

Insights into Evaluating Road Safety Advertising Based upon the Step Approach to Message Design and Testing (SatMDT)

Ioni Lewis^{a,b}, Katherine M. White^{b,c}, Barry Watson^{a,b}, and Barry Elliott^d

^a Queensland University of Technology (QUT), Centre for Accident Research and Road Safety - Queensland (CARRS-Q), Victoria Park Road, Kelvin Grove, QLD, 4059, Australia

^b Queensland University of Technology (QUT), Institute of Health and Biomedical Innovation (IHBI), Cnr Musk Avenue and Blamey Street, Kelvin Grove, QLD, 4059, Australia

^c Queensland University of Technology (QUT), School of Psychology & Counselling, Victoria Park Road, Kelvin Grove, Queensland (QLD), Australia, 4059

^d Consultant Psychologist

Abstract

This conceptual paper aims to provide an important methodological contribution in regards to evaluating the effectiveness, or persuasiveness, of road safety advertising messages. The methods and measures identified are offered in accordance with recommendations posited within Lewis, Watson, and White's (2016) social-psychological framework of persuasion, the Step approach to Message Design and Evaluation (SatMDT). Insights are offered into how greater confidence may be placed upon conclusions drawn regarding the effectiveness of messages when an array of outcome measures is implemented. These measures must assess both message acceptance and rejection and acceptance should be assessed using both direct and indirect measures.

Background

Mass media advertising is a key component of the road safety countermeasures that Australian governments invest in annually. Meta-analytical evidence has identified that theory plays a crucial role in message development and evaluation (Elliott, 1993). Theory aids evaluation because it facilitates the clear identification, and subsequent testing, of key constructs (Elliott, 1993). Somewhat recently, however, there have been calls for more frequent, formal and thorough evaluations of road safety advertising (Hoekstra & Wegman, 2011). The paper will discuss how the Step approach to Message Design and Testing (SatMDT) framework may assist when evaluating road safety advertising.

The theoretical framework: Step approach to Message Design and Testing (SatMDT)

The SatMDT consolidates the substantial evidence base regarding the design and evaluation of road safety messages (see Lewis et al., 2016). The framework is informed by social psychological theories of decision making, attitude-behaviour relations, and persuasion including the Theory of Planned Behaviour (Ajzen, 1991), the Extended Parallel Process Model (Witte, 1992), the Elaboration Likelihood Model (Petty & Cacioppo, 1986), and Social Learning Theory (Bandura, 1969). As Figure 1 shows, the SatMDT provides guidance via a four step-based process. The framework also includes method-related aspects as intervening steps. It is Step 4 "Message outcomes" and evaluation which is the focus of this paper.

STEP 1 Pre-existing individual characteristics		Methodology/ Step 1 Pilot work	STEP 2 Message-related characteristics	Methodology/ Step 2 Message Exposure	STEP 3 Individual responses	Methodology/ Step 3 Concept testing & Message checks	STEP 4 Message outcomes	Methodology/ Step 4 Quantitative-based assessment of persuasive effects
Identify	Elicit		Focus & Content		Emotional & Cognitive		Acceptance & Rejection	
Gender/ age (relevant socio-demographic variables) + Extent & nature of involvement in/with behaviour	Salient beliefs + Strategies for avoiding behaviour (response efficacy)	Focus of Message Challenge perceived benefits And/Or Highlight perceived disadvantages Key content • Emotional appeal type (e.g., fear-based, humour-based) • Modelling of behaviour • Strategies	Emotional responses (anticipated emotion elicited?) + Cognitive responses (e.g., perceptions of response efficacy, involvement)	Intentions to adopt message and/or denial, defensive avoidance reactions	Persuasive effects measured over time			

Figure 1. The Step approach to Message Design and Testing ([SatMDT]; Lewis et al., 2016)

Methods and measures

In accordance with the SatMDT (Lewis et al., 2016), message outcomes should be evaluated via quantitative methods involving large(r) samples which comprise members of the intended target audience. Non-intended audience members may also be included for comparative purposes. Large-scale self-report online surveys represent a cost-effective and efficient method within which messages may be embedded and individuals’ responses subsequently sought both immediately after exposure and at a follow-up period so as to assess persuasive effects over time.

Underpinning the SatMDT’s approach to evaluation is the premise that greater confidence may be gained from the use of a number of different outcome measures. For instance, evidence supports the need for measures of effectiveness to be assessed in terms of both the extent to which individuals accept as well as the extent to which they reject a message. Relative to message acceptance, however, message rejection is seldom assessed (Lewis, Watson, & White, 2010).

In addition, both direct as well as a range of indirect measures of effectiveness should feature. Direct measures enquire directly about the perceived persuasiveness of a message. In contrast, indirect measures may include items assessing individuals’ broader attitudes, intentions, and/or behaviours in regards to the particular behaviour in a road safety message (e.g., speeding). Indirect measures, because they are not tied specifically with reference to a message, may also be assessed within individuals not exposed to a message (i.e., control group).

Concluding comments

This paper will demonstrate the value of applying the SatMDT to evaluate road safety advertising. With the aid of concrete examples of measures used in previous evaluations, this paper will demonstrate how comprehensive insights of message persuasiveness can be gained.

References

Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*, 50, 179-211.

Bandura A. (1969). *Principles of behaviour modification*. NY: Holt, Rinehart and Winston.

Elliott, B. (1993). *Road safety mass media campaigns: A meta-analysis*. Prepared by Elliott & Shanahan Research. Canberra, Australia: Federal Office of Road Safety.

- Hoekstra, T., & Wegman, F. (2011). Improving the effectiveness of road safety campaigns: Current and new practices. *IATSS Research*, *34*, 80–86.
- Lewis, I., Watson, B., & White, K.M. (2016). The Step approach to Message Design and Testing (SatMDT): A conceptual framework to guide the development and evaluation of persuasive health messages. *Accident Analysis and Prevention*, *97*, 309-314.
- Lewis, I., Watson, B., & White, K. M. (2010). Response efficacy: The key to minimizing rejection and maximizing acceptance of emotion-based road safety advertising messages. *Accident Analysis and Prevention*, *42*, 459-467.
- Maibach, E., & Parrott, R. L. (1995). *Designing health messages: Approaches from communication theory and public health practice*. Thousand Oaks, CA: Sage.
- Petty, R. E., & Cacioppo, J. T. (1986). The ELM of persuasion. In L. Berkowitz (Ed.), *Advances in Experimental Social Psychology* (Vol 19, pp.123-205). NY: Academic.
- Witte, K. (1992). Putting the fear back into fear appeals: The EPPM. *Communication Monographs*, *59*, 329-349.