Multiple research studies show young adults' recognition of fear appeals as an intentional effort to 'scare us' resulting in making the message irrelevant and ineffective for this age group (Hastings, Stead, & Webb, 2004; Kok et al., 2018) or poses a disassociation with the proposed consequences (Kempf & Harmon, 2006). Young adults reported feeling more confident, skilled or cautious than other drivers after exposure to negative road safety advertisements focused on drink driving (Harré, Foster, & O'Neill, 2005). Alternative negative emotions such as guilt have been found effective when induced in high levels in young drivers, yet they are used to less extent than fear appeals (Becheur et al., 2019).

Positive appeals are less analysed and less used in health advertisements (Tay, 2005). Using positive advertising appeals were found to not only increase attention (Calvo & Lang, 2004) but to also encourage sharing (Tellis, MacInnis, Tirunillai, & Zhang, 2019), generate greater liking of the message and increase desirability of the promoted product (Strick, Van Baaren, Holland, & Van Knippenberg, 2009). In a health advertisements context this helps in

drawing attention to the message and increase liking of the proposed solution (Plant, Irwin, & Chekaluk, 2017). Research suggests that positive emotional appeals increase individual's tendency to take action (Kemp, Kennett-Hensel, & Kees, 2013) and yield higher message acceptance from the audience (Petty, Cacioppo, & Schumann, 1983).

Lewis, Watson and White (2008) compared the persuasiveness of positive (humour) and negative (fear) emotional appeals specifically through drink driving advertising messages. Their findings show that while negative appeals had a higher persuasiveness level after immediate exposure, positive appeals created a significant behaviour and intention shift over time. These findings warrant further research into positive appeals to understand their effectiveness (Lewis, Watson, & White, 2008).

A limited number of studies explore the combined appeals effect on advertisements' effectiveness. There is evidence that advertisements inducing high emotional levels generate a higher and more durable safe driving attitudes compared to low emotional arousal advertisements (Hamelin, El Moujahid, & Thaichon, 2017). Furthermore, advertisements inducing mixed emotions (positive and negative) were found to have a high impact on attitude towards the advertisement and donation intentions in charity advertisements (Bennett, 2015). While negative appeals, especially the ones triggering fear, result in reactance and defensive reaction from the audience (Lennon, Rentfro, & O'Leary, 2010), mixing humour and possibly other positive emotions with such negative appeals can significantly reduce these defensive responses and hence increase the persuasiveness of advertisements (Mukherjee & Dubé, 2012). Advertisements utilising both appeals, can be viewed as employing emotional flow tactics (Nabi, 2015). When an advertisement first highlights the risks or barriers of current behaviour (e.g., crashing due to drink driving) and then show the benefits of eliminating these risks (e.g., by sleeping at a friend's place) this combination of positive and negative appeals can present a persuasive advantage. Positive appeals can provide a relief component to negative appeals by utilising a funny ending or a heart-warming result at the end of an advertisement. This in turn reduces defensive reactions to advertisements (e.g., fight or flight) making it more likely to achieve behaviour change (Nabi, 2015). Along with being viewed differently, these appeals can be more creative as they are not the regular or expected social marketing approach in changing behaviour. This approach therefore may attract more attention and be viewed favourably especially by a young audience exposed to a large number of media daily. Creativity is needed and called for by social marketing scholars in designing engaging and effective advertising messages (Alden et al., 2012).

The review of literature provides evidence of saturated investigation into negative emotional appeals and only a limited understanding into the effects of positive emotional appeals. Furthermore, only a limited number of studies analysed the effectiveness of positive versus negative emotional appeals in anti drink driving advertising messages, and these studies are limited to specific emotions (fear and humour). Finally, no studies were found that evaluated the use of a combination of both positive and negative emotional appeals in anti drink driving advertisements. This study thus addresses the aforementioned gaps by empirically examining positive, negative and mixed appeals effectiveness in changing drink driving behavioural intentions.

2.0 Theoretical Model: The Theory of Reasoned Action

The Theory of Reasoned Action (TRA) underpins this study. Fishbein and Ajzen's (1977) TRA hypothesizes is that actual behaviour is a function of behavioural intentions. In turn, intentions are formulated based on two factors: attitude toward performing the behaviour and subjective norms surrounding that behaviour (Fishbein & Ajzen, 1980). The literature studying alcohol use among young adults and adolescents suggests that attitudes toward alcohol consumption (Downs, 1987), normative influences (Song, Smiler, Wagoner, & Wolfson, 2012) and intention to consume alcohol (Cooke, Dahdah, Norman, & French, 2016; Espada, Griffin, González, & Orgilés, 2015) are important predictors of alcohol use and misuse. Previous studies explored TRA's utility in assessing advertising effectiveness (Lee & Tsai, 2006), however, there is limited research testing the utility of the TRA in emotional based health advertisements and its effects on young adults' drink driving intentions. This study therefore aims to demonstrate the predictive validity of the TRA.

2.1 Hypothesized Relationships and Proposed Model

Based on review of the literature it is hypothesized that the group exposed to the negative emotional appeal will show a stronger shift in drink driving attitudes, norms and intentions than the group exposed to the positive appeal (hypothesis 1a, 2a, and 3a).

Hypothesis 1a: Participants exposed to negative emotional appeal will show a stronger drink driving attitude shift than the positive emotional appeal.

Hypothesis 2a: Participants exposed to negative emotional appeal will show a stronger drink driving norms shift than the positive emotional appeal.

Hypothesis 3a: Participants exposed to negative emotional appeal will show a stronger drink driving intentions shift than the positive emotional appeal.

As the use of mixed emotions were found to have a stronger impact on perceptions, this study hypothesises that a combination of both appeals will have a stronger effect on TRA constructs than the use of a single appeal (hypothesis 1b, 2b, and 3b).

Hypothesis 1b: Participants to both emotional appeals will show in a stronger drink driving attitudes shift than single appeals.

Hypothesis 2b: Exposure to both emotional appeals will show in a stronger drink driving norms shift than single appeals.

Hypothesis 3b: Exposure to both emotional appeals will show in stronger drink driving intentions shift than single appeals.

Ho and Cho (2017) found the liking of an ad has an effect on message persuasiveness. The likability of advertising is of high importance when 'used in conjunction with other appropriate measures, liking measures add substantial value to the assessment and optimization of advertising effectiveness' p16 (Walker & Dubitsky, 1994). Ads that are not liked therefore would be unlikely to result in enduring cognitive or attitudinal effects (Burke & Edell, 1986). Strick et al. (2009) found positive emotions to increase the likability of an advertisement, informing the final hypothesis of the study.

Hypothesis 4: Respondents will rate the positive appeal advertisement as significantly more likable than the negative appeal.

3.0 Method

Two advertisements were selected from the messages employed in the Blurred Minds Program for this study, one inducing positive emotions of love, joy and friendship (Budweiser 2014), the other inducing negative emotions of fear, guilt, shame and sadness (Victoria TAC 2009). The choice of advertisements was based on the messages employed by the research team delivering the Blurred Minds program. The first advertisement was produced by a large international brewery company and the second advertisement was launched by the Transport Accident Commission (TAC). Table 1 summarizes the two advertisements employed in the experiment along with links to each advertisement (Dunstone et al., 2017).

The study employs a pre/post research design. Previous studies found advertisements to affect perceptions, intentions and behaviour even immediately post exposure to the advertisement. For example Rodrigue, Fleishman, Vishnevsky, Fitzpatrick, and Boger (2014) found ads positively influenced intentions immediately post exposure, and Hudson, Laehn, Dasandi, and vanHeerde-Hudson (2019) found ads to positively influence donation behaviour.

Table 1. Summary of Employed Advertisements

[TABLE 1 NEAR HERE]

3.1 Measures

The pre-exposure survey included measures of demography, alcohol related behaviour and the three TRA constructs. Six items were adapted from the Alcohol Use Disorders Identification Test to the context of this study to capture young adults drinking and drink driving behaviours (Saunders, Aasland, Babor, De la Fuente, & Grant, 1993). Demographic variables included age, gender, origin, and driver license type. One geographic variable was included in form of the participants' postal address.

TRA constructs (attitudes, social norms and intentions) were measured using a total of 12 items (Espada et al., 2015; Fishbein & Ajzen, 2011) before and after exposure to the advertisement. A range of outcome measures that previously demonstrated reliability and validity were assessed. Attitude towards drink driving included four items on a seven-point bipolar semantic differential scale (CR=.94). Social norms towards drink driving were measured with five items on a seven-point unipolar scale (CR =.88). Finally, Intentions to drink drive were measured with three items on a seven-point unipolar scale (CR=0.97). These measures were included in both the pre-exposure and post-exposure surveys, however only the pre-exposure measures were relied on to evaluate and validate the use of TRA in this context. All measures can be found in appendix 1.

After watching the video(s), respondents were asked to rate certain media and message elements namely narrative, source credibility, tone, length and likability (Ho & Cho, 2017). The aim was to:

- (1) be comparable in length, story and credibility;
- (2) ensure the negative advertisement is significantly more negative than the positive advertisement; and

(3) test the positive ad likability by young adults compared to the negative ad (Strick et al., 2009).

3.2 Data Collection

Data was obtained using an online survey completed by a total of 408 respondents through convenience sampling techniques. Furthermore, snowball sampling techniques were used encouraging participants to share the survey with others on social media. A total of 352 completed responses qualified for inclusion in the study. Participants answered a pre-questionnaire before being randomly exposed to the positive appeal, negative appeal, or to a combination of both the negative and positive appeal where the order of appeals was also randomised. Participants then completed the post-questionnaire. Ethical clearance was obtained and recorded.

3.3 Data Analysis

First, descriptive statistics were undertaken to analyse the sample's demography and alcohol related behaviour. Second, t-tests were undertaken to analyse the differences in likability and interest between the two advertisements. Third, structural equation modelling was employed to validate the TRA model. Fourth, paired sample t-tests were used to assess change over time.

3.3.1 Structural Equation Modelling.

To test the predictive validity of the TRA in explaining young adult's drink driving intentions, the Partial Least Squares Structural equation modelling (PLS-SEM) is used. The reported study replicates the TRA model using the collected data of the three constructs; attitudes, social norms and intentions, using SmartPls 3 software model's reliability was measured and structural path analysis was run on the SEM models.

3.3.2 Paired Sample t-test.

A paired samples t-test method using SPSS v.25 was used to assess the difference between the repeated measures of TRA constructs for each of the three experimental groups (positive, negative and exposure to both emotional appeals). Pre- and post- mean measures of attitudes, norms and intentions were used to assess whether these measures differed significantly before (T1) and after exposure (T2) to the advertisement(s).

4.0 Results

4.1 Sample Characteristics and Descriptive Statistics

From the 408 responses, 56 were omitted as they did not fit the target demographic. This results in 352 responses eligible for the study. The sample (n=352) was 68.5% female with an average age of 20.5 years (SD=3.4). 20.5% of the sample was born in Australia. The sample contained respondents with different Australian driver's license types¹; Ls 19%, Red Ps 20%, Green Ps 22%, and Open License 31%, only 8% did not have a driver's license. Eighty percent reported to have consumed alcohol before of which almost 15% admitted to have drink driven at least once before. There were no significant differences based on demographic variables between the three groups at baseline. Measures of comparability (length, source credibility, and narrative) were insignificant between the positive, negative, and mixed emotional appeals. Finally, the negative appeal ad was identified as more negative (M=2.7, SD=1.3) than the positive appeal ad (M=4.4, SD=1.1) p=0.00.

4.2 Two-Step Approach for PLS-SEM

Using a two-step process (Hair, Ringle, & Sarstedt, 2011), a replication model of the TRA with its three constructs was specified to assess its predictive validity in explaining young adults drink driving intentions. In the first step, the TRA replication SEM model tested the relationships among attitudes, norms, and drink driving intentions at time point 1 (T1) following Fishbein and Ajzen (1977) TRA model. All items of the model are highly reliable with CR above 0.70 (Bernstein & Nunnally, 1994). Convergent validity was evaluated using factor loadings, where loadings that were significant and greater than 0.5 were considered valid. The model validity is also confirmed by examining the average variances extracted (AVE >.50) (Fornell & Larcker, 1981). Discriminant validity is established as AVE estimates are greater than the squared correlation estimates, as shown in table 2 (Fornell & Larcker, 1981). The TRA replication model fit indices indicated good model fit with SRMR at 0.025 below the cut off 0.08 (Henseler & Sarstedt, 2013).

¹ Australian drivers are subject to a three-year probationary period starting by the learner permit (L's), red provisional (red p's) license for drivers who had their learners permit for a year and are under 26 years of age. Finally, the green provisional (green p's) license for the final year of the probationary period. Once the three-year period is over, drivers qualify for the open license.

Table 2. Average Variances Extracted (AVE) and Squared

[TABLE 2 NEAR HERE]

In the second step the replication model of TRA shows a moderate to substantial structural model with R^2 and adjusted R^2 valued at 0.59, meaning 59% of variation in drink driving intentions is explained by the model. The model is of strong predictive relevance with a Q^2 value of 0.48. The full latent variable model replicating TRA shows both attitudes and social norms constructs in the TRA model as significant in influencing drink driving intentions p values < 0.05 (see Figure 1).

Among participants, intentions to drink drive were significantly correlated with drink driving behaviour $r(292) = 0.27$, $p < 0.05$.

Figure 1. TRA Replication Model

[FIGURE 1 NEAR HERE]

4.3 Paired Sample t-test

Each respondent was randomly allocated to one of three groups and results are presented next.

4.3.1 Positive Appeal.

Respondents exposed to the positive emotional appeal had significantly less favourable attitudes towards drink driving from pre ($M=-2.5$, $SD=0.9$) to post ($M=-2.7$, $SD=0.6$) $t(75) = 2.191$, $p < 0.05$, hypothesis 1a (participants exposed to negative emotional appeal will show a stronger drink driving attitude shift than the positive emotional appeal) therefore was not supported. There were no significant effects found for norms and intentions towards drink driving.

4.3.2 Negative Appeal.

The negative emotional appeal on the other hand showed a significant reduction in norms from pre ($M=1.7$, $SD=1.4$) to post ($M=1.5$, $SD=1.5$) $t(97)=2.112$, $p < 0.05$ while reduction in attitudes and intentions were insignificant. As a result, hypothesis 2a (participants exposed to negative emotional appeal will show a stronger drink driving norms shift than the positive

emotional appeal) was supported while hypothesis 1a (participants exposed to negative emotional appeal will show a stronger drink driving attitude shift than the positive emotional appeal) and hypothesis 3a (participants exposed to negative emotional appeal will show a stronger drink driving intentions shift than the positive emotional appeal) were not.

4.3.3 Both Appeals.

The group that watched both emotional appeals showed a significant change across all three variables. Audience's attitudes became less favourable towards drink driving from pre ($M=-2.5$, $SD=1.0$) to post ($M=-2.6$, $SD=0.9$), $t(106)=3.350$, $p < 0.05$. Norms reduced significantly from pre ($M=1.8$, $SD=1.1$) to post ($M=1.6$, $SD=1.0$) $t(105)=4.348$, $p < 0.05$ and intentions towards drink driving showed a significant decrease from pre ($M=1.6$, $SD=1.1$) to post ($M=1.3$, $SD=0.9$) $t(105)=2.542$, $p < 0.05$. These findings are outlined in Table 3. These findings support hypotheses hypothesis 1b, hypothesis 2b, and hypothesis 3b (exposure to both emotional appeals will result in stronger shift of drink driving (1) attitudes, (2) norms and (3) intentions than exposure to a single appeal).

Table 3. Paired Samples t-test Results

[TABLE 3 NEAR HERE]

For the likability variable, respondents found the positive appeal ad significantly more likable ($M=5.4$, $SD=1.5$) than the negative ad ($M=4.9$, $SD=1.2$) $t(75)= 2.12$, $p<0.05$.

5.0 Discussion

The current study analysed the TRA's utility in predicting young adults' drink driving intentions by replicating the theory as a SEM. The study then utilised the three TRA constructs in measuring attitudes, social norms and intentions to drink drive before and after exposure to advertisements employing positive, negative and both emotional appeals. We found the TRA to have a strong predictive utility in explaining young adults' drink driving intentions. The use of both positive and negative emotional appeals in anti drink driving advertisements was found to be most effective in changing drink driving perceptions of young adults. The findings are discussed in detail in the following sections.

5.1 TRA as a Predictive Model to Drink Driving

This study found TRA to have a strong predicative utility when studying drink driving intentions, the closest proxy to behaviour. Overall, the replication model explained 59% of the variance in young adults' drink driving intentions, with both attitudes and social norms significantly effecting intentions to drink drive. Furthermore, intentions had a significant positive correlation with behaviour, supporting the use of intentions as a proxy to behaviour. This study therefore demonstrates the predictive validity of the TRA in explaining young adults drink driving intentions. The level of variance explained in this study's replication model exceeds previous studies that proven TRA's validity in predicting drink driving behaviour (Espada et al., 2015).

5.2 Positive Versus Negative Emotional Appeals

In contrast to previous studies (e.g., Lewis et al., 2008) it was found that positive emotional appeals lead to significantly lower drink driving attitudes than negative appeals, not supporting hypothesis 1a (Participants exposed to negative emotional appeal will show a stronger drink driving attitude shift than the positive emotional appeal). When respondents watched the positive emotional appeal advertisement (Budweiser) they reported more negative attitudes towards drink driving than those who watched the negative appeal (TAC). This significant favourable shifts in attitudes to drink drive may be explained by the audience's liking of the message. Consistent to Strick et al. (2009) findings, the positive emotional appeal generated higher liking of the message supporting hypothesis 4 (respondents will rate the positive appeal advertisement as significantly more likable than the negative appeal). Previous research found positive emotional appeals to have more positive advertising effects (Pelsmacker & Geuens, 1999) and to be more likable and convincing specially with male drivers (Plant et al., 2017). Furthermore, the positive advertisement employed animals, which may have resulted in arousing more emotions in the audience than the negative advertisement, making it more likable (Tellis et al., 2019).

While TAC's advertisement induced three main negative emotions: fear, guilt, and shame it must be noted that studies by Witte and Allen (2000) and Lewis et al. (2008) focused on fear appeals neglecting other emotions such as shame and guilt. Previous research has demonstrated that a negative emotional appeal is more effective in changing perceptions when it reduces feelings of shame compared to guilt and fear (Brennan & Binney, 2010). TAC's advertisement had a strong shame-inducing factor with its concluding message 'if you drink then drive, you're a bloody idiot' which may have contributed to its insignificant effect on

attitudes. This is consistent with Brennan and Binney (2010) findings that emotional appeals inducing shame contribute to a sense of hopelessness in young adults especially when focused on showing what shouldn't be done instead of highlighting the right thing to do. Finally, shame appeals result in flight and self-protection actions (Brennan & Binney, 2010), which may have resulted in the audience protecting themselves from feeling ashamed by justifying the behaviour in terms of acceptability (i.e. 'drink driving is acceptable if I only drink a little bit') causing an insignificant effect on attitudes.

Negative emotional appeals however significantly changed the audience's social norms for the better, supporting hypothesis 2a (participants exposed to negative emotional appeal will show a stronger drink driving norms shift than the positive emotional appeal). Respondents showed a decrease in their perceptions of social norms surrounding drink driving after watching TAC's advertisement (negative appeal) while Budweiser's advertisement showed an insignificant reduction in social norms after exposure. Negative emotional appeals have been proven to have a strong effect on social norms in commercial advertising (Bearden & Rose, 1990). In social marketing, a study conducted on high school students in Belgium shows that the use of emotional based testimonials by relatives of people who were involved in a traffic accident to have a significant effect on student's social norms (Cuenen et al., 2016). The program, similar to TAC's negative appeal advertisement focused on the consequences of unsafe road behaviour (i.e. drink driving) on one's self and others. TAC's advertisement had a fictional testimonial component with the father grieving his daughter in the final scene. TAC's advertisement may have been more effective in changing respondent's social norms due to the ad's ability to induce empathy more than Budweiser's positive advertisement. Taken together, this study found negative appeals evoking empathy to result in more significant negative social norms surrounding drink driving than positive appeals. Therefore, advertisers within the social marketing field aiming to alter social norms perceptions should utilise high empathy inducing negative appeals.

This study also found that positive and negative appeals did not have an effect on intentions to drink drive. This is interesting given previous research has found that negative appeals produce higher changes in intentions immediately after exposure than positive appeals with both appeals losing that effect after a delayed period of time (Plant et al., 2017). This finding can be justified however based on the type of appeal and the audience characteristics. Previous studies found three main reasons why road safety messages containing crashes or evoking negative emotions may not result in significant reduction to young drivers distracted and harmful road behaviour (e.g., speeding, drink driving, texting and driving). First, negative

emotional appeals depicting crash scenes like TAC's advertisement are suggested to be susceptible to message broadening, where audience misinterpret the message from 'don't drink drive' to 'don't crash' (Redshaw, 2017). Second, negative emotional appeals tend to induce a third person effect in young audiences. Young drivers tend to think that road safety message including anti drink driving messages containing themes of crashes and accidents are not relevant to them, resulting in negative or no change in their own perceptions, intentions and behaviour (Duck & Mullin, 1995). Finally, after exposure to anti drink driving advertisements showing crash scenes young drivers have reported to believe being more skilled than other drivers, making them feel invulnerable to such acts (Harré et al., 2005).

Budweiser's advertisement being a positive emotional appeal message had no scenes of crashes or accidents but instead focused on the benefits of not drink driving (i.e. reunited with loved ones safely). However, the advertisement still did not show any significant effects on intentions to drink drive. The advertisement did not clearly present the audience with a response efficacy (solution), it was only implied that avoidance of drink driving will result in safety of the driver and ability to make it home safely. This may explain the insignificant effect on intentions to drink drive, as the message lacked a clear action component or high efficacy response (Lewis, Watson, & White, 2010).

5.3 Combination of Both Appeals

Previous studies in road safety advertisements have only analysed negative and positive appeals separate to each other without assessing their effectiveness when combined together. The current research constitutes a first empirical evaluation of a combined exposure to anti drink driving messages using a positive and a negative emotional appeal. The exposure to a combination of both appeals resulted in a significant desired shift across all three TRA variables, supporting hypotheses 1b, 2b, and 3b. Respondents exposed to both appeals reported significantly less favourable attitudes, lower social norms, and reduced intentions to drink drive. This can be explained by the higher levels of induced emotions in the audience due to viewers feeling both negative and positive emotions in the dual exposure. Research shows advertisements with high emotional levels generate a higher and more durable safe driving attitudes compared to low emotional advertisements (Hamelin et al., 2017). Furthermore, the dual exposure induced mixed emotions of fear and joy in the audience, resulting in more positive attitude and intention change confirming previous findings of dual appeal effectiveness (Bennett, 2015). Finally, the use of positive emotions along with negative emotions helps reduce the defensive responses of the audience resulting in a higher persuasion

effect (Mukherjee & Dubé, 2012). The addition of Budweiser's advertisement to the exposure may have acted as a negative relief factor to TAC's advertisement, making it more effective (Mukherjee & Dubé, 2012).

The results of the study have practical implications for social marketers, and particularly for the design of advertisement messages. On the basis of study results, it is recommended that, social marketers consider combined emotional appeals approach when designing messages. However, further investigation is required to confirm this recommendation and as in any campaign, pre-testing the advertisements with the target audience is a must. This will enable social marketers to move beyond knowledge alteration to behaviour change (Alden et al., 2012). The Blurred Minds program should utilise mixed appeal messages to achieve stronger shift in drink driving perceptions.

6.0 Limitations, Future Research and Conclusion

This study has limitations. First, while we were guided by the ISMC as a concept we acknowledge that this study only evaluated the promotion component of the marketing mix. Other evaluations of Blurred Minds have been conducted separately for other program components (e.g., VR evaluation; Dietrich et al., 2019; Pang et al., 2018). Future research can integrate all program components which align with the 4 ps to evaluate the whole program effects on drink driving. Second, respondents were asked to view the advertisements before answering the questionnaire, there was a somewhat 'forced' exposure method (Plant et al., 2017). Enhanced effects such as social desirability responses, enhanced attention (Tay & Watson, 2002), or reduced effects (Knowles & Linn, 2004) can be a result of forced exposure when compared with a natural setting. Results therefore may change based on the nature of exposure (Heath, Nairn, & Bottomley, 2009). Future studies can try to expose participants to the advertisements in a more subtle or natural manner, for example by embedding the advertisements within a television program or as part of a social marketing program. The third limitation arises from the theoretical model employed by this study. The TRA has its limitations, mainly in excluding the measure of self-efficacy. Future research should employ the theory of planned behaviour to understand the effect of self-efficacy on drink driving as a result to positive, negative and mixed appeal messages. Furthermore, TRA employs intentions as a proxy too behaviour, future research should examine behavioural outcomes to understand how well intentions predict behaviour. Fourth, an argument may be raised that the use of both appeals resulted in significant shift in all three TRA constructs due to the double exposure. Previous studies found higher dosages of exposure to increase effectiveness of advertisement

messages (McAfee et al., 2017). Future research is required to confirm these findings by unifying the exposure time and dosage for the three groups and controlling for the appeal factor. Furthermore, research is needed to confirm the effectiveness of a combination of both appeals in one advertisement rather than two. Fifth, the convenience sample impacts representativeness of the targeted population, due to the way the sample was determined or self-selection bias being in play (Zikmund, D'Alessandro, Winzar, Lowe, & Babin, 2017). The study collected 352 responses, from which almost 70% were females. Positive emotional appeals may be relatively more effective for males than females and vice versa for negative, fear appeals (Lennon et al., 2010). Future research should also compare results based on gender, age and drinking behaviour which can present valuable insights to theory and practice. Sixth, the study employed measures of Theory of Reasoned Action while adapting the constructs to the context of the study. Hence, the wording of the questions within each construct focused on drink driving (e.g., I intend to have alcohol before driving over the next 2 weeks) and not alternative behaviours such as ordering a taxi or staying at a friend's place. This adaptation may contribute to the results of the current study warranting the need for future research to examine the extent adaptation affected findings. Seventh, the current study employed advertisements that lacked the promotion of an actual product (i.e., goods or services) neglecting a core element of social marketing. Future studies should address this limitation by utilising advertisements where a product is explicitly promoted. Finally, it must be acknowledged that the use of only immediate post-exposure measures may result in undocumented shift in perceptions that happen after a delayed period of time (Lewis, Watson, & White, 2009). Future research should include a follow-up questionnaire after a month period to examine whether effects sustain.

In summary, this study builds on, and extends previous research exploring the effectiveness of emotional appeals in anti drink driving advertisements, and contributes to the literature by validating the TRA and broadening its utility beyond previously explored contexts as well as examining the effectiveness of a combination of both emotional appeals along the testing of each appeal separately. The findings of this study support the use of a combination of both negative and positive emotional appeals in developing anti drink driving advertisements targeting young adults.

Keywords: social marketing, advertising, emotional appeals, drink driving, theory of reasoned action

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Table 1. Summary of Employed Advertisements

<i>Topic</i>				
	Topic	Behavioural Objective	Emotional Tone	
Budweiser https://www.youtube.com/watch?v=56b09ZvLaWk	Depicts how to change alcohol consumption behaviours	Behave responsibly when drinking (don't drink drive).	Positive	
TAC https://www.youtube.com/watch?v=otR8V7rlnjA&t=1s	Depicts short-term harms of drinking	Behave responsibly when drinking (don't drink drive).	Negative	
<i>Execution characteristics</i>				
	Response/Solution:	Style	Graphic imagery	Drinking portrayal
Budweiser	Yes	Drama	No	Implicit
TAC	No	Drama	Yes	Explicit
<i>Target Audience</i>				
	Target Audience	Gender Specific	Consequences of Drinking	
Budweiser	Young Adults	No	Consequences on others around the drink driver	
TAC	Young Adults	No	Consequences both personally and on others	

Table 2. Average Variances Extracted (AVE) and Squared

Construct	AVE	Correlation Estimates² (Fornell-Larcker criterion)		
		Attitudes	Norms	Intentions
1) Attitudes	0.79			
2) Norms	0.60	0.42		
3) Intentions	0.91	0.48	0.50	

Table 3. Paired Samples t-test Results

Positive Appeal						
	N	T1 (SD)	T2 (SD)	df	t	p
Attitudes	76	-2.5 (0.94)	-2.7 (0.62)	75	2.191	.032
Norms	75	1.73 (0.99)	1.64 (0.96)	74	0.976	.332
Intentions	75	1.54 (1.38)	1.32 (1.04)	74	1.974	.052
Negative Appeal						
	N	T1 (SD)	T2 (SD)	df	t	p
Attitudes	99	-2.48 (1.2)	-2.62 (1.3)	98	1.747	.084
Norms	98	1.70 (1.4)	1.54 (1.5)	97	2.112	.037
Intentions	98	1.36 (1.8)	1.26 (1.9)	97	1.593	.114
Both Negative and Positive Appeals						
	N	T1 (SD)	T2 (SD)	df	t	p
Attitudes	107	-2.46 (1.02)	-2.64 (0.87)	106	3.350	.001
Norms	106	1.81 (1.14)	1.59 (0.95)	105	4.348	.000
Intentions	106	1.46 (1.11)	1.32 (0.87)	105	2.542	.012