Development, implementation and evaluation of an alcohol media literacy program for Australian children

Chloe Sarah Gordon

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Development, Implementation and Evaluation of an Alcohol Media Literacy Program for Australian Children

A thesis submitted in fulfilment of the requirements for the award of the degree

Doctor of Philosophy

From

University of Wollongong

Chloe Sarah Gordon

BPrimEd (Hons)

School of Education

2016
CERTIFICATION

I, Chloe Gordon, declare that this thesis, submitted in fulfilment of the requirements for the award of Doctor of Philosophy in the School of Education, Faculty of Social Sciences, University of Wollongong, is wholly my own work unless otherwise referenced or acknowledged. The document has not been submitted for qualification at any other academic institution.

Signed:

Chloe Gordon
BPrimEd(Hons)
VERIFICATION

This statement verifies that the greater part of the work in the above-named manuscript is attributed to the candidate. Chloe Gordon contributed to study design, undertook data collection and analysis, and prepared the first draft of each manuscript. She then responded to editorial suggestions of co-authors and prepared the articles for submission to the relevant journals.

Associate Professor Lisa Kervin (Primary Supervisor)

Chloe Gordon (Candidate)
ACKNOWLEDGMENTS

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This thesis was supported by an Australian Postgraduate Award (APA) Scholarship.
DEDICATION

This thesis is dedicated to my grandparents, Olivia Maria Fernandez and Gustavus Francis Fernandez. Thank you for the sacrifices you made, so that your children, your grandchildren and the generations to come, could have a better education and future.
PUBLICATIONS CONSTITUTING THIS THESIS

The following publications have been produced as a result of the research conducted for this thesis.

Published Articles


Articles under Review

OTHER PUBLICATIONS AND CONTRIBUTIONS ARISING FROM THIS THESIS

Gordon, C. S. (2016). Teaching children to critically analyse alcohol advertisements: Why implementation fidelity is important and how it was achieved in a program evaluation study. *SAGE Research Methods Cases*. [Appendix C]


ABSTRACT

Background
Australian children are exposed and receptive to an abundance of multimedia advertising for alcohol. Exposure occurs through numerous advertising avenues during sport games and on YouTube, billboards and merchandise. This high level of exposure is concerning given that children’s attitudes towards drinking, intentions to drink and drinking behaviours are impacted by alcohol advertising. Considering the significant harms caused by underage drinking including, impaired memory and brain functioning, injuries, risky sexual behaviour and self harm, children’s exposure and receptivity to alcohol advertising is an important matter to address. One approach to dealing with this issue is alcohol media literacy (AML) education. AML programs have demonstrated positive results for increasing ability to deconstruct alcohol advertisements, increasing understanding of advertising’s persuasive intent and lowering intentions to drink. However the majority of AML programs have been developed, implemented and evaluated in the United States, and are therefore culturally relevant to that region. There is an absence of AML programs that have been developed for an Australian context, with specific attention paid to the unique Australian alcohol advertising landscape. Furthermore, there is an absence of programs that have focussed on the broad range of multimodal advertisements that students are exposed to, rather than focussing solely or primarily on print and TV advertisements.

Method
This research project involved the development, implementation and evaluation of an Australian AML program for upper-primary school children. A systematic literature review of existing AML programs was conducted to determine key components and considerations for an effective program. These considerations were used to develop a 10-lesson theory-informed and interactive Australian AML program that was trialled and refined through a formative pilot evaluation. The refined program was then implemented and evaluated through a larger crossover design study, where students received the AML program or regular school work in different sequences. The impact of the program on known precursors/predictors of drinking behaviour was determined, and the pedagogical
considerations and inhibitors to implementing the program in an Australian upper-primary school context were examined. Finally, the student counter-advertisements (counterads) that were developed at the end of the 10-lesson program were analysed to explore how primary school students can interpret and redesign advertisements to create meaning.

Results

The formative pilot evaluation of the developed AML program concluded that the program appeared feasible and had potential to lead to measurable outcomes. In the larger crossover design study, the intervention and wait-list control group reported significantly higher media deconstruction skills, and significantly lower social norms as a result of the intervention. The wait-list control group reported significantly lower positive alcohol expectancies upon receiving the intervention. There were no significant changes to self-efficacy to refuse alcohol, preference for alcohol branded merchandise, or understanding of persuasive intent as a result of the intervention.

From the process evaluation, five key pedagogical considerations were identified that facilitated implementation. These were: connecting to the students’ lifeworlds to achieve cultural significance; empowering students with real-world skills to ensure relevance; ensuring programs are well structured with strong connections to the school curriculum; creating developmentally appropriate activities while providing a range of assessment opportunities; and including hands-on and interactive activities to promote student engagement. Three potential inhibitors to implementing the AML program in upper-primary school classrooms were identified. These were topic sensitivities, classroom management challenges, and fitting new programs into already busy school schedules.

Finally, the content analysis of the students’ counterads illustrated how primary school students can be involved as text designers of multimedia counterads. The students were able to convey messages about alcohol misuse through their counterads, emphasising immediate health consequences including sickness and injuries. Analysis of the counterad images and text suggest that coherent and consistent messages were presented.
Discussion
To date, the majority of AML studies have been conducted in the United States and focussed on deconstructing TV and print based ads. This study provides evidence that when an AML program is developed for a specific cultural context, and incorporates a broad range of multimodal advertisements, it can have a positive impact on beliefs and attitudes that are known predictors/precursors of drinking behaviours. Overall, the AML program content and individual lessons were well received by the teachers and students. The lessons learned from the development, implementation and evaluation of this program can provide health professionals and educators with key pedagogical strategies for designing culturally responsive educational programs. Further, the program has potential to challenge policy and curriculum around how substance abuse prevention is approached in schools. Culturally responsive programs are critical for ensuring interventions are effective for students within their specific context.
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## LIST OF KEY ACRONYMS AND DEFINITIONS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>AML</td>
<td>Alcohol media literacy</td>
</tr>
<tr>
<td>ASSAD</td>
<td>Australian Secondary Students’ Alcohol and Drug survey</td>
</tr>
<tr>
<td>CALD</td>
<td>Culturally and Linguistically Diverse Communities</td>
</tr>
<tr>
<td>MIP</td>
<td>Message Interpretation Process model</td>
</tr>
<tr>
<td>ML</td>
<td>Media literacy</td>
</tr>
<tr>
<td>NSW</td>
<td>New South Wales (a state in Australia)</td>
</tr>
<tr>
<td>NSW BOS</td>
<td>New South Wales Government, Office of the Board of Studies</td>
</tr>
<tr>
<td>NSW DEC</td>
<td>New South Wales Government, Department of Education and Communities</td>
</tr>
<tr>
<td>PDHPE</td>
<td>Personal Development and Health, Physical Education</td>
</tr>
<tr>
<td>SES</td>
<td>Socio-economic status</td>
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CHAPTER 1: Introduction

1.1 Introduction

This doctoral research examined the development, implementation and evaluation of a theory-informed alcohol media literacy program (AML) for Australian children. This chapter provides a background to the research topic. It also outlines the theoretical framework that informed this body of work, followed by the research aims, significance of the study and structure of the thesis. This chapter was not prepared for publication.

1.2 Background

1.2.1 Alcohol use in Australia

Young people under 15 years of age are at the greatest risk of harm from drinking and for this age group not drinking alcohol is especially important (NHMRC, 2009). These Australian guidelines are based on knowledge of the significant potential psychological, social and physical harms of underage drinking such as impaired memory and brain functioning, dependency and delinquency, negative impact on learning and academic achievement, accidents, injuries, violence, risky sexual behaviour and self-harm (Botvin & Griffin, 2007; NHMRC, 2009; Scull, Kupersmidt, & Erausquin, 2013). Further, earlier initiation of drinking is associated with heavier drinking patterns in adolescence and adulthood, thus increasing the likelihood of adverse physical and mental health conditions (NHMRC, 2009).

The 2011 Australian Secondary Students’ Alcohol and Drug (ASSAD) survey indicates that by age twelve, 6.1% of secondary students self-report being current drinkers (White & Bariola, 2012). Research has demonstrated significant long term benefits in early intervention, where issues are prevented before the problem flourishes (Gauntlett, Hugman, Kenyon, & Logan, 2001). If interventions are left until secondary school when students may already engage in drinking behaviours, albeit a small percentage, the problem is being addressed too late. Interventions need to begin before young people engage in the risky behaviour (Fish, 2003).
1.2.2 Alcohol advertising and regulation in Australia

Young people in Australia are exposed to an abundance of advertising for alcohol (Jones & Gordon, 2013; Jones & Magee, 2011; Victorian Department of Human Services, 2009; Winter, Donovan, & Fielder, 2008). It has been demonstrated that children’s (6-12 years of age) exposure to alcohol advertising on Australian free-to-air television is almost one-third of that of mature adults (Fielder, Donovan, & Ouschan, 2009; Winter et al., 2008). Exposure occurs through mainstream advertising including television, radio, print and cinema, as well as outdoor advertising such as billboards near the roadside, airports, railway and bus stations, shopping centres and petrol stations. These advertising platforms incorporate a range of modes including image, movement, sound, spatial design, gesture, and language.

A recent study that examined changes in alcohol advertising expenditures across eight media in Australia from 1997 to 2011, found there has been a decrease in the use of television advertising for a number of alcohol products. It was hypothesised that this decrease was a result of advertisers utilising new mediums such as social media, in-store advertising (e.g. free gifts, competitions, ‘happy hours’ and promotional items) and sponsorships (e.g. alcohol sponsorship of sport which provides naming rights of the event and teams, branding of merchandise and event venues and free promotional merchandise to attendees) (White et al., 2015). Furthermore, digital media platforms such as Facebook, ‘unofficial’ alcohol brand pages, Google and YouTube have created new avenues for advertising that slip ‘below-the-radar’ due to less visibility to regulators (AMA, 2012; ANPHA, 2012).

While exposure to alcohol advertising is extensive, the system of co-regulation and self-regulation that exists in Australia is arguably weak and contradictory (Jones & Gordon, 2013; White et al., 2015). For example, while alcohol ads on free-to-air television may only be broadcast during M, MA or AV classification periods, an exception is made during the live broadcast of sporting events on weekends and public holidays, thus increasing children’s exposure to alcohol ads during this period (FreeTV Australia, 2010; Jones, 2010). Alcohol products on fixed signs such as outdoor billboards are prohibited within a 150 metre sight line of a primary or secondary school. However an exception is made where the school is in the vicinity of any venue that sells alcohol products (OMA, 2009). While alcohol promotions
such as free gifts, competitions and ‘happy hours’ are not meant to have special appeal of
minors (NSW Office of Liquor Gaming & Racing, 2013), these promotions often target young
people through focusing on ready-to-drink alcohol products and involving price or volume
discounts (Jones & Smith, 2011). Furthermore, new media technologies such as Facebook,
personalised text messages and YouTube advertisements have little visibility to regulators
and yet are popular mediums with young people (McCreanor, 2005).

1.2.3 Do alcohol advertisers deliberately target young people?

It can be argued that alcohol advertisers have a vested interest in targeting underage
drinkers, as they represent new consumers who can profit the industry (Towns, 2012).
Furthermore, young drinkers form a key component of the market as heavier drinking is
concentrated in the late teenage years and in young adulthood (Casswell, 2004). Young
people are generally responsive to brand labels and symbols, and alcohol advertisers make a
considerable effort to promote alcohol brand identities and lifestyles that are popular with
young people (Casswell, 2004; Hill, Thomsen, Page, & Parrott, 2013). For example, the
branding of Vodka Cruiser promotes a lifestyle and identity that is ‘fun’, ‘cool’ and ‘popular’
through its use of visual literacy techniques such as young attractive female models, bright
colours and party themes in its advertising. These brand identities appeal to young people’s
emotions through communicating social status and aspirations (Towns, 2012). An Australian
study found that all 30 of the advertisements with highest exposure to children contained at
least one of the elements known to appeal to children, such as humour, popular music,
engaging storyline, animals/animation, special effects (technical) or sexual appeal (Jones,
Phillipson, & Barrie, 2010).

Branding of alcohol products also target young men by associating the consumption of
alcohol with the Western ideal of hegemonic masculinity and as a ‘rite of passage’ for young
men (Towns, 2012). For example, the Australian beer brand Victoria Bitter associates their
products with popular aspects of Australian culture such as sport, laddishness, larrikinism,
mateship, irony, nationalism, sport, celebrityhood and the carnivalesue (Mckay, Emmison, &
Mikosza, 2009). In this way, alcohol advertisements situate alcohol as an integral component
of Australian leisure (Rowe & Gilmour, 2009). It can therefore be argued that alcohol
advertisers deliberately target young people through their promotion of brand identities, lifestyles and a sense of belonging that are desirable to young people (Hill et al., 2013).

1.2.4 Impact of alcohol advertising

While the drinking behaviours of children are largely unknown (Zucker, Donovan, Masten, Mattson, & Moss, 2009), it is known that childhood is a critical period when alcohol expectancies begin to form and children are cognitively vulnerable to the persuasive appeals of advertising (Austin & Knaus, 2000; Dunn & Yniguez, 1999; Miller, Smith, & Goldman, 1990; Scull et al., 2013). For example, a study found that Year 6 students’ exposure to various sources of alcohol advertising, including on television, magazines, in-store displays and concessions, radio, and ownership of beer promotional items, was strongly predictive of Year 7 drinking and Year 7 intentions to drink (Collins et al., 2007). Similarly, a study conducted with Year 5 and Year 6 children found that children who were more aware of beer advertisements had more positive alcohol expectancies, intended to drink more frequently as adults, and had more knowledge of beer brands and slogans (Grube & Wallack, 1994). Furthermore, several longitudinal studies have established that exposure to alcohol advertising increases the risk of current or future alcohol use for adolescents (Anderson, de Bruijn, Angus, Gordon, & Hastings, 2009; Ellickson, Collins, Hambarsoomians, & McCaffrey, 2005; Grenard, Dent, & Stacy, 2013; Smith & Foxcroft, 2009; Snyder, Milici, Slater, Sun, & Strizhakova, 2006; Stacy, Zogg, Unger, & Dent, 2004; Tucker, Miles, & D'Amico, 2013).

1.2.5 Media literacy education

Media literacy is a developing field that addresses the link between young people’s exposure to advertising and subsequent expectancies and behavioural intentions (Scull, Kupersmidt, & Erausquin, 2014). It is commonly defined as the ability to access, analyse, evaluate and communicate messages in a wide variety of forms, including print, television and electronic advertisements (Considine, Horton, & Moorman, 2009; Potter, 2013; Thoman & Jolls, 2005). Media literacy programs have been found to be more effective, compelling and interesting, when compared to generic health education programs, for improving perceptions of social
norms around adolescent smoking (Primack, Douglas, Land, Miller, & Fine, 2014) and lowering levels of concern about weight (Wade et al., 2003).

A number of media literacy programs have been developed to address health related concerns such as violence (Rosenkoetter, Rosenkoetter, Ozretich, & Acock, 2004; Scharrer, 2006; Sprafkin, Watkins, & Gadow, 1990; Vooijs & van der Voort, 1993a, 1993b), eating disorders (Coughlin & Kalodner, 2006; Kusel, 1999; Neumark-Sztainer, Sherwood, Coller, & Hannan, 2000; Rabak-Wagener, Eickhoff-Shemek, & Kelly-Vance, 1998; Wade, Davidson, & O’Dea, 2003; Wilksch, Tiggemann, & Wade, 2006), nutrition (Evans et al., 2006; Hindin, 2001; Hindin, Contento, & Gussow, 2004), body image (Fuller, Damico, & Rodgers, 2004) and sexual behaviour (Pinkleton, Austin, Cohen, Chen, & Fitzgerald, 2008). Several media literacy programs have also been developed to address tobacco use (Austin, Pinkleton, & Funabiki, 2007; Austin, Pinkleton, Hust, & Cohen, 2005; Banerjee & Greene, 2006, 2007; Beltramini & Bridge, 2001; Gonzales, Glik, Davoudi, & Ang, 2004; Primack et al., 2014). However, relatively fewer have been developed to address alcohol consumption (Austin & Johnson, 1997a, 1997b; Chen, 2013; Goldberg, Niedermeier, Bechtel, & Gorn, 2006; Kupersmidt, Scull, & Austin, 2010; Kupersmidt, Scull, & Benson, 2012).

1.3 Study aims and overview

The intent of this mixed methods study was to develop, implement and evaluate a school-based alcohol media literacy (AML) program for Australian upper-primary school children. This study was the first time an AML program a) had been developed, implemented and evaluated in an Australian context and b) taught students to critique the broad range of alcohol advertisements that they are exposed to including online, print, TV, alcohol branded merchandise and alcohol sponsorship of sport. The PhD project aimed to:

1. Develop and pilot an AML program for Australian children
2. Evaluate the effectiveness of the program
3. Examine the pedagogical considerations and inhibitors to implementing the program

This research was positioned in a media literacy framework and utilised both Inoculation Theory and the Message Interpretation Process model (see Figure 1.1).
1.3.1 Media literacy framework

The Centre for Media Literacy (Thoman & Jolls, 2005) developed five core concepts that should be covered in media literacy programs. These are: all media messages are constructed, created using a creative language with its own rules, different people experience the same message differently, media have embedded values and points of view, and most media messages are constructed to gain profit/power.

1. **All media messages are ‘constructed’.** This concept involves understanding that media is carefully crafted by people using particular techniques and can differ from reality. This concept highlights that media texts do not simply mirror society, they also influence and shape society through creating a sense of reality (Robertson & Scheidler-Benns, 2016). This notion provides impetus for engaging in media literacy education, in order to understand how texts position the viewer within different social, cultural and historical contexts (Alvermann & Hagood, 2000). Guiding questions include: What is this? How is this put together? Who created this message? (Thoman & Jolls, 2005).

2. **Media messages are created using a creative language with its own rules.** This concept involves deconstructing or creating advertisements to understand the techniques and elements used to make advertisements appealing (Banerjee & Greene, 2006, 2007). Viewers need to consider the linguistic, visual, gestural, audio and spatial elements of a text, and how these elements work together to create meaning (Bull & Anstey, 2010; Kress, 2009). Understanding the techniques used to
create media texts helps the viewer to be less influenced by the persuasive messages. Guiding questions include: What do you notice about the colours and shapes? What is the viewpoint? Are there any visual symbols or metaphors? (Thoman & Jolls, 2005).

3. *Different people experience the same message differently.* This concept involves understanding that viewers each interpret media messages through a unique lens. Viewers are therefore not passive recipients of media messages, but rather active participants that create meaning through drawing upon their unique set of experiences (age, gender, education, cultural upbringing etc). Guiding questions include: What do I think and feel about this? What might other people think and feel about this? (Thoman & Jolls, 2005).

4. *Media have embedded values and points of view.* This concept involves identifying the implicit messages which are conveyed in media texts. These messages tell the viewer who or what is important. By examining what is absent from the text, they also tell the viewer who or what is not important (Kilbourne, 2010). It is critical for students to be taught to question the messages presented in media texts as these messages can be problematic if left unchallenged (Robertson & Scheidler-Benns, 2016). Guiding questions include: What lifestyles, values and points of view are represented in this message? What lifestyles, values and points of view are omitted from this message? (Thoman & Jolls, 2005).

5. *Most media messages are constructed to gain profit and/or power.* This concept involves understanding the purpose of advertising and its persuasive nature. Guiding questions include: Why was this message sent? Who is the audience? How do you know? (Thoman & Jolls, 2005).
1.3.2 Inoculation Theory

The decision to target the upper-primary school age group was informed by Inoculation Theory (Banas & Rains, 2010; Compton & Pfau, 2004; Godbold & Pfau, 2000). The theory argues that children and adolescents who are forewarned of the persuasive pressure to drink will develop resistance, or immunity to this persuasion through the ‘inoculation’ (Eagle, 2007). Inoculation Theory therefore suggests that prevention efforts should begin before individuals engage in the risky behaviour.

1.3.3 The Message Interpretation Process model

The Message Interpretation Process (MIP) model (Austin, 2007; Austin & Johnson, 1997b) highlights the cognitive mechanisms that are at play when interpreting media messages. According to the model (Figure 1.2), which is supported by decision-making theory, social cognitive theory, and dual-process theories of persuasion, individuals interpret media messages through partly logical and partly affective decision making routes. The extent to which the portrayal seems to represent most people in the real world (i.e. perceived realism) is the entry-level variable to the logic-orientated route in the MIP model. If the portrayal reflects personal experiences that are relatable, it leads to the next level in the MIP model called identification. Identification refers to the individual wanting to imitate a portrayal, which, if true, leads to positive expectancies and behaviour. The entry level variable to the affect-orientated route to decision making is how appealing the message seems, which can bypass the logic-orientated route. Informed by this model, this research sought to strengthen students’ logical responses to advertising whilst reducing the impact of positive emotional persuasion, thus helping individuals resist the pressure to drink (Austin, Chen & Grube, 2006; Kupersmidt et al., 2012; Scull et al., 2014).
1.4 Significance of the study

This research has contributed to the small but growing field of alcohol prevention research for the late primary school years. It addressed current gaps in knowledge including the impact of media literacy programs on known predictors/precursors of drinking behaviours in an Australian context, whereas previous research in this area has been developed, implemented and evaluated primarily in the US. It also addressed the gap in current AML programs’ content by including content and explicit discussion of a broad range of alcohol advertisements (i.e., television, radio, print, cinema, outdoor advertising, digital media, product placement, branded merchandise, sponsorship and point-of-sale marketing), rather than focussing solely or primarily on print advertisements.

This research has provided a holistic approach to program evaluation by providing quantitative evidence of the effectiveness of the program and qualitative insight into the implementation process. Previous evaluation research in this area has focussed primarily on quantifying the effectiveness of programs, with limited attention given to process evaluation (Austin & Johnson, 1997a, 1997b; Chen, 2013; Goldberg et al., 2006; Kupersmidt et al., 2010; Kupersmidt et al., 2012; Sivaithamparam, 2011). This mixed methods approach is necessary for ensuring sustainable implementation of innovative programs in schools (Buckley, Sheehana, Shochetb, & Chapmana, 2012). The process evaluation component provided insight into implementation fidelity, that is, how consistently the program was implemented across the classes, which is of critical importance to the success of alcohol abuse prevention programs in school settings. When components of a research-based program are changed or omitted, it can be difficult to assess the true impact of the program (Dusenbury, Brannigan, Falco, & Hansen, 2003). The process evaluation included in this research was therefore
valuable for providing detailed insight into where and why any variation in delivery occurred, and key pedagogical considerations for implementing the program in an Australian upper-primary school setting.

This research has resulted in the development, implementation and evaluation of a practical and culturally relevant AML program for Australian children. The primary school years, which were the focus of the current implementation of the program, are a critical period when children are most cognitively vulnerable to the persuasive appeals of advertising (Austin & Knaus, 2000; Banerjee & Greene, 2006; Considine et al., 2009; Dunn & Yniguez, 1999; Kupersmidt et al., 2010; Spoth, Randall, Shin, & Redmond, 2005). The program has potential to be widely implemented in Australian schools due to its connection to Australian curriculum outcomes, detailed and structured lesson plans, and process evaluation data which provided insight into the facilitators and inhibitors to implementation.

1.5 Structure of the thesis

This thesis is submitted in fulfilment of the requirements of a Doctor of Philosophy in Education in Style 2, where chapters are prepared as journal articles. Chapters 1 through to 9 comprise three published or in press papers (Chapter 2, 4 and 5), and three submitted for editorial review (Chapters 6-8). Chapters 1, 3 and 9 were not intended for publication. Please note that while the articles are formatted according to the guidelines of each journal, the referencing has been changed to APA, 6th edition for consistency within the thesis. The PhD candidate is referred to as the ‘first author’ in published chapters of the thesis, and as the ‘candidate’ in unpublished chapters. In chapters published in American journals, students aged 10-12 are referred to as elementary or upper-elementary school students. In unpublished chapters or chapters published in Australian journals, students aged 10-12 years are referred to as primary or upper-primary school students.

Chapter 2 provides a systematic review of AML interventions. It provides a critique of the descriptive, methodological and outcome characteristics of these interventions and provides considerations for designing and conducting future AML interventions. This article was
written by the candidate with co-authors Professor Sandra Jones and Associate Professor Lisa Kervin, and was published by *Health Education Research* in 2015.

Chapter 3 explains the overall methodology for implementing and evaluating the Australian AML program. The design of the intervention is justified; the participants and site are explained; the materials, procedures and instruments developed are described and the quality of the research design is addressed. This chapter was not prepared for publication, but rather was written to provide the reader with a cohesive and thorough understanding of the methodology for this body of work.

Chapter 4 describes results of a formative pilot evaluation that was conducted to examine the feasibility and potential impact of an AML program for Australian upper-primary school children. The chapter is a brief report written by the candidate with co-authors Professor Sandra Jones, Associate Professor Lisa Kervin and Dr Jeong Kyu Lee, and was published by the *Australian and New Zealand Journal of Public Health* in 2016. The results from the pilot study were used to make modifications to the Australian AML program before it was implemented on a larger scale with multiple schools. The results from the multi-school study are reported in Chapters 5-8.

Chapter 5 describes quantitative results from the evaluation of the AML program in a multi-school setting. The chapter was written by the candidate with co-authors Dr Steven Howard, Professor Sandra Jones and Associate Professor Lisa Kervin, and was accepted for publication by *Journal of Studies on Alcohol and Drugs* in 2016.

Chapter 6 describes gender effects in the multi-school study. The chapter was written by the candidate with co-authors Dr Steven Howard, Associate Professor Lisa Kervin and Professor Sandra Jones, and was also submitted to *Journal of Studies on Alcohol and Drugs* in 2016.

Chapter 7 describes qualitative results from the process evaluation of the AML program in a multi-school setting. The chapter was written by the candidate with co-authors Associate Professor Lisa Kervin, Professor Sandra Jones and Dr Steven Howard, and was submitted to *BMC Public Health* in 2016.
Chapter 8 describes a content analysis of counter-advertisements that were created by students that participated in the AML program. The analysis sought to provide insight into how primary school students can create meaning in counter-advertisements and outlines implications for teaching. The article was written by the candidate with co-authors Associate Professor Lisa Kervin, Professor Sandra Jones and Dr Steven Howard, and was submitted to Reading Research Quarterly in 2016.

Chapter 9 provides a summary of the six research papers that constitute this thesis. It presents key findings in relation to the three research phases and six research questions. This is followed by a discussion of the research limitations, contributions to the literature, and key learnings and future research. This chapter was not prepared for publication.

1.6 References


Kupersmidt, J. B., Scull, T. M., & Benson, J. W. (2012). Improving media message interpretation processing skills to promote healthy decision making about substance...


CHAPTER 2: Effectiveness of alcohol media literacy programs: A systematic literature review

Article published in *Health Education Research*


Chapter 2 contains the review paper presented in this thesis. This paper provides a list of considerations for developing an alcohol media literacy program and highlights the need for programs developed outside of the United States. Aspects of this paper were presented at the *Australasian Professional Society of Alcohol and Other Drugs* conference in 2014 (Appendix K).
2.1 Abstract

Alcohol media literacy is an emerging field that aims to address the link between exposure to alcohol advertising and subsequent expectancies and behaviours for children and adolescents. The design, rigour and results of alcohol media literacy programs vary considerably, resulting in a number of unanswered questions about effectiveness. To provide insight into some of these questions, a systematic literature review of alcohol media literacy studies was conducted. The review was guided by the following research question: What considerations are needed to develop an effective school-based alcohol media literacy program? Based on a critical synthesis of ten interventions (published in the period 1997 to May 2014), our findings provide a comprehensive understanding of the descriptive, methodological and outcome characteristics of this small body of significant research. The review provides considerations for future alcohol media literacy programs, including the need for an interactive pedagogical approach within the naturalistic school setting, implementation fidelity and a holistic approach to program evaluation, a means for maintaining relevance, consideration of gender differences, relevance for an international audience and use of follow-up and longitudinal data.
2.2 Introduction

There are serious harms that can result from underage drinking, such as injuries, risky sexual behaviour and impaired brain functioning, which can have a detrimental impact on students’ learning and academic achievement (Botvin & Griffin, 2007; NHMRC, 2009; Scull, Kupersmidt, & Erausquin, 2013). Earlier initiation to drinking is associated with heavier drinking patterns in adolescence and adulthood, thus increasing the likelihood of adverse physical and mental health conditions (NHMRC, 2009). At the same time, young people are readily exposed to advertising for alcohol (Grube & Wallack, 1994; Jones & Magee, 2011; Victorian Department of Human Services, 2009; Winter, Donovan, & Fielder, 2008).

Exposure to advertising occurs through mainstream avenues such as television and print, as well as outdoor advertising such as on billboards and in shopping centres. Alcohol advertising can also be covert. For example, product placement involves intentionally embedding a brand name or product within a film or music clip, while branded merchandise involves placing an alcohol brand on a product that is purchased and used by consumers, such as clothing products. Alcohol companies also sponsor various sporting and youth music events, which provide naming rights of the event and teams and branding of merchandise and event venues. Finally point-of-sale marketing include free gifts and promotional activities or materials placed in the stores from which the alcohol is purchased (AMA, 2012; ANPHA, 2012).

The rise of digital media has created new avenues for advertising which are less visible to regulators (AMA, 2012; ANPHA, 2012). Facebook and Twitter allow banner advertising and boxed ads on webpages. Alcohol brands have Facebook pages which encourage user-generated advertising through users ‘liking’ the brand, while official brand websites encourage readership through promotional activities. Further, thousands of ‘unofficial’ alcohol brand pages exist which are not subject to regulatory oversight. Online services such as Facebook, Google and YouTube also use data-mining technologies which target ads to the individual’s online behavioural profile (AMA, 2012; ANPHA, 2012).
While exposure to alcohol advertising is extensive, the system of co-regulation and self-regulation that exists in a number of countries such as Australia, Canada and the UK is arguably weak and contradictory (Jones & Gordon, 2013). For example, while alcohol ads on free-to-air television in Australia may only be broadcast during M, MA or AV classification periods, an exception is made during the live broadcast of sporting events on weekends and public holidays, increasing children’s exposure to alcohol ads during this period (FreeTV Australia, 2010; Jones, 2010). These high levels of exposure are concerning given adolescents’ positive perceptions of alcohol advertisements including associations between drinking and having fun, and being included by one’s peer group (Jones & Donovan, 2001; Jones, Gregory, & Munro, 2009; Wyllie, 1997). Furthermore, several longitudinal studies have established that exposure to alcohol advertising increases the risk of current or future alcohol use for adolescents (Anderson, de Bruijn, Angus, Gordon, & Hastings, 2009; Ellickson, Collins, Hambarsoomians, & McCaffrey, 2005; Grenard, Dent, & Stacey, 2013; Smith & Foxcroft, 2009; Snyder, Milici, Slater, Sun, & Strizhakova, 2006; Stacy, Zogg, Unger, & Dent, 2004; Tucker, Miles, & D’Amico, 2013). Given the serious harms that result from underage drinking, the link between viewing alcohol advertisements, positive expectancies and drinking behaviours needs to be addressed.

Media literacy (ML) is a developing field that aims to address the link between young people’s exposure to advertising and subsequent attitudes and behaviours. This is achieved through empowering students to access, analyse, evaluate and communicate messages in a wide variety of forms, as a way of responding to the advertising they are surrounded by (Considine, Horton, & Moorman, 2009; Potter, 2013; Thoman & Jolls, 2005). The Media Health Literacy (MHL) model (Levin-Zamir, Lemish, & Gofin, 2011) comprises four categories that can be used to assess an individual’s media health literacy. The four categories form a continuum and include the identification of health messages, awareness of the influence of a message on health behaviour, critical analysis of the message content and action/reaction to the health message.

A number of studies have found ML programs to be more effective and interesting when compared to generic health education programs, for improving perceptions of social norms around adolescent smoking (Primack, Douglas, Land, Miller, & Fine, 2014), lowering levels of
weight concern (Wade, Davidson, & O’Dea, 2003) and reducing smoking among adolescents (Primack, Fine, Yang, Wickett, & Zickmund, 2009). However, while a number of ML programs have been developed to address health related concerns such as violence (Rosenkoetter, Rosenkoetter, Ozretich, & Acocot, 2004; Scharrer, 2006; Sprafkin, Watkins, & Gadlow, 1990; Vooijs & van der Voort, 1993a, 1993b), eating disorders (Coughlin & Kalodner, 2006; Kusel, 1999; Neumark-Sztainer, Sherwood, Coller, & Hannan, 2000; Rabak-Wagener, Eickhoff-Shemek, & Kelly-Vance, 1998; Wade et al., 2003; Wilksch, Tiggermann, & Gussow, 2006), nutrition (Evans et al., 2006; Hindin, 2001; Hindin, Contento, & Gussow, 2004), body image (Fuller, Damico, & Rodgers, 2004), sexual behaviour (Pinkleton, Austin, Hust, & Cohen, 2008) and tobacco use (Austin, Pinkleton, & Funabiki, 2007; Austin, Pinkleton, Hust, & Cohen, 2005; Banerjee & Greene, 2006, 2007; Beltramini & Bridge, 2001; Gonzales, Glik, Davoudi, & Ang, 2004; Primack et al., 2014); relatively fewer have been developed to address alcohol consumption (Austin & Johnson, 1997a, 1997b; Chen, 2013; Goldberg, Niedermeier, Bechtel, & Gorn, 2006; Kupersmidt, Scull, & Austin, 2010; Kupersmidt, Scull, & Benson, 2012). Furthermore, due to conceptual and methodological differences between alcohol ML programs, their contribution to alcohol prevention is not known. This systematic literature review was considered important and necessary due to the potential implications for future research and practice. The findings will be analysed to determine the effectiveness of existing programs and develop a list of practical and theoretical considerations for designing future programs.

2.3 Methods

2.3.1 Literature search

Uniform searches were conducted of major social science databases (Education Research Complete + ERIC, A+ Education, ProQuest Education Journals, psychinfo database, Scopus, Web of Science, Cochrane, PubMed and Informit). Programs were also identified through searching gray literature, reference lists of papers that reported meta-analyses or systematic reviews of media literacy programs (Bergsma & Carney, 2008; Jeong, Cho, & Hwang, 2012) and citation follow-up and contacts with authors.
Initial search terms used to guide the searches are listed in Table 2.1. Combinations of these search terms were used to generate lists of articles that were scrutinised for papers relevant to the search purpose. Using key words from the research papers identified, a standardized search algorithm was developed, outlined in Table 2.1. The search algorithm was adjusted for different databases by including subject headings specific to the database.

Table 2.1: Search terms

<table>
<thead>
<tr>
<th>Initial search terms</th>
<th>Search algorithm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Media literacy, advertising literacy, advertising media literacy, persuasion knowledge, school-based, family-based, teacher education, teacher training, dissemination, implementation, drug education, alcohol education, alcohol prevention, alcohol intervention, mass media, literacy programs, health literacy, information literacy, education, drug, alcohol, substance</td>
<td>(“media literacy” OR “advertising literacy” OR “advertising media literacy”) AND (alcohol OR drinking) AND (prevention OR intervention OR program*) AND (school OR family OR adolescen* OR teen* OR child*)</td>
</tr>
</tbody>
</table>

2.3.2 Study selection

To be included in this literature review, a study had to meet the following criteria:
(a) Studies evaluated an intervention, that is, a distinct program or procedure intended to address underage drinking through media literacy education;
(b) Studies directly measured variables relating to media literacy knowledge and skills, and alcohol expectancies or behaviours (see Table 2.2 for variables and definitions);
(c) Studies provided quantitative results to allow for objective comparison between programs;
(d) Studies released prior to 1 May, 2014 and published from 1997 to 2014.

Studies were excluded if the program used ML as only a small part of a larger curriculum, as ML education was not the sole focus and this may have influenced effectiveness findings. One study was excluded because the effectiveness of the media literacy intervention was
not reported (Hall, Lindsay, & West, 2011). Other studies were excluded because there was not sufficient information provided on the intervention or quantitative evaluation measures used (Banerjee, Greene, Hecht, Magsamen-Conrad, & Elek, 2013; Elek et al., 2011; Moore, Dechillo, Nicholson, Genovese, & Sladen, 2000).

### 2.3.3 Data extraction and analysis

To enable comprehensive extraction and analysis of data, the descriptive, methodological and outcome characteristics of the programs were compared. Table 2.3 contains descriptive characteristics of each study, Table 2.4 contains the methodological characteristics and Table 2.5 contains the outcome variables. Two coders independently recorded the descriptive, methodological and outcome variables of the selected studies using a proforma. Discrepancies were resolved through discussions to ensure 100% inter-coder reliability.

### 2.4 Results

#### 2.4.1 Descriptive results

Systematic electronic database searches produced over 500 titles, although titles appeared more than once. A number of papers were also found from other sources. After these titles and abstracts were previewed, a total pool of 20 publications were reviewed and considered for inclusion. Only eight met the selection criteria detailed above.

**Intervention Design**

Ten interventions were detailed in the eight papers because two studies employed multiple experimental groups that experienced different media literacy interventions (Austin & Johnson, 1997a, 1997b). Three studies employed two different control groups (Austin & Johnson, 1997a, 1997b; Peter, Sobowale, & Ekeanyanwu, 2013) and five studies employed one control group (Chen, 2013; Goldberg et al., 2006; Kupersmidt et al., 2010; Kupersmidt et al., 2012; Sivaithamparam, 2011). In three of the studies the control group participated in an alternative program developed by the researcher (Austin & Johnson, 1997a; Chen, 2013;
Sivaithamparam, 2011), while in four of the studies the control group was not provided with an alternative curriculum and instead received class lessons as identified by the teacher’s program for the duration of the intervention (Austin & Johnson, 1997b; Goldberg et al., 2006; Kupersmidt et al., 2010; Kupersmidt et al., 2012). One study did not indicate whether the control groups participated in an alternative curriculum or received normal class lessons (Peter et al., 2013)

Sample
One of the studies recruited participants from schools in Lagos State (Peter et al., 2013), while the remainder recruited participants from schools in the United States of America. Participant sample size ranged from 171 to 860. Four of the studies targeted children (aged 6 - 12 and in primary school) (Austin & Johnson, 1997a, 1997b; Goldberg et al., 2006; Kupersmidt et al., 2010), while three targeted adolescents (aged 13 - 19 and in high school) (Chen, 2013; Peter et al., 2013; Sivaithamparam, 2011) and one targeted both children and adolescents (Kupersmidt et al., 2012).

Content
Five of the eight studies were underpinned by the Message Interpretation Process (MIP) model (Austin & Johnson, 1997a, 1997b; Chen, 2013; Kupersmidt et al., 2010; Kupersmidt et al., 2012); one study drew upon Inoculation Theory (Goldberg et al., 2006); one study drew upon Expectancy Theory (Sivaithamparam, 2011); and one study drew upon Theory of Planned Behaviour and Theory of Triadic Influence (Peter et al., 2013). All of the interventions were assessed to determine which of the following five core media literacy concepts and skills taken from the Centre for Media Literacy’s ‘Core Concepts of Media Literacy’ were taught (Thoman & Jolls, 2005). Similar to Bergsma and Carney (2008), this was a subjective process that involved scrutinizing each paper and related sources for details on the intervention. Programs ranged from including 1 to all 5 of the core principles.
The core principles (Thoman & Jolls, 2005) are as follows:

1. *All media messages are ‘constructed’.* This concept involves understanding that media is carefully crafted by people using particular techniques and can differ from reality.

2. *Media messages are created using a creative language with its own rules.* This concept involves deconstructing or creating advertisements to understand the techniques used to make advertisements appealing.

3. *Different people experience the same message differently.* This concept involves understanding that we each interpret media messages through a unique lens.

4. *Media have embedded values and points of view.* This concept involves identifying the implicit messages which are conveyed in media texts.

5. *Media messages are constructed for a particular purpose.* This concept involves understanding the purpose(s) of media messages which may be to persuade, educate, entertain and/or inform.

**Evaluation**

All of the studies used participant self-report questionnaires. However the studies differed in their outcome variables (see Table 2.2 for definitions of the variables). All of the studies included an immediate post-test conducted within two hours of completing the intervention. One study (Goldberg et al., 2006) also conducted a post-test one week after the intervention. However no differences between the immediate and delayed post-test results were found, so both groups were combined for analysis. Two studies additionally conducted a 3-month delayed post-test (Austin & Johnson, 1997a, 1997b). However the behavioural measure was revised at each stage of analysis, thus differences between posttest and delayed posttest need to be interpreted with caution.
<table>
<thead>
<tr>
<th>Variable</th>
<th>Definition</th>
<th>Studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Media deconstruction skills</td>
<td>Students’ ability to identify the construction techniques used to make ads appealing</td>
<td>(Kupersmidt et al., 2010; Kupersmidt et al., 2012)</td>
</tr>
<tr>
<td>Persuasive intent</td>
<td>Students’ ability to recognise the motives behind the creation of ads</td>
<td>(Austin &amp; Johnson, 1997a, 1997b; Goldberg et al., 2006; Kupersmidt et al., 2010)</td>
</tr>
<tr>
<td>Persuasion knowledge</td>
<td>Students’ knowledge of the persuasive techniques used by advertisers and the motives behind the creation of ads</td>
<td>(Austin &amp; Johnson, 1997a, 1997b; Goldberg et al., 2006; Kupersmidt et al., 2010)</td>
</tr>
<tr>
<td>Pre-drinking behaviour</td>
<td>Students’ preference for an alcohol or non-alcohol theme product provides an indication of future alcohol use</td>
<td>(Austin &amp; Johnson, 1997a, 1997b; Kupersmidt et al., 2010)</td>
</tr>
<tr>
<td>Behavioural intention</td>
<td>Students’ intention to drink alcohol, assessed through explicit questions</td>
<td>(Chen, 2013; Kupersmidt et al., 2010; Kupersmidt et al., 2012)</td>
</tr>
<tr>
<td>Alcohol consumption</td>
<td>Students recorded their alcohol consumption for a 30-day period immediately prior to and immediately following the intervention</td>
<td>(Sivaithamparam, 2011)</td>
</tr>
<tr>
<td>Realism</td>
<td>Students’ perceptions of how closely ads represent reality</td>
<td>(Austin &amp; Johnson, 1997a, 1997b; Chen, 2013)</td>
</tr>
<tr>
<td>Social norms</td>
<td>Students’ perceptions of normal drinking behaviours among adolescents</td>
<td>(Austin &amp;. Johnson, 1997a, 1997b; Goldberg et al., 2006)</td>
</tr>
<tr>
<td>Similarity</td>
<td>Students’ perceptions of whether the people in ads are similar to themselves</td>
<td>(Austin &amp; Johnson, 1997a, 1997b)</td>
</tr>
<tr>
<td>Desirability</td>
<td>Students’ perceived attractiveness of people portrayed in ads</td>
<td>(Austin &amp; Johnson, 1997a, 1997b; Chen, 2013)</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------------------------------------------------------</td>
<td>------------------------------------------</td>
</tr>
<tr>
<td>Identification</td>
<td>Students’ desire to emulate the traits of people portrayed in ads</td>
<td>(Austin &amp; Johnson, 1997a, 1997b)</td>
</tr>
<tr>
<td>Expectancies</td>
<td>Students’ perceptions of the positive outcomes associated with drinking</td>
<td>(Austin &amp; Johnson, 1997a, 1997b; Chen, 2013; Sivaithamparam, 2011)</td>
</tr>
<tr>
<td>Advertising scepticism</td>
<td>Students’ perceptions of the trustworthiness of advertisers and ads</td>
<td>(Chen, 2013; Goldberg et al., 2006)</td>
</tr>
<tr>
<td>Media scepticism</td>
<td>Students’ perceptions of the trustworthiness of the media</td>
<td>(Chen, 2013)</td>
</tr>
<tr>
<td>Coping behaviour</td>
<td>Students’ response to media persuasion attempts</td>
<td>(Goldberg et al., 2006)</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>Students’ feelings of personal control to refuse substances</td>
<td>(Kupersmidt et al., 2010)</td>
</tr>
</tbody>
</table>

### 2.4.2 Methodological characteristics

**Intervention format**

All of the reported interventions were conducted in-class. The types of media studied included print and television advertisements, with studies focussing on only television (Austin & Johnson, 1997a, 1997b; Chen, 2013; Peter et al., 2013; Sivaithamparam, 2011), only print (Kupersmidt et al., 2010; Kupersmidt et al., 2012) or both television and print (Goldberg et al., 2006). Four of the interventions were delivered by the researcher (Austin & Johnson, 1997a, 1997b; Chen, 2013; Peter et al., 2013), while four of the interventions were delivered by the regular classroom teacher (Goldberg et al., 2006; Kupersmidt et al., 2010; Kupersmidt et al., 2012; Sivaithamparam, 2011).
One of the studies did not report the audience involvement (Chen, 2013), while the remainder of the studies were interactive (participants were involved in discussions and/or lesson activities). Two of the studies additionally involved redesign (participants created a counter-advertisement) (Goldberg et al., 2006; Kupersmidt et al., 2012). Length of intervention was defined as the number of lessons allotted to the intervention, excluding time for pretests, post-test and re-tests. When the intervention took place in a specified number of class sessions, we assigned an average value of 45 minutes to a class session (Bergsma & Carney, 2008). Intervention length ranged from one to ten lessons.

*Study design*

All of the studies employed convenience sampling. Three of the studies were randomized control trials (Kupersmidt et al., 2010; Kupersmidt et al., 2012; Peter et al., 2013), while the remainder of the studies were quasi-experimental designs (Austin & Johnson, 1997a, 1997b; Chen, 2013; Goldberg et al., 2006; Sivaithamparam, 2011). Three of the studies employed a Solomon four-group design to eliminate potential testing bias (Austin & Johnson, 1997a, 1997b; Peter et al., 2013); one study employed a post-test only design (Goldberg et al., 2006), while the remainder of the studies employed a pre-test-post-test design (Chen, 2013; Kupersmidt et al., 2010; Kupersmidt et al., 2012; Sivaithamparam, 2011). Power calculations were reported in only two of the studies (Austin & Johnson, 1997; Kupersmidt et al., 2010). Assessor blinding was not reported for any of the studies.

*Implementation fidelity*

Implementation fidelity refers to the extent to which participants in different classrooms/schools were guaranteed to receive the intervention in the same way. Implementation fidelity was grouped into the following categories: (i) teacher training (teachers received five to six hours of training on how to deliver the intervention prior to implementation. The training typically included an overview of the conceptual basis of the program and instructions for lesson delivery and protocol), (ii) set resources (resources such as a video and accompanying discussion guide ensure that the intervention is delivered in the same way), (iii) fidelity checklist (the teacher/researcher is required to complete a detailed fidelity checklist for each component/lesson taught. The checklist included either open-ended questions or a rating scale), or (iv) not reported. Five studies utilised teacher
training (Goldberg et al., 2006; Kupersmidt et al., 2010; Kupersmidt et al., 2012; Peter et al., 2013; Sivaithamparam, 2011), while two of the four studies additionally utilised fidelity checklists (Kupersmidt et al., 2010; Kupersmidt et al., 2012). Another three studies utilised set resources (Austin & Johnson, 1997a, 1997b; Peter et al., 2013) while one study did not report measures used to ensure implementation fidelity (Chen, 2013).

Measures
Percentages are given for the number of participants that completed the posttest in relation to the pretest. There was a high retention rate from pretest to posttest, with percentages ranging from 86 – 97%. Two papers did not report the retention rate (Austin & Johnson, 1997; Peter et al., 2013). Four of the interventions were taught across multiple lessons, ranging from 5-10. The number of lessons completed by participants was not reported in two of the studies (Goldberg et al., 2006; Peter et al., 2013), while 68% and 73% of participants attended all of the scheduled lessons in the other two studies, respectively (Kupersmidt et al., 2010; Kupersmidt et al., 2012). All of the studies included a manipulation check which confirmed that the groups were fundamentally different in a way that reflects media literacy education took place. Cronbach’s alpha was used to measure the internal consistency of the pre/post-test measures, which is how closely related the set of items in the measure are as a group. The measures were categorized as follows: poor internal consistency ($0.5 \leq \alpha < 0.6$), acceptable internal consistency ($0.6 \leq \alpha < 0.7$), good internal consistency ($0.7 \leq \alpha < 0.9$), excellent internal consistency ($\alpha \geq 0.9$), or not reported. When an existing measure had been used it was reported. All of the studies had a range of alpha scores across their measures, ranging from acceptable to excellent levels of internal consistency. The studies were not checked for bias in measurement such as for the use of leading questions which would bias the results of the study, because there was not sufficient detail provided in all of the papers to do that.

Outcome variables
The outcome variables were categorized into four groups which are: skills (media deconstruction skills and media scepticism), knowledge (persuasion knowledge, understanding of persuasive intent and understanding of social norms), behaviour (pre-
drinking behaviour, behavioural intention and alcohol consumption) and attitudes (realism, similarity, desirability, identification, expectancies, advertising scepticism and self-efficacy).

**Skills**
In both studies (Kupersmidt et al., 2010; Kupersmidt et al., 2012) which measured media deconstruction skills, participants in the intervention groups performed significantly better than the control groups as a result of the intervention. In the one study (Chen, 2013) which measured media scepticism, girls in the intervention condition were more sceptical toward the media than boys.

**Knowledge**
In the three studies (Austin & Johnson, 1997a, 1997b; Kupersmidt et al., 2012) which measured persuasive intent, participants in the intervention groups performed significantly better than the control groups as a result of the intervention. In the two studies which measured knowledge of the persuasion concepts and topics covered in the intervention (one of the studies used the term ‘media literacy knowledge’ (Peter et al., 2013)), participants in the intervention groups performed better than the control groups post intervention (Chen, 2013; Peter et al., 2013); however significance was only reported and obtained in one of the studies (Goldberg et al., 2006).

**Behaviour**
In two of the three studies which measured pre-drinking behaviour (Austin & Johnson, 1997a, 1997b), participants in the interventions groups had significantly less interest in alcohol-branded products compared to the control groups as a result of the intervention. In the third study which measured pre-drinking behaviour (Kupersmidt et al., 2010), a significantly decreased interest in alcohol-themed products as a result of the intervention was only achieved for boys. The results for intentions to use alcohol varied. One of the studies reported no main effect (Goldberg et al., 2006); one study (Kupersmidt et al., 2012) reported significantly lower intentions to use alcohol for boys in the intervention group compared to boys in the control group; one study (Kupersmidt et al., 2010) reported that significance was only obtained for participants who had used alcohol prior to the intervention; and one study (Sivaithamparam, 2011) reported that participants in the
intervention group had significantly lower alcohol consumption in the 30-day period after the intervention in comparison to the control group.

**Attitudes**
For three of the studies which assessed attitudes based on the MIP model (Austin & Johnson, 1997a, 1997b; Chen, 2013), there were a number of interaction effects rather than main effects observed, with components of the intervention working in different ways for different groups such as boys and girls. For example, there was an interaction effect for treatment with gender on perceptions of realism (Austin & Johnson, 1997a). In three of the five studies which measured alcohol expectancies, participants in the intervention groups had more negative expectancies than participants in the control groups post intervention (Austin & Johnson, 1997a; Peter et al., 2013; Sivaithamparam, 2011); one study found interaction effects for gender and type of media literacy intervention (Chen, 2013); and one study observed no significant effects (Austin & Johnson, 1997b).

**Gender analysis**
Three of the interventions did not include an analysis of gender (Goldberg et al., 2006; Peter et al., 2013; Sivaithamparam, 2011). Four of the interventions were more effective for girls (Austin & Johnson, 1997a, 1997b; Chen, 2013), while three of the interventions were more effective for boys (Chen, 2013; Kupersmidt et al., 2010; Kupersmidt et al., 2012).

2.5 **Discussion**
Media literacy education provides a viable option for addressing the ubiquity of pro-alcohol messages to which young people are exposed. However, there appears to be a lack of standardization regarding approaches, applications and evaluations of curricula (Foxcroft, Lister-Sharp, & Lowe, 1997; McBride, 2003). This systematic literature review provides a critical synthesis of existing alcohol ML programs to determine the effectiveness of existing programs and develop a list of practical and theoretical considerations for designing future programs. Due to the emerging and specific nature of this research area, there were minimal studies available for review and as a result, this review does not contain statistical analyses of results.
Overall, the programs reviewed noted positive effects on most of the outcome variables. However the studies differed in their inclusion, and rationale for inclusion, of variables, suggesting that the variables were valued differently across the studies. For instance, two studies placed importance on participants understanding persuasion strategies (knowledge based outcome) (Goldberg et al., 2006; Peter et al., 2013), whereas other studies emphasised the importance of participants deconstructing alcohol advertisements (skill based outcome) (Kupersmidt et al., 2010; Kupersmidt et al., 2012). Variables that appeared across multiple studies were generally consistently measured, such as the attitudinal outcomes based on the MIP model. Considerations for future programs are articulated below.

2.5.1 Program characteristics

Theoretical framework
The studies drew upon different theoretical models. While Inoculation Theory is appropriate for a specific age group i.e. pre-adolescent before they engage in the risky behaviour (Banas & Rains, 2010), the MIP model is appropriate for all age groups as it is based on improving critical thinking (Austin & Johnson, 1997a). From an inoculation position, the pre-adolescent age group requires more attention as programs have focussed primarily on high-school aged students who may already be engaged in drinking behaviours.

Employ interactive pedagogical approaches within the naturalistic school setting
All studies reviewed were conducted in a naturalistic setting, whereby the intervention took place in a whole-class school setting rather than a laboratory or one-on-one teaching situation. This is a positive outcome as it provides evidence of the program’s potential for sustainability in schools (Martineau, Mamede, St-Onge, Rikers, & Schmidt, 2013; McVey et al., 2010) and students are more likely to retain the skills taught (Stichter et al., 2010).

The majority of the programs included some evidence of hands-on learning experiences such as discussions and problem solving. This approach is supported by educational learning theories such as constructivism which posits that students learn best through being actively involved in the construction of knowledge rather than passive recipients of information.
(Pritchard & Woollard, 2010). Future research could be explicit in identifying and incorporating constructivism into their program design, implementation and evaluation process, as the current focus has been on health promotion and marketing theories. This view is echoed in a broader review (Bergsma & Carney, 2008) of health promoting ML programs which emphasised that the pedagogical approach used in programs is of critical importance and yet it was unclear in the studies whether an inquiry approach was used.

Consider how to maintain the relevance of the program in a rapidly changing society
All of the studies utilised media clips in their interventions which can become quickly outdated. This raises the question of how programs can retain significance in a rapidly evolving learning environment. One suggestion is the use of online content which is regularly updated to ensure relevance. The studies in this review were also limited to teaching students about print and television advertisements. While television in particular is a prevalent source of information for health among adolescents (Levin-Zamir et al., 2011), these limited types of media are not representative of the wide variety of media to which students are exposed (AMA, 2012; ANPHA, 2012; Jones & Gordon, 2013). Media literacy programs need to address the wide spectrum of avenues for alcohol advertising, including those which are less visible to regulators and for students to be equipped with skills to assist with the analysis of these multimodal texts (Bull & Anstey, 2010). A meta-analysis of ML interventions (Jeong et al., 2012) emphasised that these skills are of particular importance now with the growth of social media (e.g., Twitter).

Consider how to achieve program relevance for an international audience
The majority of the studies reviewed were developed and evaluated in America. There is a need for media literacy programs to be developed in other countries, with particular attention payed to context impacted upon by specific regulation laws and cultural nuances in these different cultures (International Centre for Alcohol Policies, 2001; Jones & Gordon, 2013). The importance of making programs culturally relevant was demonstrated when Project Northland (Perry et al., 1993), an alcohol prevention program that was highly successful with predominantly white, lower-middle-class to middle-class youth (Perry et al., 1996), was implemented in an urban, low-income and multi-ethnic setting. The program was unsuccessful when implemented in a different context, emphasising the importance of
cultural considerations when designing a program (Komro et al., 2008). Cultural relevance is therefore of high priority because until this issue is addressed, alcohol ML programs are unlikely to be successful when implemented in a different cultural context such as the UK, Australia, or subcultures within America.

### 2.5.2 Methodological characteristics

**Ensure implementation fidelity and a holistic approach to program evaluation**

Most studies addressed the issue of implementation fidelity. Research has identified implementation fidelity as a critical contributor to the success of drug abuse prevention in school settings (Dusenbury, Brannigan, Falco, & Hansen, 2003). This crucial consideration was not reported in other systematic literature reviews of health-promoting media literacy programs (Bergsma & Carney, 2008; Jeong et al., 2012). While the studies reviewed employed measures to ensure high-fidelity implementation, fidelity could have been further enhanced through process evaluations such as interviews or focus groups with the classroom teachers to provide insight into where and why variation occurs (Holliday, Audrey, Moore, Parry-Langdon, & Campbell, 2009). These broader perspectives produce a more comprehensive evaluation and are both valuable and necessary if programs are to be adopted, implemented and sustained long term in schools (Buckley et al., 2012; Greene, Caracelli, & Graham, 1989).

**Consider gender differences when designing the program**

Gender surfaced as a moderating variable for the effectiveness of the majority of the interventions. This is not surprising given that media health literacy has been found to be higher among girls than boys (Levin-Zamir et al., 2011). Research also suggests that males and females respond differently to information due to both environmental and physiological factors (Pinkleton et al., 2008). For these reasons, all future evaluations in this field should include a gender analysis. If gender differences do exist, it is worthwhile to investigate the particular components of programs which make them more or less effective for boys or girls. This in turn would enable program developers to develop either gender specific programs (i.e. separate programs for males and females), or balanced programs that appeal/are effective for both genders.
Consider the use of follow-up and longitudinal data

Few studies contained long-term follow-up of results and there was an absence of longitudinal data. It is of concern to the researchers that existing programs are being widely implemented despite only single short-term evaluations of the programs being conducted (Kupersmidt et al., 2010; Kupersmidt et al., 2012; NREPP, 2010a, 2010b). It would be of considerable value to know whether the benefits of the programs are sustained longer term.

2.6 Conclusion

This systematic literature review has identified key considerations for the future planning and development of media literacy programs to address young people’s alcohol related cognitions, attitudes and behavioural intentions. In the process, it has raised a number of questions, such as the value of education theories (e.g. constructivism) in the design, implementation and evaluation of such programs, and the gathering and use of follow-up and longitudinal data. Of particular importance is the need for culturally relevant alcohol media literacy programs. The small pool of studies from which this systematic literature review draws, highlights the emerging nature of this research area and the need for more rigorous evaluations of programs to be conducted.
<table>
<thead>
<tr>
<th>Study (Austin &amp; Johnson, 1997a)</th>
<th>Number of interventions</th>
<th>Target population (n)</th>
<th>Target age-group</th>
<th>Intervention Groups</th>
<th>Concept/skills taught</th>
<th>Outcome variables</th>
<th>Post-Test &amp; Follow-Up Duration</th>
<th>Theoretical Framework</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>Third grade students from Roseville, MN (225)</td>
<td>Children</td>
<td>1) Pretest, general treatment, posttest; 2) General treatment, posttest; 3) Pretest, posttest only; 4) Posttest only</td>
<td>1, 2, 3, 4</td>
<td>- Pre-drinking behaviour  - Persuasion knowledge  - Realism  - Social norms  - Similarity  - Desirability  - Identification  - Expectancies</td>
<td>Immediate post-test  Delayed: 3-months after the intervention</td>
<td>MIP model</td>
<td></td>
</tr>
<tr>
<td>(Austin &amp; Johnson, 1997b)</td>
<td>1</td>
<td>Third grade students from three schools in a northern mid-western town (246)</td>
<td>Children</td>
<td>1) Pretest, treatment, and posttest; 2) Treatment and posttest 3) Pretest and posttest 4) Posttest only</td>
<td>1, 2, 3, 4</td>
<td>- Pre-drinking behaviour  - Persuasion knowledge  - Realism  - Social norms  - Similarity</td>
<td>Immediate post-test  Delayed post-test: 3-months after the intervention</td>
<td>MIP model</td>
</tr>
<tr>
<td>Study</td>
<td>Grade Level</td>
<td>Gender</td>
<td>Schools/Classrooms</td>
<td>Condition(s)</td>
<td>Manipulation</td>
<td>Measurement</td>
<td>Theory/Model</td>
<td></td>
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<tr>
<td>Chen, 2013</td>
<td>Seventh-tenth grade</td>
<td>50.9% male</td>
<td>Four middle and senior high schools in the US</td>
<td>(1) Negative condition, (2) Balanced condition, (3) Control condition</td>
<td>Behavioural intention, Realism, Desirability, Expectancies</td>
<td>Immediate post-test, MIP model and parental mediation</td>
<td>Desirability, Identification, Expectancies</td>
<td></td>
</tr>
<tr>
<td>Goldberg et al., 2006</td>
<td>Sixth-grade</td>
<td>49% male across 3 schools in central Pennsylvania</td>
<td>(1) Intervention and immediate testing (2hrs later), (2) Intervention and delayed testing (1-week later), (3) Control</td>
<td>Persuasion knowledge, Social norms, Media skepticism, Advertising skepticism, Behavioural intention</td>
<td>(1) Immediate post-test</td>
<td>Inoculation theory and reactance theory</td>
<td>Persuasion knowledge, Social norms, Media skepticism, Advertising skepticism, Behavioural intention</td>
<td></td>
</tr>
<tr>
<td>Kupersmidt et al., 2010</td>
<td>Third-fifth grade</td>
<td>51%</td>
<td>Two groups</td>
<td>(1) Intervention group; (2) Control group</td>
<td>Deconstruction skills, Persuasion</td>
<td>Immediate post-test</td>
<td>MIP model and the health</td>
<td>Desirability, Identification, Expectancies</td>
</tr>
<tr>
<td>Study</td>
<td>Intervention/Control Groups</td>
<td>Sample Description</td>
<td>Interventions/Tests</td>
<td>Theoretical Model</td>
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<tr>
<td>(Kupersmidt et al., 2012)</td>
<td>1</td>
<td>Sixth-eighth grade students, 43.5% male, from 24 classes in North Carolina (399)</td>
<td>Children and teens</td>
<td>Immediate post-test</td>
<td>MIP model</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>(1) Intervention group; (2) Control group</td>
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<td></td>
<td>- Behavioural intention</td>
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<td>- Deconstruction skills</td>
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<tr>
<td>(Sivaithamparam, 2011)</td>
<td>1</td>
<td>Ninth to twelfth grade students from three high schools in Central Florida (368)</td>
<td>Teens</td>
<td>Immediate post-test</td>
<td>Expectancy theory</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>(1) Intervention group; (2) Control group</td>
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<td></td>
<td>- Expectancies</td>
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<td>- Alcohol consumption</td>
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<tr>
<td>(Peter et al., 2013)</td>
<td>1</td>
<td>13 to 18 years grade students from twelve schools in Lagos State (860)</td>
<td>Teens</td>
<td>Immediate post-test</td>
<td>Theory of planned behaviour and theory of triadic influence</td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>(1) Pretest, treatment, posttest</td>
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<td></td>
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<td>(2) Pretest, posttest</td>
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<td>(3) Treatment, posttest</td>
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<td>(4) Posttest only</td>
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<td>1, 2, 3, 4, 5</td>
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<td></td>
<td>- Expectancies</td>
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<td></td>
<td></td>
<td></td>
<td>- Persuasion knowledge</td>
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</tbody>
</table>
Table 2.4: Methodological characteristics

<table>
<thead>
<tr>
<th>Study</th>
<th>Types of media studied</th>
<th>Who delivered the intervention</th>
<th>Study design</th>
<th>Power calculations reported</th>
<th>Audience involvement</th>
<th>Intervention length</th>
<th>Implementation fidelity</th>
<th>Types of materials</th>
<th>Retention/complete data</th>
<th>Measure validated</th>
<th>Manipulation checks</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Austin &amp; Johnson, 1997)</td>
<td>TV ads</td>
<td>Researcher</td>
<td>Quasi-experiment</td>
<td>No</td>
<td>Interactive</td>
<td>1 lesson</td>
<td>Set resources</td>
<td>Media clips, discussion guide, sticker handouts</td>
<td>Posttest: 225 Delayed Posttest: 194/225 (86%)</td>
<td>Cronbach values ranged from .53 -.82</td>
<td>Yes</td>
</tr>
<tr>
<td>(Austin &amp; Johnson, 1997b)</td>
<td>TV ads</td>
<td>Researcher</td>
<td>Quasi-experiment</td>
<td>Yes</td>
<td>Interactive</td>
<td>1 lesson</td>
<td>Set resources</td>
<td>Media clips, discussion guide, bookmark-style handouts</td>
<td>Not reported</td>
<td>Measures tested and refined</td>
<td>Cronbach averaging .60</td>
</tr>
<tr>
<td>(Chen, 2013)</td>
<td>TV ads</td>
<td>Researcher</td>
<td>Quasi-experiment</td>
<td>No</td>
<td>Passive</td>
<td>1 lesson (45 minute intervention)</td>
<td>Not reported</td>
<td>Media clips, magazine</td>
<td>Not reported</td>
<td>Manipulation check for</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Pre-test-post-test design with two experimental groups was successful ($p < .001$).
Variability in Cronbach values for measures, ranging from .63 - .92

<table>
<thead>
<tr>
<th>Goldberg, 2006</th>
<th>Print and TV ads</th>
<th>Teacher Quasi-experiment</th>
<th>No Interactive and production</th>
<th>Five 50-minute lessons over one week</th>
<th>Teacher training</th>
<th>Media clips, print advertisements</th>
<th>Not reported Measures tested and refined</th>
<th>Yes Cronbach values of .66 for persuasion knowledge and .70 for attitudes towards</th>
</tr>
</thead>
</table>

45
<table>
<thead>
<tr>
<th>Study</th>
<th>Advertisers</th>
<th>Randomized Control Trial</th>
<th>Pre-Test-Post-Test Design</th>
<th>Interactive</th>
<th>Lessons Duration and Administration</th>
<th>Teacher Training and Fidelity</th>
<th>Media Clips</th>
<th>Pretest-Posttest Reliability</th>
<th>Cronbach’s Alpha Range</th>
<th>Test-Retest Reliability</th>
<th>Attendance</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Kupersmidt et al., 2010)</td>
<td>Print ads</td>
<td>Teacher</td>
<td>Yes</td>
<td>Interactive</td>
<td>Ten 45-minute lessons administered just over two wks (mean: 16.68 days)</td>
<td>Teacher training and fidelity checklist</td>
<td>Media clips, teacher manual, poster, student workbooks, bookmarks</td>
<td>Pretest: 723 Postest: 679/723 (94%)</td>
<td>Cronbach’s alpha ranging from .72 - .94</td>
<td>Test-retest reliability was not provided</td>
<td>68% of students attended all scheduled lessons</td>
</tr>
<tr>
<td>(Kupersmidt et al., 2012)</td>
<td>Print ads</td>
<td>Teacher</td>
<td>No</td>
<td>Interactive and production</td>
<td>Ten 45-minute lessons administered over approximately two wks</td>
<td>Teacher training and fidelity checklist</td>
<td>Media clips, teacher manual, poster, student workbooks, bookmarks</td>
<td>Pretest: 412 Postest: 399/412 (97%)</td>
<td>Cronbach’s alpha was .90 for alcohol and .83 for tobacco</td>
<td>Test-retest reliability was not provided</td>
<td>73% of students attended all scheduled lessons</td>
</tr>
<tr>
<td>(Sivathamparam, 2011)</td>
<td>TV ads</td>
<td>Researcher</td>
<td>No</td>
<td>Interactive</td>
<td>1 lesson (90 minute intervention)</td>
<td>Teacher training</td>
<td>Media clips</td>
<td>Pretest: 383 Postest: 368/383</td>
<td>Existing measures were used -</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>
Pre-test-post-test design (96.1%) Both the Comprehensive Effects of Alcohol questionnaire and Timeline Followback (TLFB) procedure are well-established instruments with acceptable levels of reliability and validity.

<p>| (Peter et al., 2013) | TV ads | Researcher | Solomon four-group design | No | Interactive | Five 30 minute lessons administered over five days | Discussion guide and training | Media clips and discussion guide | Not reported | Validity ranged from .72 -.82 and reliability ranged from .74 -.89 | Yes |</p>
<table>
<thead>
<tr>
<th>Study</th>
<th>Skills</th>
<th>Knowledge</th>
<th>Behaviour</th>
<th>Attitudes</th>
<th>Results</th>
<th>Gender Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Austin &amp; Johnson, 1997)</td>
<td>N/A</td>
<td>Understanding of persuasive intent, social norms, realism</td>
<td>Pre-drinking behaviour</td>
<td>Expectancies, desirability, identification, similarity</td>
<td>Short term effects were found for increased understanding of persuasive intent and realism, desirability, identification, positive expectancies and pre-drinking behaviour.</td>
<td>Treatment more effective among girls than boys</td>
</tr>
<tr>
<td></td>
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<td>Results retained significance at delayed posttest for expectancies and behaviour.</td>
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<td></td>
<td>The treatment was more effective when alcohol specific</td>
<td></td>
</tr>
<tr>
<td>(Austin &amp; Johnson, 1997b)</td>
<td>N/A</td>
<td>Understanding of persuasive intent, social norms, realism</td>
<td>Pre-drinking behaviour</td>
<td>Expectancies, desirability, identification, similarity</td>
<td>Short-term effects were found for persuasive intent, realism, desirability, social norms and pre-drinking behaviour. Results retained significance at delayed posttest for realism and identification.</td>
<td>Treatment more effective among girls than boys</td>
</tr>
<tr>
<td>(Chen, 2013)</td>
<td>Media scepticism (critical thinking)</td>
<td>Realism</td>
<td>Behavioural intention</td>
<td>Advertising scepticism, realism, negative expectancies</td>
<td>Media scepticism: 1&amp;2 (girls) &gt; 1 &amp; 2 (boys) (p &lt; .05); 2 (girls) &gt; 3 (girls) (p &lt; .05) Perceived realism: 1 (boys) &lt; 3 (boys)</td>
<td>The negative ML lesson was more effective among boys than girls</td>
</tr>
<tr>
<td>(Goldberg et al., 2006)</td>
<td>N/A</td>
<td>Persuasion knowledge</td>
<td>Coping behaviour, behavioural intentions, normative perceptions</td>
<td>Advertising scepticism,</td>
<td>Persuasion knowledge: 1&amp;2 &gt;3 (p &lt; .001)</td>
<td>Coping behaviour: 1&amp;2 &gt;3 (p &lt; .001)</td>
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</tr>
<tr>
<td>(Kupersmidt et al., 2010)</td>
<td>Media deconstruction skills</td>
<td>Realism</td>
<td>Pre-drinking behaviour, intentions to use alcohol in the future</td>
<td>Similarity</td>
<td>Media deconstruction skills: 1&gt;2 (p &lt; .0001)</td>
<td>Persuasive intent: 1&gt;2 (p &lt; .05)</td>
</tr>
</tbody>
</table>

The balanced ML lesson was more effective among girls than boys.

**Negative expectancies:**

1 > 2

(p < .05);

1, 2 & 3 (girls) > 1, 2 & 3 (boys)

There was no main effect for behavioural intentions or normative perceptions.

Self-efficacy: 1>2

(p < .05)
<table>
<thead>
<tr>
<th>Study (Author, Year)</th>
<th>Media deconstruction skills</th>
<th>Understanding of persuasive intent</th>
<th>Intentions to use alcohol in the future, intentions to use tobacco in the future</th>
<th>Self-efficacy</th>
<th>Intentions to use alcohol: 2 (boys) &gt; 1 (boys)</th>
<th>Treatment more effective among boys for decreasing intention to use alcohol in the future</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kupersmidt et al., 2012</td>
<td>Media deconstruction skills</td>
<td>Understanding of persuasive intent</td>
<td>Intentions to use alcohol in the future, intentions to use tobacco in the future</td>
<td>Self-efficacy</td>
<td>Intentions to use alcohol: 2 (boys) &gt; 1 (boys)</td>
<td>Treatment more effective among boys for decreasing intention to use alcohol in the future</td>
</tr>
<tr>
<td>Sivaithamparam, 2011</td>
<td>N/A</td>
<td>N/A</td>
<td>Alcohol consumption</td>
<td>Alcohol expectancies</td>
<td>Alcohol expectancies 1 &gt; 2 (p &lt; .05)</td>
<td>No gender effects were found</td>
</tr>
<tr>
<td>Kupersmidt, Scull &amp; Benson, 2012</td>
<td>N/A</td>
<td>Persuasion knowledge</td>
<td>N/A</td>
<td>Alcohol expectancies,</td>
<td>Negative alcohol expectancies 1&amp;2 &gt; 3&amp;4 (p &lt; .05)</td>
<td>Not reported</td>
</tr>
</tbody>
</table>

Persuasion knowledge 1&2 > 3&4 (significance not reported)
2.7 References

* References marked with an asterisk indicate studies included in the systematic review.


Martineau, B., Mamede, S., St-Onge, C., Rikers, R. M. J. P., & Schmidt, H. G. (2013). To observe or not to observe peers when learning physical examination skills; that is the question. *BMC Medical Education, 13*(1), 55-61.


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CHAPTER 3: Methodology

Chapter two articulated the considerations needed to develop, implement and evaluate a school-based alcohol media literacy (AML) program for Australian children. This chapter explains the overall methodology for developing, implementing and evaluating the AML program. This chapter was not prepared for publication.
3.1 Purpose of the intervention

As demonstrated in the previous chapters, media literacy education offers a viable approach to alcohol prevention in schools. While a number of AML programs exist, until now, these have been primarily developed, implemented and evaluated in the United States. These programs are unlikely to be effective when implemented in a different cultural context such as Australia due to differences in the nature of alcohol advertising, alcohol regulation laws and cultural nuances. The purpose of this mixed methods study was therefore to develop, implement and evaluate a school-based AML program for Australian children.

3.2 Research questions and hypotheses

The following research questions guided this investigation:

1) What considerations are needed to develop, implement and evaluate a school-based AML program for Australian children?

2) What is the feasibility and potential impact of an AML program for Australian upper-primary school children?

3) Can an Australian AML program positively affect known predictors/precursors of drinking behaviours?

The following hypotheses were tested through questions two and three:

- $H_1$: Following the media literacy intervention, students will have
  a) Improved media literacy skills
  b) Lowered perception of social norms for teen drinking
  c) Less positive alcohol expectancies
  d) Higher self-efficacy for refusing alcohol
  e) Less interest in alcohol branded merchandise
  f) Greater understanding of the persuasive intent of advertising
4) Are there any differences in the effectiveness of an AML intervention for males and females?

5) What are the key pedagogical considerations for, and inhibitors to, implementing a culturally responsive school-based health program?

6) How do Year 5 and 6 students interpret and redesign advertisements to create meaning?

3.3 Overall research design

This study was designed as a mixed-method, sequential embedded design, with the quantitative data forming the primary data set and the qualitative data providing a supportive, secondary role in the study. Following the development of the AML program, the primary purpose of this study was to measure the impact of the program on known predictors/precursors of drinking behaviours using use a pre-test, post-test and delayed-post-test. A secondary purpose was to understand the pedagogical considerations for, and inhibitors to, implementing the program in an Australian upper-primary school context. The secondary purpose was achieved through gathering qualitative data from multiple stakeholders including teachers, students and the researcher.

Figure 3.1: Sequential embedded design
3.4 Research phases

The research was conducted in three phases: 1). Program development; 2). Program implementation and evaluation; and 3). Evaluation of student work. An overview of the three research phases are detailed below.

3.4.1 Phase 1: Program development

Phase one included a systematic literature review to identify and evaluate existing AML programs that were developed to address young people’s alcohol related cognitions, attitudes and behavioural intentions. Existing programs were examined in order to develop a list of practical and theoretical considerations for future programs. Curriculum documents were also analysed to identify where the program would best fit within the curriculum. Phase one was therefore designed to answer the first research question:

*What considerations are needed to develop, implement and evaluate a school-based AML program for Australian children?*

Chapter 2 provides for a detailed description of the aims, methodology, results, discussion and conclusions from the systematic literature.

A school-based alcohol media-literacy program for Australian children was then developed by the candidate based on a systematic review of existing alcohol media literacy programs. The program was developed with input from teachers, children and academics to ensure that the program was age-appropriate, practical, engaging and contained accurate content for the target audience.

A formative pilot evaluation was then conducted to examine the feasibility and potential impact of the developed alcohol media literacy program. Teacher interviews, student exit slips (Leslie 2008; Marzano 2012), teacher observations and a researcher reflective journal were collected to measure the barriers and facilitators to implementation, and a student self-report pre-and post-questionnaire was conducted to measure the impact of the intervention. This data was used to refine the program before it was implemented in
schools for Phase two. Phase one was therefore designed to also answer the second research question:

What is the feasibility and potential impact of an AML program for Australian upper-primary school children?

Chapter 4 provides a detailed description of the aims, methodology, results, discussion and conclusions from the pilot study conducted for phase one of the research.

3.4.2 Phase 2: Program implementation and evaluation

In phase two, an embedded mixed method design was used to evaluate the effectiveness of the ML program and provide an in-depth understanding of factors that facilitated and inhibited implementation in an Australian upper-primary school context. Phase two was therefore designed to answer research questions three to five:

Can an Australian AML program positively affect known predictors/precursors of drinking behaviours?

Are there any differences in the effectiveness of an AML intervention for males and females?

What are the key pedagogical considerations for, and inhibitors to, implementing a culturally responsive school-based health program?

Chapter 5 (program evaluation), Chapter 6 (gender effects) and Chapter 7 (process evaluation) provide a detailed description of the aims, methodology, results, discussion and conclusions from Phase two of the research.

3.4.3 Phase 3: Evaluation of student work

In phase three, a discourse and content analysis was undertaken to explore how primary school students interpret and redesign advertisements to create meaning. Phase three was therefore designed to answer research question six:

How do Year 5 and 6 students interpret and redesign advertisements to create meaning?
Chapter 8 provides a detailed description of the aims, methodology, results, discussion and conclusions from phase three of the research.

3.5 Site and participants

3.5.1 Naturalistic school setting

The pilot study and multi-school study were conducted in naturalistic settings, whereby the intervention took place in a whole-class school setting rather than a laboratory or one-on-one teaching situation. This environment was selected as it could provide evidence of the program’s potential for sustainability in schools (Martineau et al., 2013; McVey et al., 2010) and increase the likelihood of students retaining the skills taught (Stichter et al., 2010). A systematic review of alcohol media literacy programs (Gordon, Jones, & Kervin, 2015) revealed that all of the programs had been conducted in naturalistic school settings, likely for similar reasons.

3.5.2 Ethics approval

Approval for the research was obtained from the University of Wollongong Human Research Ethics Committee (HREC). For the multi-school study, approval was additionally obtained from SERAP (State Education Research Application Process) as the research was conducted in government schools.

3.5.3 Recruitment

Upon ethics approval, selected schools were approached through email contact with the school principals, requesting their participation in the study. As explained in Chapters 5-8, upper-primary school students were targeted in order to reach students before they engage in drinking behaviours. Students from higher socio-economic status (SES) backgrounds were selected as research indicates that this group have higher rates of substance use due to available finances (Humensky, 2010) and other sociodemographic factors. See Table 3.1 for a comparison of school demographics. Once principals consented to the study, the
candidate arranged a time to meet with the participating teachers. The dates and times for data collection were negotiated with the principals and classroom teachers. Letters of information and associated consent forms for parents and students consent were provided and returned before the research commenced (Appendix A). A participant information sheet and consent form were also given to the classroom teachers (Appendix B). The program was implemented as part of the normal school curriculum and therefore consent was only obtained for collection of student data.

Consent rate for the pilot study was 74%, which is an acceptable level for school-based interventions (Secor-turner, Sieving, Widome, Plowman, & Vanden Berk, 2010). However, when revising the program for the multi-school study, it was suggested that offering a parent information session, in addition to the Information Sheets sent home could maximise the number of parents that consent to the research (Wolfenden, Kypri, Freund, & Hodder, 2009). Thus, a parent information session was offered to parents in the participating schools for the multi-school study. The information session included a brief rationale for the program, an overview of the structure and content of the lessons, and an explanation of the data collection methods. The consent rate for the multi-school study was 85%.
<table>
<thead>
<tr>
<th></th>
<th>School 1</th>
<th>School 2</th>
<th>School 3</th>
<th>School 4</th>
<th>School 5</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Location</strong></td>
<td>Metro</td>
<td>Metro</td>
<td>Metro</td>
<td>Metro</td>
<td>Metro</td>
</tr>
<tr>
<td><strong>ICSEA</strong>*</td>
<td>1094</td>
<td>1040</td>
<td>1040</td>
<td>1042</td>
<td>1045</td>
</tr>
<tr>
<td><strong>SES distribution of students</strong></td>
<td>5% (low SES), 55% (middle SES), 40% (high SES)</td>
<td>14% (low SES), 64% (middle SES), 21% (high SES)</td>
<td>12% (low SES), 67% (middle SES), 21% (high SES)</td>
<td>16% (low SES), 63% (middle SES), 22% (high SES)</td>
<td>18% (low SES), 53% (middle SES), 29% (high SES)</td>
</tr>
<tr>
<td><strong>Indigenous students</strong></td>
<td>0%</td>
<td>1%</td>
<td>3%</td>
<td>0%</td>
<td>5%</td>
</tr>
<tr>
<td><strong>Language background other than English</strong></td>
<td>25%</td>
<td>26%</td>
<td>22%</td>
<td>42%</td>
<td>8%</td>
</tr>
<tr>
<td><strong>School attendance rate</strong></td>
<td>95%</td>
<td>94%</td>
<td>94%</td>
<td>96%</td>
<td>96%</td>
</tr>
<tr>
<td><strong>Number of Year 5/6 classes in 2015</strong></td>
<td>2</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

*Note.* Demographic information is based on the 2013 My School data (ACARA, 2016). *ICSEA = index of Community Socio-Educational Advantage. ICSEA values range from approximately 500 (representing extremely educationally disadvantaged backgrounds) to 1300 (representing extremely educationally advantaged backgrounds), with a median of 1000 (ACARA, 2014). ICSEA values consider parent occupation and education levels, remoteness and percent Indigenous student enrolment.
3.5.4 Participants

The participants included in the pilot study and multi-school study are described in Chapters 4-8.

3.6 Instrumentation

The instruments were designed to address the research questions (Table 3.2). Student exit slips, teacher observations and a researcher reflective journal comprised the formative data which provided immediate, ongoing feedback on how the students were responding to the learning experiences during the pilot study and multi-school study. This data was used to make modifications to the delivery of the program. For example, the candidate adjusted classroom management techniques to improve the students’ engagement with the learning experiences. It is important to note that no major changes were made to the content of the program during the pilot study or multi-school study in order to maintain the consistent delivery of the program across classes and schools (see Appendix C for an explanation of how implementation fidelity was considered in the study). Post-program interviews with the teachers and a student questionnaire comprised the summative data which reported on the efficacy and impact of the program after all the learning experiences had taken place.
<table>
<thead>
<tr>
<th>Research question</th>
<th>Research phase</th>
<th>Method of data collection</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. What considerations are needed to develop, implement and evaluate a school-based AML program for Australian children?</td>
<td>Phase 1: Program development</td>
<td>Systematic review</td>
</tr>
<tr>
<td>2. What is the feasibility and potential impact of an AML program for Australian upper-primary school children?</td>
<td>Phase 1: Program development</td>
<td>Student verbal protocols</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Student work samples</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Student questionnaire</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Student exit slips</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Teacher interviews</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Teacher observations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Researcher reflective journal</td>
</tr>
<tr>
<td>3. Can an Australian AML program positively affect known predictors/precursors of drinking behaviours?</td>
<td>Phase 2: Program implementation and evaluation</td>
<td>Student questionnaire</td>
</tr>
<tr>
<td>4. Are there any differences in the effectiveness of an alcohol ML intervention for males and females?</td>
<td>Phase 2: Program implementation and evaluation</td>
<td>Student questionnaire</td>
</tr>
<tr>
<td>5. What are the key pedagogical considerations for, and inhibitors to, implementing a culturally responsive school-based health program?</td>
<td>Phase 2: Program implementation and evaluation</td>
<td>Student exit slips</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Teacher interviews</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Teacher observations</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Researcher reflective journal</td>
</tr>
<tr>
<td>6. How do Year 5 and 6 students interpret and redesign advertisements to create meaning?</td>
<td>Phase 3: Evaluation of student work</td>
<td>Student work samples</td>
</tr>
</tbody>
</table>
3.6.1 Students

**Verbal protocols**

Verbal protocols (Ericsson & Simon, 1993) were conducted with randomly selected students \((n = 10)\) from within the pilot study sample to investigate how the participants understood the pre and post-test measures and the clarity of the questions. These participants worked one-on-one with the researcher and thought-aloud as they answered the questions, to provide insight into their cognitive processes (Young, 2005). This methodology is valuable, as little is currently known about how primary school children interpret questions about drinking behaviour. The verbal protocols were only collected during the pilot study.

**Exit slips**

All students’ understanding of each lesson were obtained through student exit slips (Leslie 2008; Marzano 2012) - a sheet of paper given to the students at the end of each lesson with questions about key learnings specific to each lesson (see Appendix D for exit slips used in the multi-school study). The students were given approximately 5 minutes to record their responses before the exit slips were collected. A key benefit of the exit slips was they provided immediate and brief feedback to the researcher on the students’ understanding of each lesson.

**Work samples**

Student work samples created during the final three lessons of the AML program (multi-school study) were collected and analysed to provide insight into how primary school students interpret and redesign advertisements to create meaning. A potential drawback of reviewing documents (i.e. student work samples) is that issues of power and privilege typically surface in the selection of some students’ work over others (Mertens & Wilson, 2012). In this context, the selection of work samples could be biased towards high achieving students who performed well in the tasks. To reduce this bias, work samples were collected from all of the students who provided consent to ensure an accurate picture of the students’ performance as a whole.
**Questionnaire**

All students’ questionnaire responses were used to evaluate the effectiveness of the program (pilot study and multi-school study) in influencing behaviour and knowledge. For instance, two items assessed students’ susceptibility to drinking alcohol. Minor revisions were made to the questionnaire after the pilot study had been completed to increase the clarity of the questions. These revisions were based on findings from the verbal protocols where the students identified questions that they did not understand. For example, the question ‘when I’m watching TV at home and I see ads for alcohol, I stop and analyse them carefully’, was changed to ‘...I stop and think about them carefully’. Analysis of the verbal protocols is included in Appendix E and the revised questionnaire used in the multi-school study is included in Appendix F. Most items on the questionnaire were formatted as 5-point Likert scales (i.e., ranging from NO, strongly disagree, to, YES, strongly agree). See Chapter 5 (multi-school study) for a summary of the measures included in the student questionnaire.

### 3.6.2 Classroom teachers

**Semi-structured interviews**

Semi-structured (Creswell, 2009), audio-recorded face-to-face interviews were conducted with the Year 5 and Year 6 teachers involved in the study, before and after the program was taught. These interviews were conducted at mutually convenient times (mostly after school or during lunch breaks) in the classroom without the children. The aim of the interviews was to explore the teachers’ perceptions of the program, including facilitators and inhibitors to implementation and suggested changes. This interaction with key stakeholders was considered an essential component of the program’s evaluation (Mertens & Wilson, 2012). The interview questions focussed on key components of the program (e.g. ease of use, student engagement and syllabus connections) and were designed to elicit responses to the research question on the key pedagogical considerations for, and inhibitors to, implementing the program. Primary interview questions were followed with specific probes to gain additional relevant information consistently across the teachers. For example, the opening question was ‘What are your overall impressions of the program’. The specific probes included, ‘What do you like about the program?’ and ‘What would you change about the program?’ Semi-structured interviews were selected over focus groups, as they
provided the busy teachers with greater flexibility in negotiating a time to participate in the interviews. The interview questions are outlined in Appendix G.

**Non-participant observations**

Non-participant observations (Creswell, 2009) were completed by the classroom teachers as they observed the candidate delivering each lesson (see Appendix H for the proforma used and a completed example). The purpose of the observations was to provide data on how effectively the program was implemented according to the classroom teachers, and to record any classroom management issues that arose while the program was being taught in a real world setting (Melde, Esbensen, & Tusinski, 2006). Dusenbury and colleagues (2003) argue that observational data should be combined with self-report data (i.e. the researcher reporting on implementation fidelity) to validate findings on implementation fidelity. To create uniformity between observations, the teachers were provided with an observation grid to guide their observations (Melde et al., 2006). The grid was divided into four sections: teacher interactions with students (i.e. allowance of questions, input during activities, generation of discussion, teacher enthusiasm), student engagement (i.e. classroom management issues, level of interest in discussions and questions asked, student enthusiasm), teaching content (i.e. the extent to which the planned lesson material is covered and deviations from the planned content, lesson timing) and use of supporting materials (i.e. the extent to which the supporting materials provided, e.g. scaffolds and technology suggestions, are used and any materials that are added or omitted).

### 3.6.3 PhD candidate

**Researcher reflective journal**

A reflective journal was kept by the researcher teaching the lessons to provide a personal perspective on how effectively the program was implemented and any barriers to effective implementation. The journal entries were examined against the teacher observations to cross validate findings on implementation fidelity and classroom management issues (Dusenbury et al., 2003). A distinct advantage of utilising the reflective journal and teacher observations was that the data was documented during and directly after each lesson was taught. This immediacy provided detailed data that may have not been recalled during the
teacher interviews that were conducted at the end of the 10-lesson program. A researcher reflective journal also brought transparency to the research because it made visible the thinking, values, and experiences behind how each lesson was implemented (Ortlipp, 2008). The journal entries were largely unstructured to allow the researcher to freely record any thoughts and feelings on the lessons taught, but were focussed around the barriers and facilitators to implementation.

3.7 Intervention program

The 10-lesson Australian alcohol media literacy program was based on outcomes from the new NSW English K-10 Syllabus (2014) and NSW Personal Development, Health and Physical Education K-6 Syllabus (PDHPE) (2007) and Creative Arts K-6 Syllabus (2006) (NSW Board of Studies, 2012). The AML program was developed through working collaboratively with the PhD candidate’s supervisors, as well as an analysis of key considerations for the program via a systematic literature review of existing programs (Chapter 2). Based on findings from the systematic literature review and the expertise of the program developers, the content and pedagogy for the program was drafted with further refinements achieved by drawing upon specific field expertise (see Table 3.3 for an overview of the learning experiences).

The program was designed for use by teachers with their students. It aimed to provide hands-on and relevant activities that drew upon multimodal text examples to engage students’ learning. The ten lessons (approximately 45 minutes in duration each) provided opportunities for students to work individually, in groups and as a whole class. Assessment opportunities were embedded within the learning and teaching activities. All of the lessons began with an introduction to the learning experience to capture interest, elicit prior knowledge and revise concepts and skills taught in previous lessons. The introduction was followed by the lesson focus which balanced explicit instruction with hands-on learning activities. Each lesson concluded with an application of the learning experience which included quizzes, discussions, hands-on activities, sharing and presenting to consolidate and apply the knowledge and skills learnt.
Table 3.3: Overview of the learning experiences

<table>
<thead>
<tr>
<th>Lesson</th>
<th>Purpose of the Learning Experience</th>
<th>Student Learning Activities</th>
</tr>
</thead>
</table>
| 1 – Alcohol truth | Increase understanding of the facts about alcohol, in contrast to the messages that are portrayed through advertisements | • **Discuss** the issues that might arise from alcohol being a significant part of our Australian adult culture  
• **Watch and discuss** an episode from Behind the News about the negative consequences of drinking alcohol for young people  
• **Participate** in a true/false quiz to revise and further explore facts about alcohol |
| 2 Ads, ads, everywhere | Develop understanding of the broad nature and diversity of advertising in Australia and the way in which advertising reflects and influences cultural norms and decision making | • **Demonstrate prior knowledge** on advertising through a mind map  
• **Watch and analyse** a 10-minute segment of an Australian cricket match for the different types of alcohol advertisements  
• **Discuss findings** of the cricket game, focussing on the extent and nature of alcohol advertising shown during the match  
• **View and discuss** the nature and impact of alcohol branded merchandise on thoughts and behaviour.  
• **Speculate** on the impact of alcohol sponsorship of sport on social norms |
| 3 Understanding media messages | Develop understanding of how media messages are interpreted by individuals, with a focus on how alcohol advertisements appeal | • **Understand** social norms in terms of the number of teenagers that drink alcohol  
• **Learn** how media messages are interpreted by individuals, using De Bono’s thinking hat  
• **List** features of an alcohol advertisement that make it appealing |
to our emotional reasoning

<table>
<thead>
<tr>
<th>4 – Sell it to me</th>
<th>Develop understanding of the persuasive advertising techniques used by advertisers, with a focus on how alcohol advertisements appeal to our emotional reasoning</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- <strong>Review</strong> features of alcohol advertisements that make them appealing</td>
</tr>
<tr>
<td></td>
<td>- <strong>Learn</strong> key persuasive advertising techniques</td>
</tr>
<tr>
<td></td>
<td>- <strong>Annotate</strong> an alcohol advertisement to highlight the key persuasive advertising techniques used</td>
</tr>
<tr>
<td></td>
<td>- <strong>Design</strong> an advertisement for a new product and annotate the persuasive advertising techniques used</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5 - Hidden messages</th>
<th>Develop understanding of the hidden messages presented in advertisements and how to counter these hidden messages with facts</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- <strong>Review</strong> the persuasive advertising techniques explored thus far in the program</td>
</tr>
<tr>
<td></td>
<td>- <strong>Learn</strong> the concept of hidden messages which are implicitly stated through the choice of words and images</td>
</tr>
<tr>
<td></td>
<td>- <strong>Visit</strong> the online game where students create an ad for a new soft drink product using the advertising techniques learnt</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6 - Exposing the Advertiser’s Tricks, Part 1</th>
<th>Develop skills and practice in deconstructing print advertisements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- <strong>Review</strong> the concept of ‘hidden messages’ taught in the previous lesson</td>
</tr>
<tr>
<td></td>
<td>- <strong>Practice</strong> the skill of deconstructing alcohol ads</td>
</tr>
<tr>
<td></td>
<td>- <strong>Share</strong> analysis of ads with the class and receive feedback</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>7 - Exposing the Advertiser’s Tricks, Part 2</th>
<th>Develop skills and practice in deconstructing multimedia advertisements</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- <strong>Compare and contrast</strong> similarities and differences between print and multimedia ads</td>
</tr>
<tr>
<td></td>
<td>- <strong>Jointly construct</strong> a multimedia ad</td>
</tr>
<tr>
<td></td>
<td>- <strong>Analyse</strong> multimedia ads individually or in pairs</td>
</tr>
<tr>
<td></td>
<td>- <strong>Share</strong> findings with the class</td>
</tr>
</tbody>
</table>
8 & 9 – Creating a counter-ads

- View a counter-ad and reflect on its purpose
- Learn the purpose of counter-advertisements and make explicit the techniques used to achieve this purpose
- Plan and draft the creation of a counter-ad working individually or in pairs
- Provide peer feedback on the draft counter-ads
- Revise counter-ads based on peer and teacher feedback
- Create counter-ads using a range of multimedia or digital materials

10 – Reflecting on counter-ads

- Reflect on the hidden messages presented in alcohol ads and how these were challenged through the counterads
- Share counterads with a partner/small group
- Present selected counterads to the class

3.8 Procedure

3.8.1 The role of the candidate during data collection

The PhD candidate was responsible for the implementation of the program in schools. This meant that the candidate was responsible for all of the data collection (administering student questionnaires and exit slips, conducting teacher interviews, collecting teacher observations and recording in a researcher journal) and delivery of the program. An advantage of the candidate delivering the program rather than the regular classroom teachers was consistent delivery of the program, which is of critical importance in evaluating the success of school alcohol prevention programs (Dusenbury et al., 2003). See Appendix C for the importance of implementation fidelity and its relationship to this study. As a result, there was less likely to be variability in the way the program was delivered (i.e. teaching style, teacher’s voice, level of enthusiasm displayed by the teacher, classroom management
Further, the regular classroom teachers would have required comprehensive training on the rationale and delivery of the program in order for it to be taught effectively which requires extensive time and resources (Scull & Kupersmidt, 2012). As the program developer, the candidate was already highly familiar with the objectives and content of the program and likely to deliver the program in an enthusiastic manner due to her vested interest in the project. It was also perceived that schools would be more likely to consent to the research when the program was implemented by an external person as it reduced the burden placed on the classroom teachers. The drawback of the candidate collecting the data was the possibility of bias due to a vested interest in the program. Steps were taken to minimise bias including double coding of subjective student questionnaire data, discussing the findings with supervisors and triangulating the findings using multiple data sources to increase the validity of the findings (Creswell, 2009).

### 3.8.2 Pilot study data collection procedure

Data collection for the pilot study occurred between September 2014 and November 2014. Teacher interviews \((n = 3)\) and student verbal protocols \((n = 5)\) took place 4-6 weeks before the AML program commenced for each class. The candidate requested that the participants who completed the verbal protocols refrain from discussing the contents of the questionnaire with their classmates. It was explained to these participants that their classmates would receive the same questionnaire at a later date and it was important for their classmates to not know the content of the questionnaire until they receive it. The student questionnaire \((n = 37)\) was administered immediately before the first AML lesson was taught and the program was implemented over a 5 week period with two lessons taught each week. Classroom teacher observations \((n = 2)\), a researcher reflective journal \((n = 20)\) and student exit slips \((n = 37)\) were completed at the end of each AML lesson taught. Teacher interviews \((n = 3)\) and student verbal protocols \((n = 5)\) took place on the same day that the final lesson in the AML program was taught to the participants.
3.8.3 Multi-school study procedure

Data collection for the multi-school study occurred between June 2015 and December 2015 (see Figure 3.2). Teacher interviews \( (n = 5) \) took place approximately 2 weeks before the alcohol ML program commenced for each class. The student questionnaire \( (n = 165) \) was administered approximately one 1 before the first AML lesson was taught and the program was implemented over a 10 week period with one lesson taught each week. Classroom teacher observations \( (n = 5) \), a researcher reflective journal \( (n = 44) \) and student exit slips \( (n = 165) \) were completed at the end of each AML lesson taught. Teacher interviews \( (n = 6) \) took place within a week of the final lesson in the AML program being taught.

![Diagram of the multi-school study procedure]

Figure 3.2: Procedure for multi-school study

3.8 Analysis

The analysis of the qualitative and quantitative data is explained in detail in chapters 4-8.
3.9 Quality of the study

3.9.1 How to assess the quality of a mixed methods study

The quality of a mixed methods study can be assessed using a generic research approach, an individual components approach or a mixed methods approach (O’Cathain, 2010). The generic approach uses a generic set of tools that are applied across any study design. The main criticism of this approach is that it is too general and cannot be consistently applied across different research designs. The individual components approach involves assessing the qualitative components of a mixed methods study using qualitative quality criteria and assessing the quantitative component of a mixed methods study using quantitative quality criteria. In sections 3.9.2 and 3.9.3 of this chapter, the quality of the qualitative component of this study and the quality of the quantitative component of this study are argued from their respective paradigms. However, a criticism of the individual components approach is that there is more to a mixed methods study than its qualitative and quantitative components. The mixed methods approach is believed to provide a comprehensive approach to assessing the quality of mixed methods research.

The quality of this mixed methods research was determined through applying the mixed methods approach framework outlined by O’Cathain (2010). This framework predominantly draws upon Tashakkori and Teddlie’s (2008) model, as well as contributions of other researchers. For example, Tashakkori and Teddlie (2009) conceptualised inference quality, which combined methodological rigor and interpretive rigor. Caracelli and Riggin’s (1994) domains of quality are used to structure the framework. The framework consists of eight quality domains and is structured by the journey of a research study from planning through data collection, interpretation, and use in the real world. Table 3.4 is taken directly from O’Cathain (2010, pp.541-544) with an additional column added on the right hand side which describes how each component has been applied to the present study to determine quality.
Table 3.4: Quality framework for mixed method research (O'Cathain, 2010, pp.541-544)

<table>
<thead>
<tr>
<th>Stage of Study and Domains of Quality</th>
<th>Items within Domain</th>
<th>Definition of Item</th>
<th>Source of Domain and Items</th>
<th>Application to the present study</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Stage – Planning</strong></td>
<td>Foundational</td>
<td>Comprehensible and critical review of the literature is needed to situate the study and shape both the research question and methods.</td>
<td>Dellinger &amp; Leech (2007)</td>
<td>Phase one of the present study (systematic literature review) ensured that the study built upon existing literature. Earlier sections of this Methods Chapter provide a clear justification for the mixed method design used and details on the study’s design, data collection, analysis and reporting. A timeline and budget were developed prior to the study commencing to ensure the feasibility of the study.</td>
</tr>
<tr>
<td></td>
<td>Planning transparency</td>
<td>Details should be given about the paradigm, planned design, data collection, analysis and reporting according to Creswell’s guide for a good proposal.</td>
<td>Creswell (2009)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Feasibility</td>
<td>The design, and each component, can be undertaken in the resources (time, money, manpower) available</td>
<td>O’Cathain, Murphy, &amp; Nicholl (2008)</td>
<td></td>
</tr>
<tr>
<td><strong>Stage – Undertaking</strong></td>
<td>Design transparency</td>
<td>Description of design type from known typology, or key aspects of design, if known typologies do not describe design used.</td>
<td>Creswell &amp; Plano Clark (2007 O’Cathain et al. (2008)</td>
<td>The sequential embedded design of this mixed methods study is made transparent, including a figure that highlights the sequencing of methods. It is</td>
</tr>
<tr>
<td>Stage – Undertaking</td>
<td>Data transparency</td>
<td>Each of the methods is described in sufficient detail, including its role within the study.</td>
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<tr>
<td></td>
<td></td>
<td><strong>Creswell &amp; Plano Clark (2007)</strong></td>
<td>The data collection instruments used in this study are detailed and the rigor of the qualitative and quantitative methods used is given consideration. The analysis techniques used were rigorous and allowed the researcher to respond to the research questions. The analysis techniques used are articulated.</td>
<td></td>
</tr>
<tr>
<td>Domain – Data quality</td>
<td></td>
<td><strong>O’Cathain et al. (2008)</strong></td>
<td></td>
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</tr>
<tr>
<td>Data rigor/design fidelity</td>
<td>The extent to which methods are implemented with rigor.</td>
<td><strong>Creswell &amp; Plano Clark (2007)</strong> <strong>Teddlie &amp; Tashakkori (2009)</strong></td>
<td></td>
<td></td>
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<tr>
<td>Sampling adequacy</td>
<td>Sampling technique and sample size are adequate in the context of the design.</td>
<td><strong>Creswell &amp; Plano Clark (2007)</strong> <strong>Onwuegbuzie &amp; Johnson (2006)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analytic adequacy</td>
<td>Data analysis techniques are appropriate for the research question and are undertaken properly.</td>
<td><strong>Teddlie &amp; Tashakkori (2009)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Analytic adequacy</td>
<td>Any integration taking place at the analysis</td>
<td><strong>Caracelli &amp; Riggin (1994)</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>suitability</th>
<th>The overall research question, matches the reason for combining methods, and is appropriate for the stated paradigm.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Design strength</td>
<td>The strengths and weaknesses of methods are considered to minimize shared bias and optimize the breadth and depth of the study.</td>
</tr>
<tr>
<td>Design rigor</td>
<td>Methods are implemented in a way that remains true to the design.</td>
</tr>
</tbody>
</table>

- **Creswell & Plano Clark (2007)**
- **Caracelli & Riggin (1994)**
- **Onwuegbuzie & Johnson (2006)**
- **Caracelli & Riggin (1994)**
- **Onwuegbuzie & Johnson (2006)**
- **Creswell & Plano Clark (2007)**
- **Caracelli & Riggin (1994)**

- **O’Cathain et al. (2008)**
- **Teddlie & Tashakkori (2009)**
- **Caracelli & Riggin (1994)**}

**Excerpt:**

The strengths and weaknesses of methods are considered to minimize shared bias and optimize the breadth and depth of the study.
Stage of a study is robust e.g., data transformations are defensible.

- Integration rigor

- Interpretive transparency
  - It is clear which findings have emerged from which methods.

- Interpretive consistency
  - Inferences are consistent with findings on which they are based.

- Theoretical consistency
  - Inferences are consistent with current knowledge or theory

- Interpretive agreement
  - Others are likely to reach the same conclusions based on the findings presented, including other researchers and participants.

- Interpretive distinctiveness
  - Conclusions drawn are more credible than any other conclusions.

- Interpretive efficacy
  - Meta-inferences from the whole study adequately incorporate inferences from the qualitative and quantitative findings and inferences.

- Interpretive agreement
  - Explanations are given for inconsistencies

Separate reporting of the qualitative and quantitative components of this study (see Chapters 5, 6 & 7), made it clear which findings were related to which methods. There was also interpretive consistency in that inferences were consistent with the findings on which they were based. For the multi-school study, the inference was that the media deconstruction program was effective in increasing media deconstruction skills, reducing perceptions of drinking norms and lowering positive alcohol expectancies and the findings clearly showed a significant change in those primary outcome measures.

Variables were controlled in the
bias reduction between findings and inferences.

Interpretive correspondence Inferences correspond to the purpose of the study, the overall research question, and the research questions within this.

Quantitative research, thus increasing the interpretive distinctiveness. Findings from the qualitative and quantitative components of the study are brought together in chapter 9 to achieve high interpretative efficacy. Explanations are also provided for inconsistencies between the qualitative and quantitative findings in chapter 9 to reduce interpretative bias. Finally, the inferences from the study are related back to the research questions to ensure interpretive correspondence.

| Stage – Interpreting | Domain – Inference transferability (where conclusions can be applied to) | Ecological transferability | Population transferability | Temporal transferability | Theoretical transferability | Transferability to other contexts and settings. | Transferability to other groups and individuals. | Transferability to the future. | Transferability to other methods of Tashakkori & Teddie (2003, 2008, 2009) | The multi-school study was conducted in different school settings (i.e., four different schools and eight different class settings) to increase the transferability of the study to other school settings. However, it is unknown how the study would operate in a different context, such as in an after school care |
The pilot study and multi-school study were conducted with groups with different characteristics (i.e., religious school setting and non-religious school setting) to increase the transferability to other groups and individuals. However, the study was limited to schools with high socioeconomic status, so it is unknown how the study would operate in schools with low to average socioeconomic status.

The study is restricted to a small timeframe (2014 – 2015) and therefore it is unknown how the study would operate in the future.

<table>
<thead>
<tr>
<th>Stage – Disseminating</th>
<th>Report availability</th>
<th>Study is successfully completed within allocated resources of time, money, and staff.</th>
<th>Datta (1997)</th>
<th>The study was successfully completed on time and on budget.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domain - Reporting</td>
<td>Reporting</td>
<td>Key aspects of study reported, according Caracelli &amp; Riggin (1994)</td>
<td>In chapter 9, it was made explicit</td>
<td></td>
</tr>
<tr>
<td>quality</td>
<td>transparency</td>
<td>to GRAMMS</td>
<td>Yield</td>
<td>Whole more than the sum of the parts</td>
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<td>---</td>
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<tr>
<td>Stage – Application in the real world</td>
<td>15 quality criteria:</td>
<td>1. Qualitative</td>
<td>Pluye, Gagnon, Griffiths, &amp; Johnson-Lafleur (2009)</td>
<td>When the six criteria for qualitative research are applied to the study, all six criteria are met as demonstrated in the earlier sections of this chapter.</td>
</tr>
<tr>
<td>Domain - Synthsisability (of sufficient quality for inclusion in systematic reviews)</td>
<td>6 for quantitative research</td>
<td>- Qualitative objective or question - Appropriate qualitative approach or design or method - Description of the context - Description of participants and justification of sampling - Description of qualitative data collection and analysis - Discussion of researchers’ reflexivity</td>
<td>One of the three criteria relevant to quantitative experimental research are met when applied to the present study. Low withdrawal was achievable for this study, however randomization and blinding were not possible due to school logistical restraints. For this reason, the quantitative component of the study is a quasi experimental design rather than a randomized control design.</td>
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<td></td>
<td>3 for qualitative experimental research</td>
<td>2. Quantitative experimental</td>
<td></td>
<td>When the three criteria for mixed</td>
</tr>
<tr>
<td></td>
<td>- Appropriate sequences generation and/or randomization - Allocation concealment and/or blinding - Complete outcome data and/or low withdrawal/drop-out</td>
<td>methods</td>
<td></td>
<td>methods are applied to the study, all six criteria are met as demonstrated in the earlier sections of this chapter.</td>
</tr>
<tr>
<td></td>
<td>3 for mixed methods</td>
<td>3. Mixed methods - Justification of the mixed methods design - Combination of qualitative and</td>
<td></td>
<td></td>
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</tbody>
</table>
- Integration of qualitative and quantitative data or results

Thus, the study scores 6 out of 6 (100%) for the qualitative component and 1 out of 3 (33%) for the quantitative component. If it were assessed as a mixed methods study, it would score 7 out of 9 for its components and 3 out of 3 for the mixed methods aspects, totalling 10 out of 12 (83%).

<table>
<thead>
<tr>
<th><strong>Domain</strong></th>
<th><strong>Utility</strong></th>
<th><strong>Utility quality</strong></th>
<th><strong>The findings are used by consumers and policy makers</strong></th>
<th><strong>Caracelli &amp; Riggin (1994)</strong></th>
<th><strong>Dellinger &amp; Leech (2007)</strong></th>
<th><strong>Onwuegbuzie &amp; Johnson (2006)</strong></th>
<th><strong>Tashakkori &amp; Teddlie (2009)</strong></th>
<th><strong>The study resulted in a research based and culturally relevant alcohol ML program that can be used by teachers. The study also provided health professionals with key pedagogical strategies for designing culturally responsive educational programs.</strong></th>
</tr>
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<tbody>
<tr>
<td>Domain – Utility</td>
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</tbody>
</table>
3.9.2 Qualitative reliability

**Triangulation**

The qualitative data sources, including the teacher interviews, student exit slips, teacher observations and researcher reflective journal were corroborated by reconciling evidence from these sources and using it to build a coherent justification for themes. The themes were based on converging the several sources of qualitative data, thus adding to the reliability of the study (Creswell, 2009). Credibility checks involved the research team reviewing the potential themes identified by the candidate followed by refinement and further review of the themes.

**Discrepant information**

Data that contradicted the general perspective of a theme is also presented in the findings to provide a more realistic account of the research and add to the reliability of the study (Creswell, 2009).

**Multiple coding**

Qualitative responses on the student questionnaire were double-coded and differences in the coding were discussed until the coders reached agreement to increase the reliability of the measure.

3.9.3 Quantitative validity

**Selection**

Participants who had certain characteristics e.g. high academic ability were not singled out for the study. Rather, entire cohorts of participants, with differing academic abilities and socioeconomic status were selected for the experiment. Schools with a similar distribution of students with high, middle and low socioeconomic status were selected to allow for comparison between the control and intervention groups.
**Diffusion of treatment**

The control and intervention groups were from separate schools thus minimising communication between the control and intervention groups. This aspect of the research design ensured that group outcomes were not influenced by diffusion of treatment.

**Compensatory rivalry/resentful demoralization**

The control group was a wait-list control group and thus received the intervention at a later stage. This aspect of the research design ensured that participants in the control group did not feel that they were being devalued, as compared to the experimental group, because they did not experience the treatment.

**Testing**

There was a considerable time interval between when the questionnaire was administered at each time point. Additionally, the participants were told to respond to the questionnaire based on how they felt on the day of testing and to not try and remember the responses they gave previously. This aspect of the research design ensured that participants did not become familiar with the outcomes measured and remember responses for later testing.

**Interaction of selection and treatment**

The researcher restricted claims about groups to which the results cannot be generalised. The pilot study and multi-school study were conducted with groups with different characteristics (i.e., religious school setting and non-religious school setting) to increase the generalisation of the study.

**Interaction of setting and treatment**

The experiment was conducted in different school settings (i.e., four different schools and eight different class settings) to increase the generalisation of the study.

**Interaction of history and treatment**

Due to the time restraints of a PhD, the results are bound to a particular point in time.
3.10 Chapter summary

This chapter outlined the specific methods used in this mixed-method, sequential embedded design in order to generate valid and reliable data. This data was used to measure the impact of the AML program on known predictors/precursors of drinking behaviours, and understand the pedagogical considerations for, and inhibitors to, implementing the program in an Australian upper-primary school context.

3.11 References

Australian Curriculum Assessment and Reporting Authority (ACARA). (2014). Guide to understanding 2013 Index of Community Socio-educational Advantage (ICSEA) values. Australia: ACARA.


Martineau, B., Mamede, S., St-Onge, C., Rikers, R. M. J. P., & Schmidt, H. G. (2013). To observe or not to observe peers when learning physical examination skills; that is the question. *BMC Medical Education, 13*(1), 55-61.


CHAPTER 4: Empowering students to respond to alcohol advertisements: Results from a pilot study of an Australian media literacy intervention

Article published in *Australian and New Zealand Journal of Public Health*


Chapter 4 is the first of five empirical papers in this thesis. This paper examines data from the pilot study of the media literacy intervention. Aspects of this paper were presented at the *Australian Literacy Educators' Association 2015 National Conference* and *Early Start Conference* [Appendices M and N].

Appendix I provides additional detail on the qualitative results of the study that were not published in the original manuscript.
4.1 Abstract

Alcohol media literacy programs in the United States have increased students’ media literacy skills and lowered pre-drinking behaviour. In Australia, no such programs have yet been implemented or evaluated. This pilot study aimed to examine the feasibility and potential impact of an alcohol media literacy program for Australian upper-primary school children. Thirty-seven Year 5 and 6 students (aged 10-12) from one school in the Sydney region participated in ten one-hour media lessons. Teacher interviews, student exit slips, teacher observations and a researcher reflective journal were analysed to examine the implementation process, while a pre and post questionnaire was analysed to measure outcomes. Key factors in implementation were the importance of school context; attainment of English and PDHPE learning outcomes to differing extents; program’s useability provided flexibility; perceived complexity and achievability of the lessons; and program’s engagement and relevance for the students. The program significantly increased media literacy skills and understanding of persuasive intent; decreased interest in alcohol branded merchandise; and lowered perception of drinking norms. An Australian alcohol media literacy program for upper-primary school children appears feasible, and has potential to lead to measurable outcomes.
4.2 Introduction

Given that early experimentation with alcohol increases the likelihood of developing serious health problems later in life (World Health Organisation, 2014), early prevention of alcohol related harms is essential for ensuring the healthy development of young people. A critical influence on students’ alcohol-related attitudes and behaviours is the media (Collins, Ellickson, McCaffrey & Hambarsoomians, 2007; Scull, Kupersmidt & Erausquin, 2014). Through teaching students to access, analyse, evaluate and communicate messages in a variety of forms, media literacy education can challenge potentially harmful pro-alcohol media messages and have a positive impact on students’ drinking attitudes and behaviours (Bergsma & Carney, 2008; Gordon, Jones, & Kervin, 2015).

Currently, the majority of alcohol media literacy programs have been developed and evaluated in the United States (Gordon et al., 2015). This formative pilot evaluation aimed to examine the potential impact of an alcohol media literacy program, Media in the Spotlight, for Australian children, and the barriers and facilitators to implementation. The 10-lesson program which was developed by the authors of this paper, utilises Inoculation Theory (Godbold & Pfau, 2000), the Message Interpretation Process model (Austin, 2007), and constructivist teaching principles (Pritchard & Woollard, 2010). To our knowledge, the program is the first of its kind to be tailored to the Australian context by including Australian alcohol brands and media clips and links to the Australian school curriculum. The program aims to (i) build students’ competence in reading and interpreting a broad range of multimodal alcohol advertisements; and (ii) target the upper-primary school age group in order to ‘inoculate’ students against pro-alcohol messages before they engage in drinking behaviours.

The program was developed based on findings from a systematic literature review of existing alcohol media literacy programs (Gordon et al., 2015). Ten lessons (approximately one hour in duration each) focused on: the negative consequences of drinking, the broad nature and diversity of alcohol advertising in Australia, the persuasive techniques and
hidden messages used by advertisers to make their products appealing, and the creation of counter-advertisements (Gordon, Jones, & Kervin, 2014).

### 4.3 Methods

It was hypothesised that following the program, students would have improved media literacy skills; a greater understanding of persuasive intent; less interest in alcohol branded merchandise; higher self-efficacy for refusing alcohol; and a lowered perception of social norms for teenage drinking.

A convenience sample of 57 Year 5 and Year 6 students (10 – 12 years) from one non-government religious school in NSW completed the program. Pre- and post-intervention data were collected from the 65% (n = 37) of the 57 students who provided parent and student consent and completed both the pre and post-test. One Year 5 teacher, one Year 6 teacher and one Year 6 casual teacher also provided data. The program was delivered to the Year 5 and Year 6 class over five weeks, with two lessons taught each week to each class by a qualified teacher (the first author of this paper) to increase implementation fidelity.

Semi-structured teacher interviews were conducted with the teachers before and after program implementation to explore their perceptions of the program; students’ understanding of each lesson were obtained through student exit slips (Leslie, 2008); non-participant observations were completed by the teachers as they observed the researcher delivering each lesson to assess implementation fidelity and student engagement; and a researcher reflective journal was kept to provide a personal perspective on how effectively the program was implemented. A pre and post-intervention questionnaire assessed students’ preference for alcohol branded merchandise (pre-drinking behaviour); media literacy skills; self-efficacy to refuse alcohol; perceived social norms for drinking alcohol; and understanding of persuasive intent. The scales were adapted from existing alcohol media literacy programs to ensure cultural relevance to Australia (Gordon et al., 2015). An example of a question used to assess media literacy skills was, “what is the purpose of this ad?”
Thematic analysis approach was used to analyse the qualitative data using NVivo. Inductive coding of the transcribed teacher interviews was followed by deductive coding of the student exit slips, teacher observations and researcher reflective journal. Paired sample t-tests were used to determine significant differences between the pre and post scores for any of the variables, while repeated measures ANOVAs were conducted to determine significant differences in pre-post scores for the variables based on gender.

4.4 Results

Five key factors in implementation emerged from the multiple qualitative data sources. These included the importance of school context; attainment of English and Personal Development and Health, Physical Education (PDHPE) learning outcomes to differing extents; program’s useability provided flexibility when delivering the program; perceived complexity and achievability of the lessons; and the program’s engagement and relevance for the students. [See Appendix I for an explanation of the five key factors in implementation and accompanying quotes]. Specific changes to lesson content were identified from the pilot study’s process evaluation. These changes were incorporated into the revised program that was implemented for the multi-school study [see appendix J for example of these changes].

Paired sample t-tests revealed that students had increased media literacy skills \( p = .000 \); greater understanding of persuasive intent \( p = .000 \); less interest in alcohol branded merchandise \( p = .002 \); and lowered perception of social norms \( p = .000 \) post-intervention. There was no significant difference on self-efficacy to refuse alcohol \( p = .06 \) (see Table 4.1).
Table 4.1: Mean scores for items on the media literacy questionnaire

<table>
<thead>
<tr>
<th>Measure</th>
<th>Pre-test means (SD)</th>
<th>Post-test means (SD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Media literacy skills</td>
<td>6.68 (1.72)</td>
<td>10.30 (2.72)</td>
</tr>
<tr>
<td>Persuasive intent</td>
<td>3.96 (.75)</td>
<td>4.65 (.48)</td>
</tr>
<tr>
<td>Branded merchandise</td>
<td>2.14 (.73)</td>
<td>1.75 (.74)</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>4.61 (.44)</td>
<td>4.66 (.47)</td>
</tr>
<tr>
<td>Social norms</td>
<td>3.14 (.49)</td>
<td>2.65 (.42)</td>
</tr>
</tbody>
</table>

4.5 Discussion

Overall, the program’s feasibility was supported by the identified facilitators to implementation. While the complexity of the lessons was initially flagged as a barrier to implementation, multiple data sources confirmed the achievability of the lessons for the students. The school context was identified as a potential barrier to implementation, particularly if the program were to be implemented outside of a religious school setting where getting drunk is considered to be morally wrong. Program facilitators need to be aware of these potential differences and be ready to respond to students’ opinions respectfully while teaching the content outlined in the program. Given the teachers’ different perceptions of how the program fits within the school curriculum, it is recommended that the classroom teachers are given autonomy over when the program is taught based on where they believe it best fits within the school curriculum.

The quantitative results were in line with alcohol media literacy programs conducted in other countries (Gordon et al., 2015) and supported the efficacy of the alcohol media literacy program. Increasing students’ media literacy skills and understanding of persuasive intent can reduce the relationship between media exposure and subsequent pro-alcohol attitudes and behaviours (Bergsma & Carney, 2008). Lowering students’ perceptions of the numbers of teenagers that drink alcohol can lower the students’ own intentions to drink as the behaviour is seen as less prevalent and ‘normative’ (Halim, Hasking, & Allen, 2012).
To our knowledge, this is the first study that evaluates the feasibility and impact of an alcohol media literacy program in an Australian context. The strength of the study is in its inclusion of both process and outcome data to respond to the research aims and hypotheses. Despite these strengths, the findings should be considered preliminary due to the small sample size, limitations inherent in a one-group pre-post trial, and possible limited generalisability beyond the pilot school. The results of the study suggest that there is now a need for a larger study to provide necessary evidence concerning the effectiveness of an Australian alcohol media literacy program for this age group.

4.6 References


CHAPTER 5: Evaluation of an Australian alcohol media literacy program

Article published in *Journal of Studies on Alcohol and Drugs*.


Chapter 5 is the second of five empirical papers in this thesis. This paper examines quantitative data from the multi-school study of the media literacy intervention. Aspects of this paper were presented at the *American Educational Research Association Annual Meeting 2016* [Appendix O].
5.1 Abstract

A 10-lesson alcohol media literacy program was developed, underpinned by the Message Interpretation Processing model, Inoculation Theory and constructivist learning theory, and tailored to be culturally relevant to the Australian context. This program aimed to increase students’ media deconstruction skills and reduce intent to drink alcohol. The purpose of this study was to evaluate the effectiveness of the program in achieving these goals through a short-term quasi-experimental trial. Elementary schools were assigned to either the intervention group (83 students) or a wait-list control group (82 students). Student questionnaires were administered at three time points (baseline, after the intervention group completed the program and after the wait-list control group completed the program) to evaluate the effectiveness of the intervention. The intervention and wait-list control group reported significantly higher media deconstruction skills as a result of the intervention. Both groups reported significantly lower social norms, while the wait-list control group reported significantly lower positive alcohol expectancies. There were no significant changes to self-efficacy to refuse alcohol, preference for alcohol branded merchandise, and understanding of persuasive intent as a result of the intervention. To date, the majority of alcohol media literacy studies have been conducted in the United States and focussed on deconstructing TV and print based ads. This evaluation provides evidence that an alcohol media literacy program that was developed for a specific cultural context, and that’s incorporates a broad range of multimodal advertisements, can have a positive impact on beliefs and attitudes that are known predictors/precursors of drinking behaviours.
5.2 Introduction

Alcohol misuse has significant health, social and economic consequences for individuals and society (World Health Organisation, 2014). Children and adolescents are particularly at risk of alcohol-related harm compared to other age groups (Mäkelä & Mustonen, 2000) as their brains are still undergoing critical development (Bava & Tapert, 2010; Hickie, 2010). Alcohol media literacy programs in schools provide a viable approach to alcohol prevention (Gordon, Jones, & Kervin, 2015) as they can equip students with skills to mitigate potentially harmful media messages about alcohol (Grenard, Dent & Stacy, 2013). Media literacy is defined as the ability to access, analyse, evaluate and communicate messages in various forms (Thoman & Jolls, 2005). A systematic review of alcohol media literacy programs indicated positive effects on a number of outcomes including an increase in media deconstruction skills and understanding of persuasive intent, a decreased interest in alcohol branded products (a precursor to drinking), and lowered social norms for teen drinking (Gordon et al., 2015).

The review also noted that the majority of the interventions have been developed, implemented and evaluated in the United States, and are therefore culturally relevant to that region. Alcohol media literacy programs are unlikely to be successful when implemented in different cultural contexts such as the UK and Australia due to differences in regulation standards, cultural nuances and the nature of alcohol advertising (Distilled Spirits Council, 2011; International Centre for Alcohol Policies, 2001), all of which can impact upon the relevance and effectiveness of the program (Davis & Rankin, 2006). As an example, while it is appropriate to include tobacco advertisements in a US based program (Kupersmidt, Scull, & Austin, 2010; Kupersmidt, Scull & Benson, 2012), this otherwise non-existent exposure would be unethical in an Australian context where tobacco advertising is banned in all forms. Furthermore, the programs published to date focus on TV and print based ads. Children need skills to respond to the broad range of multimodal advertisements to which they are exposed, including online (e.g. YouTube and banner advertising), environmental (e.g. outdoor billboards and sporting fields), and traditional forms such as TV and print (Gordon et al., 2015).
In response to these gaps in prevention programs and findings from the systematic literature review (Gordon et al., 2015), an alcohol media literacy program for Australian children was developed (Gordon et al., 2016). Key knowledge and skills taught included understanding the persuasive purpose of advertising and the techniques used to sell products, deconstructing multimodal advertisements, questioning and challenging media messages and creating sophisticated visual and digital texts. The program linked to the Australian curricula (English/Language Arts and Personal Development and Health, Physical Education/PDHPE), incorporated Australian advertisements and brands, and explored the connection between alcohol and Australian sporting culture.

The upper-elementary school age group was chosen in order to ‘inoculate’ (Banas & Rains, 2010) students against pro-alcohol messages before they engage in drinking behaviours, as delaying initiation to drinking can reduce the risk of future alcohol related harm (Jackson, Barnett, Colby, & Rogers, 2015; McMorris, Catalano, Kim, Toumbourou, & Hemphill, 2011). Furthermore, pre-adolescence is a critical period when alcohol expectancies begin to form, and children are emotionally vulnerable to the persuasive appeals of advertising (Miller, Smith, & Goldman, 1990; Scull, Kupersmidt, & Erausquin, 2013). The principles of the Message Interpretation Processing (MIP) model (Austin, 2007) were incorporated in the program by teaching students to challenge the emotional messages that are presented in advertising through strengthening their logical reasoning. For example, students explored and discussed the ‘hidden messages’ that are often presented in advertisements, such as that drinking alcohol will make a person attractive or popular. The facilitator explained how such messages may appeal to emotional reasoning and the students were encouraged to use their logical reasoning to evaluate the truthfulness of the messages presented. The students gained practice in countering these messages with facts they had learnt about alcohol, such as that drinking too much alcohol could result in a fight which would not make a person popular.

Constructivist teaching principles were utilised through the inclusion of hands-on learning experiences that draw upon students’ prior learning (Grace & Henward, 2013) and connect with authentic text to encourage action. For example, in the final learning experience, the students applied the skills and knowledge learnt to create a counter-advertisement that
presented truths about alcohol that were absent from the original advertisements. The task utilised genuine alcohol advertisements that were familiar to the students. Preliminary findings from a pilot study indicated that the program had potential to lead to measurable outcomes (Gordon et al., 2015).

5.3 Methods

5.3.1 Design

A quasi-experiment was conducted to evaluate the effectiveness of the media literacy program. More specifically, a crossover design was used, whereby an intervention group (pre-existing classes) received the intervention over a 3-month period, after which a wait-list control group received the intervention. The intervention group received the program between wave 1 and wave 2, while the wait-list control group completed regular coursework during this period. The wait-list control group received the program between wave 2 and wave 3, while the intervention group completed regular coursework during this period. This crossover design was adopted to ensure: (1) equity and motivation for the control group, who would ultimately receive the intervention; and (2) evaluation of intervention efficacy in a second cohort. However, this design does not ensure parallel data structure at wave 3, at which point both groups have received the intervention. As such, only a priori planned post hoc analyses were conducted using wave 3 data. These contrasts evaluated change (or lack thereof) in the intervention group 3 months post-intervention and change in the control group upon receipt of the intervention. This design has been used to good effect in school-based intervention contexts (Shensa, Phelps-Tschang, Miller & Primack, 2016).

It was hypothesised that the intervention would result in: a) improved media deconstruction skills; b) lowered perception of social norms for teen drinking; c) less positive alcohol expectancies; d) higher self-efficacy for refusing alcohol; e) less interest in alcohol branded merchandise; and f) greater understanding of the persuasive intent of advertising.
5.3.2 Participants

A sample of four schools (eight classes) in the Sydney metropolitan region agreed to participate in the research (n = 216). The four schools were selected based on similar Index of Community Socio-Educational Advantage (ICSEA) values (ranging from 1040 – 1045), to ensure comparability between schools. The ICSEA value considers parent occupation and education levels, remoteness and percent Indigenous student enrolment (ACARA, 2014). There has been little focus on research in higher SES populations, despite higher rates of substance use (Humensky, 2010). The four schools were therefore selected due to their relatively high SES and close physical proximity to one another. The three smaller schools were combined to form the intervention group (four classes) and the larger school formed the wait-list control group (four classes).

In total, 184 students (85.1% participation rate) from the sample gave self and parental consent to provide data. Students ranged in age from 9 to 12 years (M = 10.81, SD = 0.65) and 52.8% were female. The parental consent rate was 83.0% for the intervention group and 87.5% for the wait-list control group. Nineteen of the 184 students did not provide complete data across all three time points due to absenteeism, resulting in a final sample size of 165 (83 in the intervention group and 82 in the wait list control group).

5.3.3 Procedure

The study protocol was approved by the University Human Research Ethics Committee, the State Education Research Application Process (SERAP) and the school sites. The program was delivered to the Grades 5 and 6 classes over a 10 week term. One lesson was taught each week by a qualified teacher (the first author of this paper) to increase implementation fidelity. The classroom teacher was also present in the room at all times as a professional learning experience and to observe implementation. The media literacy program was delivered as part of the normal English (Language Arts) and Personal Development and Health, Physical Education (PDHPE) school curriculum, however data was only collected from those with parental and personal consent.
5.3.4 Measures

Program impact was assessed using a student questionnaire that took approximately 20 minutes for each class to complete and was administered at three time points (approximately 2 weeks before the intervention group received the program, immediately after the intervention group completed the program and immediately after the wait-list control group completed the intervention). A protocol was followed to ensure that each class received identical instructions. Each question was read aloud by the researcher to account for differences in students’ reading abilities. The outcomes measured include: media deconstruction skills, perceived social norms, positive alcohol expectancies, self-efficacy to refuse alcohol, preference for alcohol branded merchandise, and understanding of persuasive intent. The media deconstruction skills measure was indexed by six qualitative questions. All other survey items adopted a 5-point Likert scale (i.e., ranging from NO, strongly disagree to YES, strongly agree). See Table 5.1 for a description of the measures and the individual items included in each measure.

Table 5.1: Variables included in questionnaire

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
<th>Cronbach’s alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>Media deconstruction skills</td>
<td>This six-item scale, adapted from existing alcohol media literacy programs (Kupersmidt et al., 2010; Kupersmidt et al., 2012), measured students’ ability to deconstruct alcohol advertisements. Students viewed an advertisement for the alcoholic beverage Midori and then responded to the following items: (1) What product is being sold in the ad? (2) What type of person do you think would like this ad (for example, male or female, child or adult)? Explain your answer. (3) What is the purpose of this ad? (4) What did the people who made the ad do to</td>
<td>.94</td>
</tr>
</tbody>
</table>
persuade people to buy the product? List as many thoughts as you can. (5) What do they want you to think about this product? Finish this sentence: If I get this product, then ___ (6) Is there anything this ad is not telling you about the product that you would need to know before buying or using it? Explain your answer.

A coding framework guided the number of marks awarded for each item on the measure. For example, up to two marks could be awarded for item 1. The full two marks were awarded if the student correctly named the alcohol brand depicted (Midori), or wrote ‘alcohol’/’beer’/’wine’/’a cocktail drink’/’a green spirit’/’vodka’. One mark was awarded if the student wrote ‘drink’ (includes ‘tea’, ‘green’ and ‘fizzy’) and zero marks were awarded if the student wrote ‘Greenland’, ‘a hotel’ or ‘a destination’.

Inter-rater reliability was calculated for 10% of the media literacy questions due to the measure’s subjective nature. Initial codings by the researcher and an expert rater showed strong inter-rater reliability for Wave 1 (ICC = .93), Wave 2 (ICC = .96) and Wave 3 (ICC = .92) of the questionnaire. Coding benchmarks generated from this process guided all subsequent codings by the researcher. A higher score indicates greater media literacy skills.

| Perceived social norms | This four-item scale measured students’ perceptions of the number of people that drink alcohol. The | .83 |
original measure (Austin & Johnson, 1997a) was adapted to be culturally relevant to Australia. The items include: (1) Australians drink, (2) Friends drink together, (3) Teenagers drink (4) Parties have alcohol. A lower score indicates lower perceived drinking social norms.

| Positive alcohol expectancies | This three-item scale adapted from existing alcohol media literacy programs (Austin & Johnson, 1997a, 1997b), assessed beliefs concerning perceived physical and social consequences of drinking. Items include: (1) Drinking helps you fit in, (2) Drinking makes you happy, and (3) Drinking makes young people seem grown up. A lower score indicates lower positive alcohol expectancies. | .75 |
| Self-efficacy to refuse alcohol | This two-item scale measured students’ self-efficacy to refuse alcohol. The two items, adapted from an existing alcohol media literacy program (Kupersmidt, et al., 2010) consisted of (1) I feel like I have to drink alcohol, and (2) I would feel like I had to drink alcohol if my friends were drinking. A higher score indicates higher self-efficacy to refuse alcohol. | .78 |
| Preference for alcohol branded merchandise | This six-item scale measured students’ preference for a non-alcohol branded or alcohol branded merchandise, as an indication of future drinking behaviour. Adapted for our study from existing alcohol media literacy programs (Austin & Johnson, 1997a, 1997b; Kupersmidt, et al., 2010), the scale consisted of images of six pairs of similar products (one that is non-alcohol branded and one that is alcohol branded). | .83 |
The six pairs were (1) a blue (animal print) Australia branded pencil case and a blue Bundaberg branded pencil case, (2) a Hot Wheels branded toy car and a Jim Beam branded toy car, (3) yellow Surf Life Saving branded flip-flops and yellow XXXX Gold branded flip-flops, (4), a green Paul Frank branded lunch bag and a Cougar Bourbon branded lunchbag, (5) a Queen’s Slipper set of playing cards and Jack Daniel’s branded set of playing cards, and (6) a red Nike branded hat and a red Carlton Draught branded hat.

For each pair, students had to indicate which product they preferred on a 5-point likert scale ranging from (1) I like A a lot more to (6) I like B a lot more. A lower score indicates less preference for alcohol branded merchandise.

Understanding of persuasive intent

This three-item scale was based on an existing scale from an alcohol media literacy program (Kupersmidt, et al., 2010) and assessed students’ understanding of the persuasive intent of advertising. Statements include: The purpose of alcohol advertisements is to... (1) tell you everything there is to know about the product, (2) make products look better than they really are, and (3) tell you correct and accurate information about products. A higher score indicates greater understanding of persuasive intent.

Note: ICC = Intraclass correlation coefficient
5.3.5 Analyses

To evaluate the efficacy of the intervention, data were analysed using a 2 (Condition) x 3 (Time) ANOVA with a between-subject factor of Condition (wait-list control, intervention) and a within-subjects factor of Time (wave 1, wave 2, wave 3). ANOVA intervention effects were of particular interest, given that this effect identifies differences in the degree of pre-test to post-test change between control and intervention groups. One participant was excluded from the wave 3 analysis as their scores on all of the items indicated a misinterpretation of the questionnaire scales. There were no performance related reasons to exclude any other participants’ data. Due to extreme skewness for some variables, patterns of significance were compared between winsorized/transformed and original data. Discrepancies were found only for alcohol expectancies, in which case the transformed data is reported. Results were considered significant if $p < .05$, using a 2-tailed test. Eta squared ($\eta^2$) was calculated as a measure of effect size, with .01, .06, and .14 representing small, medium, and large effects, respectively (Cohen, 1969).

5.4 Results

5.4.1 Comparability between control and intervention groups

The sample included approximately equal numbers of boys and girls and slightly more sixth-grade students. The majority of students spoke English as the main language at home. Control and intervention groups did not significantly differ in terms of gender, grade or language spoken at home according to $\chi^2$ analyses (all $p$s > .05). Of 83 participants in the intervention group, 91.5% missed no more than two out of the ten lessons. Of 82 participants in the wait-list control group, 82.7% missed no more than two out of the 10 lessons. Missed lessons were due to student sickness and extracurricular activities; common reasons for absence in elementary schools.
5.4.2 Analyses

Group means and 95% confidence intervals for the intervention and control groups can be found in Tables 5.2 and 5.3.

Media literacy skills

Consistent with expectations that media deconstruction scores would improve after the intervention, the Time x Condition interaction was significant, $F(2, 326) = 29.78$, $p < .001$, $\eta^2 = .10$. Post hoc analyses indicated that the intervention group improved from wave 1 to wave 2, $t(86) = -10.66$, $p < .001$, $\eta^2 = .57$ and these gains were maintained at wave 3, $t(85) = -12.25$, $p < .001$, $\eta^2 = .00$. The wait-list control also improved after the intervention, with improvement from wave 2 to wave 3, $t(86) = -7.33$, $p < .001$, $\eta^2 = .38$, and these post-test results were significantly higher than at wave 1, $t(81) = -7.63$, $p < .001$, $\eta^2 = .42$. Results thus suggest an increase in media deconstruction skills as a result of the intervention in both groups, in comparison to normal attitudinal change in the control group, and that the benefits were maintained three months post-intervention.

Perceived social norms

Also consistent with the expectation of lowered perceptions of social norms for teen drinking, the Time x Condition interaction was significant, $F(2, 322) = 9.56$, $p < .001$, $\eta^2 = .05$. Post hoc analyses indicated that the intervention group showed decreased scores from wave 1 to wave 2, $t(85) = 4.35$, $p < .001$, $\eta^2 = .18$, improvements which were maintained at wave 3, $t(84) = 3.53$, $p < .001$, $\eta^2 = .13$. The wait-list control also showed decreased scores from wave 2 to wave 3, $t(86) = 5.84$, $p < .001$, $\eta^2 = .28$, with these post-test decreases significantly lower than at wave 1, $t(80) = 4.45$, $p < .001$, $\eta^2 = .20$. Both groups again showed a significant effect of the intervention for decreasing perceptions of social norms for teen drinking, compared to normal attitudinal change of the control group. These effects were again sustained 3 months post-intervention.
**Positive alcohol expectancies**

Consistent with expectations of lowered positive alcohol expectancies, the Time x Condition effect was again significant, $F(2, 320) = 3.85, p = .022, \eta^2 = .02$. Post hoc analyses indicated that the intervention group decreased in positive alcohol expectancies from wave 1 to wave 3, $t(84) = -2.04, p = .045, \eta^2 = .05$ (although acute effects were not evident). The control group actually showed increased positive expectancies from wave 1 to wave 2, $t(82) = -2.20, p = .030, \eta^2 = .06$, although these decreased across the intervention period (wave 2 to wave 3), $t(85) = -2.91, p = .005, \eta^2 = .11$. Results again suggest positive effects of the intervention relative to control, yet acute effects were evident only in the control group. In contrast, positive changes in alcohol expectancies were evident in the intervention group at 3-month follow-up (but not at post-test).

**Self-efficacy to refuse alcohol**

For self-efficacy to refuse alcohol, the Time x Condition interaction was significant, $F(2, 324) = 8.15, p < .001, \eta^2 = .05$. However, no change was evident for the intervention group (all $p$s > .05). Instead, post hoc analyses indicated that the wait-list control showed decreased scores from wave 1 to wave 2, $t(83) = 4.70, p < .001, \eta^2 = .21$, which then improved again by wave 3, $t(86) = -2.83, p = .006, \eta^2 = .10$. Nevertheless, wave 1 scores remained higher than wave 3 scores, $t(81) = 2.39, p = .019, \eta^2 = .07$. Results thus suggest a decrease in refusal self-efficacy that was unrelated to the intervention. Although the intervention served to once again increase self-efficacy in the control group, self-efficacy remained below baseline levels for this group.

**Preference for alcohol branded merchandise**

Contrary to expectations of less interest in alcohol branded merchandise, there was only a significant main effect of Time, $F(2, 322) = 7.39, p = .001, \eta^2 = .04$. Post hoc analyses indicated a significant decrease in scores overall from wave 1 to wave 2, $t(168) = 3.81, p < .001, \eta^2 = .08$, which was maintained at wave 3, $t(165) = 2.93, p = .004, \eta^2 = .05$. However, the main effect of Condition was non-significant, $F(1, 161) = 2.52, p = .115, \eta^2 = .02$, as was the Time x Condition interaction, $F(2, 322) = .01, p = .988, \eta^2 = .00$. Results thus suggest that students overall showed less preference for alcohol branded merchandise over time, although the degree of decline did not significantly differ between groups.
Understanding of persuasive intent

Also contrary to expectations of intervention-related improvements in understanding of the persuasive intent of advertising, there was only a significant main effect of Time, $F(2, 320) = 28.34, p < .001, \eta^2 = .18$. Post-hoc analyses indicated a significant improvement in scores overall from wave 1 to wave 2, $t(167) = -4.18, p < .001, \eta^2 = .12$, and again from wave 2 to wave 3, $t(169) = -3.33, p = .001, \eta^2 = .07$. The main effect of Condition was non-significant, $F(1, 160) = 2.11, p = .149, \eta^2 = .01$, as was the Time x Condition interaction, $F(2, 320) = 0.04, p = .958, \eta^2 = .00$. Results thus suggest that students showed greater understanding of persuasive intent over the course of the term, although the degree of improvement did not significantly differ between groups.

Table 5.2: Intervention descriptive statistics

<table>
<thead>
<tr>
<th></th>
<th>Wave 1</th>
<th>Wave 2</th>
<th>Wave 3</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>CI</td>
<td>M</td>
</tr>
<tr>
<td>Media literacy skills</td>
<td>7.92</td>
<td>7.42-8.41</td>
<td>11.41</td>
</tr>
<tr>
<td>Social norms</td>
<td>3.32</td>
<td>3.21-3.43</td>
<td>3.03</td>
</tr>
<tr>
<td>Alcohol expectancies</td>
<td>1.82</td>
<td>1.65-1.98</td>
<td>1.64</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>4.28</td>
<td>4.11-4.45</td>
<td>4.33</td>
</tr>
<tr>
<td>Branded merchandise</td>
<td>2.15</td>
<td>2.01-2.30</td>
<td>1.97</td>
</tr>
<tr>
<td>Persuasive intent</td>
<td>3.52</td>
<td>3.34-3.70</td>
<td>3.86</td>
</tr>
</tbody>
</table>

Note: M = Mean; CI = 95% Confidence Interval
Table 5.3: Wait-list control descriptive statistics

<table>
<thead>
<tr>
<th></th>
<th>Wave 1 M</th>
<th>CI</th>
<th>Wave 2 M</th>
<th>CI</th>
<th>Wave 3 M</th>
<th>CI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Media literacy skills</td>
<td>7.72</td>
<td>7.22-8.22</td>
<td>7.99</td>
<td>7.41-8.57</td>
<td>10.27</td>
<td>9.66-10.88</td>
</tr>
<tr>
<td>Social norms</td>
<td>3.22</td>
<td>3.11-3.34</td>
<td>3.25</td>
<td>3.12-3.38</td>
<td>2.93</td>
<td>2.81-3.07</td>
</tr>
<tr>
<td>Alcohol expectancies</td>
<td>1.82</td>
<td>1.66-1.99</td>
<td>2.01</td>
<td>1.85-2.17</td>
<td>1.80</td>
<td>1.63-1.96</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>4.64</td>
<td>4.47-4.81</td>
<td>3.98</td>
<td>3.72-4.24</td>
<td>4.44</td>
<td>4.24-4.63</td>
</tr>
<tr>
<td>Branded merchandise</td>
<td>2.31</td>
<td>2.17-2.46</td>
<td>2.13</td>
<td>1.97-2.29</td>
<td>2.15</td>
<td>1.96-2.34</td>
</tr>
<tr>
<td>Persuasive intent</td>
<td>3.67</td>
<td>3.50-3.86</td>
<td>4.00</td>
<td>3.79-4.22</td>
<td>4.24</td>
<td>4.06-4.43</td>
</tr>
</tbody>
</table>

Note: M = Mean; CI = 95% Confidence Interval

5.5 Discussion

This study evaluated the effectiveness of a hands-on and theory-based alcohol media literacy program for Australian elementary school students that incorporated multimodal advertisements drawn from Australian advertising contexts. Results indicated that the program was effective in increasing media deconstruction skills and lowering perceptions of social norms for teen drinking. Until now, the majority of alcohol media literacy studies have been conducted in the US. Given that exposure to alcohol advertising and alcohol misuse occurs in countries besides the US, the absence of programs developed in other countries presents a clear gap in prevention services. The findings from this study indicate that an alcohol media literacy program designed to be culturally relevant to a specific national context can have a positive impact on core beliefs and attitudes that are known predictors/precursors of drinking behaviour, and therefore may form part of an effective approach to substance use prevention.
The program’s positive impact on media deconstruction skills was consistent with two previous alcohol media literacy studies which found students had improved media deconstruction skills as a result of the intervention (Kupersmidt, et al., 2010; Kupersmidt, et al., 2012). The current study further showed that results were maintained three months after the intervention. This suggests the focus on media literacy equipped the students with critical thinking skills to understand how advertisements are constructed to position the viewer (Austin, Muldrow, & Austin, 2016). Alcohol media literacy education thereby empowers students to resist the persuasive appeal of advertising and the media messages that are presented (Austin, Miller, & Silva, 2002; Hobbs, 1998). Furthermore, alcohol media deconstruction skills have been shown to reduce intent to use alcohol (Kupersmidt et al., 2012). Critical thinking is a necessary (but not sufficient) condition for media literacy.

The program also lowered students’ perceptions of social norms for teen drinking. These results differ from the results reported in other studies (Austin & Johnson, 1997a, 1997b). One found the media literacy program held social norm perceptions steady as the control groups’ perceptions became more positive about alcohol use (Austin & Johnson, 1997a), while the second study (Austin & Johnson, 1997b) reported no significant changes. Given that the current study included a longer intervention than the two US studies (ten lessons compared to one lesson), more opportunities were afforded within the lessons to directly challenge perceptions of social norms. This finding has positive implications for alcohol prevention efforts, as several studies have demonstrated a relationship between inflated social norms and increased drinking intentions and behaviours (Berends, Jones, & Andrews, 2016; Collins, Carey, & Sliwinski, 2002; Larimer, Turner, Mallet, & Geisner, 2004; Wambeam, Canen, Linkenbach, & Otto, 2014).

The wait-list control group showed increased positive expectancies over time before receiving the intervention. However the wait-list control group also demonstrated significantly lower positive alcohol expectancies after receiving the intervention, while the intervention group showed significantly lower positive alcohol expectancies over the subsequent months after the intervention. These results are largely in line with Austin and Johnson’s (1997a) study which suggests that media literacy is a cumulative skill that may reveal strengthened effects over time. Media literacy education may also prevent otherwise
naturally occurring increases in perceptions such as positive alcohol expectancies. Lower alcohol expectancies can in turn reduce the likelihood of early alcohol use among children (Cruz & Dunn, 2003).

Unlike other studies (Austin & Johnson, 1997a, 1997b; Kupersmidt et al., 2010), the program did not lead to a lowered preference for branded merchandise, improved self-efficacy to refuse alcohol, or improved understanding of the media’s persuasive intent. The preference for alcohol branded merchandise measure was adapted from existing studies to be relevant to an Australian context. Further testing of the measure may be needed to ascertain its validity for use with Australian students, as verbal protocol data from a pilot study suggested that students often did not recognise the brands that were shown in the images and were selecting preferences based on aesthetic features, such as more appealing colours, rather than preference for alcohol or non-alcohol brands. The measure could be qualitatively tested for reliability by having the students complete the measure and then explain why they made the decisions they did. The lack of significant results for the self-efficacy measure could have been due to the students entering the study with a high level of self-efficacy as indicated by the high mean scores at baseline. Persuasive texts are taught during Grades 5 and 6 as part of the English (Language Arts) curriculum. It is likely that the students received instruction in this area outside of the intervention, thereby leading to improvements for both groups over the school term as a function of their educational experiences.

As with other alcohol media literacy programs, this research would benefit from a longer-term follow-up period to examine whether participation in the program resulted in the prevention or delay of actual substance use behaviours. It should be acknowledged that a 3-month follow-up is a relatively short time frame. Future research should measure 6 month, 1 year and 2+ year outcomes. However this was not possible within the constraints of a doctoral project. Further, the current study did not have adequate statistical power to take into account the clustering of students within classrooms (and schools), which would be remedied through future studies adopting stronger designs (e.g., randomised controlled trial) or being sufficiently powered for alternate analyses (e.g., statistically accounting for clustering). It should also be acknowledged that while the development of the intervention
was informed by the MIP model, key aspects of the model such as desirability and wishful identification were not measured (Austin & Johnson, 1997b; Austin et al., 2016). A strength of the researcher implementing the program rather than the regular classroom teacher was control over confounding variables such as differences in teaching style and assurance that the program was implemented as planned (Dusenbury et al., 2003). However, to improve the generalisability of the findings, increase school uptake of the program and ensure its sustainability in schools, it would also be valuable to examine whether, and under what conditions, the efficacy of the program is maintained when it is taught by different classroom teachers. Another strength of the study was in its design, which permitted a replication of the intervention findings with two different cohorts of students (intervention group and wait-list control group) at two different time points and follow-up evaluation with the intervention group. While a number of alcohol media literacy studies have demonstrated acute effects of an intervention, this study has demonstrated that these programs can have an impact 3-months later.

5.6 Conclusion

To our knowledge, this is the first study to examine the effectiveness of an alcohol media literacy program that has been developed, implemented and evaluated in an Australian context using multimodal advertisements drawn from a range of advertising contexts. The study demonstrated positive outcomes on several measures including media deconstruction skills, social norms and alcohol expectancies which are known to be precursors/predictors of subsequent drinking behaviour (Gordon, et al., 2015). International data indicates that secondary students (i.e. 13-18 year olds) have already begun to experiment with alcohol (Centres for Disease Control and Prevention, 2014; White & Bariola, 2012). The upper-elementary school age group (i.e. 10-12 year olds) is therefore an appropriate time to reinforce positive and healthy attitudes towards alcohol as they continue to be exposed to alcohol, advertising and marketing, as well as a range of drinking behaviours. Alcohol media literacy programs can provide pre-drinkers with rational reasons to reject alcohol advertising as they enter the adolescent period marked by greater experimentation with alcohol use.
5.7 References


CHAPTER 6: Gender effects in a multi-school alcohol media literacy study with preadolescents

Article submitted to Health Education Research, 2016


Chapter 6 is the third of five empirical papers in this thesis. This paper examines quantitative data from the multi-school study to determine whether gender differences existed in responses to the alcohol media literacy program.
6.1 Abstract

Alcohol media literacy programs (AML) have achieved positive results for alcohol prevention, however gender has surfaced as a potential moderating variable for the effectiveness of existing programs. This study explored whether gender differences existed in responses to an Australian multi-school alcohol media literacy intervention with preadolescents. A sample (N = 165) of fifth and sixth graders participated in a 10-lesson alcohol media literacy program. Students were allocated to either the intervention group (N = 83) or wait-list control group (N = 82). Student questionnaires were administered at three time points (baseline, after the intervention group completed the program and after the wait-list control group completed the program). The intervention resulted in significantly higher media literacy skills but did not lead to less preference for branded merchandise or greater understanding of persuasive intent, and these effects did not differ by gender. There were, however, gender differences in social norms for teenage drinking and self-efficacy to refuse alcohol. Females’ perception of social norms were lowered post-intervention, with decreases maintained three months later. Males displayed increased self-efficacy post-intervention, yet this was evidenced only for the wait-list control group and these improvements did not exceed earlier baseline levels of refusal self-efficacy. This study, which we believe is the first quasi-experimental trial to test the suitability of an Australian alcohol media literacy program for males and females, indicates that program delivery in a normal school setting is appropriate. Media literacy education likely has appeal and benefit to both genders as it connects with students’ lifeworlds and draws upon popular culture through utilising authentic texts to encourage action. Future research could explore contextual factors responsible for gender differences.
6.2 Introduction

Alcohol media literacy (AML) programs have achieved positive changes in media literacy skills, which can mitigate the harmful effects of alcohol advertising on drinking intentions (Gordon, Jones, & Kervin, 2015). However gender has surfaced as a potential moderating variable for the effectiveness of existing AML interventions (Austin & Johnson, 1997; Gordon et al., 2015). For example, one intervention that measured preference for alcohol branded merchandise (ABM)—an indicator of pre-drinking behaviour—found a significant decrease in preference for ABM only amongst males (Kupersmidt, Scull, & Austin, 2010). To explain these differences, it has been suggested that males and females process messages differently as a result of cultural experiences and gender expectations that are reinforced as children develop (Pinkleton, Austin, Cohen, Chen, & Fitzgerald, 2008).

Gender socialization is further reinforced through alcohol advertisements, which often portray stereotypes of masculinity and femininity (Andsager, Austin, & Pinkleton, 2002). Despite the closing gender gap, males are still more likely than females to be current drinkers, consume more alcohol, drink more frequently and drink at hazardous levels (Erol & Karpyak, 2015). This difference may be due in part to pressures to conform to gender stereotypes (Mahalik, McPherran, Sims, Coley, & Lynch, 2015), with females in some cultures considering alcohol use and alcoholism as behaviours that conflict with desirable feminine traits (Erol & Karpyak, 2015).

This study explored whether gender differences existed in an Australian multi-school AML intervention with preadolescents, to understand whether such programs are suitable for both genders in school alcohol education. The 10-lesson program was interactive and adhered to principles of ML education (Thoman & Jolls, 2005). Students explored use and misuse of alcohol in Australian society and associated harms; the broad nature, diversity and impact of alcohol advertising on cultural norms; and persuasive advertising techniques and hidden messages in alcohol ads. Students also critiqued multimodal alcohol ads and created counter-advertisements to reflect facts about alcohol that were absent from the original ads. Based on previous studies (Austin & Johnson, 1997), gender effects were
expected for preference for ABM and positive alcohol expectancies (beliefs concerning perceived physical and social consequences of drinking).

6.3 Method

In this quasi-experimental trial, 165 fifth and sixth graders ($M_{\text{age}} = 10.81, SD = 0.65$) from four schools in the Sydney (NSW, Australia) metropolitan region participated in an AML program—consisting of one teacher-administered 50-minute lesson per week—and its associated evaluation. This sample corresponds to an 85.1% participation rate. The three smaller schools comprised the intervention group (four classes; $n = 83$), and the larger school formed the wait-list control group (four classes; $n = 82$). The study protocol was approved by the University Research Ethics Committee.

Primary outcomes—those explicitly addressed through the AML program—were assessed by questionnaire items pertaining to ML skills, preference for ABM and understanding of persuasive intent. Secondary outcomes—those not explicitly addressed in the program, but possibly indirectly affected—were alcohol social norms, alcohol expectancies and self-efficacy to refuse alcohol. These outcomes were assessed by well-established scales, with good levels of validity and reliability (Kupersmidt et al., 2010; Kupersmidt, Scull, & Benson, 2012), and completed by the students at three time points (i.e., baseline, after the intervention group completed the program and after the wait-list control group completed the program).

Media literacy skills measure the ability to deconstruct alcohol advertisements, indexed by six questions. These qualitative questions were assigned numerical values based on a coding framework (10% were double-coded and good inter-rater reliability was established). All other survey items adopted a 5-point Likert scale. Advertising specific measures were preference between non-alcohol branded and alcohol branded merchandise (six items), and understanding of the persuasive intent of advertising (three items). Other measures were social norms for societal drinking, alcohol expectancies (three items), and self-efficacy to
refuse alcohol (two items). For all variables, higher scores indicate higher levels of that belief/attitude/characteristic.

### 6.4 Results

To explore gender effects, data were analysed using a 3 (Time) x 2 (Condition) ANOVA, separately for males and females, with a within-subjects factor of Time (wave 1, wave 2 and wave 3) and between-subjects factor of Condition (wait-list control, intervention) for each of the outcomes. Additionally, an independent samples t-test compared males’ and females’ satisfaction with the program. Preliminary analyses showed that control and intervention groups did not significantly differ in terms of gender, grade or language spoken at home ($\chi^2$ analyses; all $p$s < .05). There was also no significant difference in male and female satisfaction with the program; $t(165) = -0.88$, $p = .382$, $\eta^2 = .00$. Descriptive statistics for all outcomes are presented in Table 6.1.

#### 6.4.1 Intervention outcomes without gender differences

**Media literacy skills**

For males, the Time x Condition interaction was significant, $F(2, 148) = 7.52$, $p = .001$, $\eta^2 = .40$. Post hoc analyses indicated that the intervention group showed improved scores from baseline to post-intervention, $t(36) = -6.59$, $p = .001$, $\eta^2 = .55$, which were maintained at the 3-month follow-up, $t(33) = -6.66$, $p < .001$, $\eta^2 = .55$. The wait-list control group did not improve prior to the intervention, but did show improved scores after they received the intervention, $t(41) = -5.23$, $p = .001$, $\eta^2 = .40$. For females, the Time x Condition interaction was also significant, $F(2, 174) = 22.02$, $p = .001$, $\eta^2 = .12$. Post hoc analyses indicated the intervention group improved from baseline to post-intervention, $t(49) = -8.72$, $p = .001$, $\eta^2 = .61$, and these gains were maintained at follow-up, $t(51) = -10.44$, $p = .001$, $\eta^2 = .68$. The wait-list control group did not show improved scores prior to the intervention, but did so after they received the intervention, $t(39) = -4.85$, $p = .001$, $\eta^2 = .38$. Results suggest that both genders improved in their media literacy skills as a result of the intervention, and gains were maintained 3 months post-intervention.
**Preference for alcohol branded merchandise**

For males, no main or interaction effects were significant: Time, $F(2, 146) = 2.68, p = .072, \eta^2 = .04$; Condition, $F(1, 73) = 0.93, p = .337, \eta^2 = .00$; and Time x Condition interaction, $F(2, 146) = 0.12, p = .884, \eta^2 = .00$. For females, there was a significant main effect of Time, $F(2, 172) = 5.02, p = .008, \eta^2 = .06$. Post hoc analyses indicated a significant decrease in the preference for alcohol branded merchandise in the intervention group from baseline to post-intervention, $t(90) = 3.02, p = .003, \eta^2 = .09$, which was maintained 3 months later, $t(90) = 2.35, p = .021, \eta^2 = .06$. The main effect of Condition was non-significant, $F(1, 86) = .39, p = .534, \eta^2 = .00$, as was the Time x Condition interaction, $F(2, 172) = .12, p = .890, \eta^2 = .00$. While there was a general decrease in preference for ABM amongst females, the absence of interaction effects for males or females suggested no differential effects of gender for this outcome.

**Understanding of persuasive intent**

For males, there was a significant main effect of Time, $F(2, 146) = 21.78, p = .001, \eta^2 = .23$. Post-hoc analyses indicated a significant improvement in understanding of persuasive intent in the intervention group from baseline to post-intervention, $t(77) = -4.26, p = .001, \eta^2 = .19$, which improved further at the 3 month follow-up, $t(75) = -2.52, p = .014, \eta^2 = .08$. The main effect of Condition was also significant, $F(1, 73) = 4.04, p = .048, \eta^2 = .05$, such that wait-list control group had overall higher scores than the intervention group. The Time x Condition interaction was non-significant, $F(2, 146) = 0.08, p = .927, \eta^2 = .00$. For females there was also a significant main effect of Time, $F(2, 170) = 9.81, p = .001, \eta^2 = .10$, such that the intervention group’s understanding of persuasive intent also improved from baseline to post-intervention, $t(89) = -2.16, p = .033, \eta^2 = .05$, and again at the 3-month follow-up, $t(87) = -2.37, p = .020, \eta^2 = .06$. The main effect of Condition was non-significant, $F(1, 85) = 0.02, p = .884, \eta^2 = .00$, as was the Time x Condition interaction, $F(2, 170) = 0.06, p = .944, \eta^2 = .00$. Results thus suggest that both genders overall showed greater understanding of persuasive intent over the course of the term, although there were no intervention-related improvements.
6.4.2 Intervention outcomes showing gender differences

Social Norms
For males, there was a significant main effect of Time, $F(2, 148) = 4.73, p = .010, \eta^2 = .06$. Post-hoc analyses indicated a significant decrease in social norms (e.g. lowered perception of the number of teenagers that drink alcohol) after the intervention group received the program, $t(75) = 3.11, p = .003, \eta^2 = .11$. However, the Condition effect was non-significant, $F(1, 74) = 3.69, p = .059, \eta^2 = .00$, as was the Time x Condition interaction, $F(2, 148) = 2.16, p = .119, \eta^2 = .03$. For females, the Time x Condition interaction was significant, $F(2, 170) = 8.82, p = .001, \eta^2 = .08$. Post hoc analyses indicated that the intervention group showed lowered social norms from baseline to post-intervention, $t(48) = 3.40, p = .001, \eta^2 = .08$, improvements that were maintained at the 3-month follow-up, $t(50) = 2.69, p = .010, \eta^2 = .13$. The wait-list control group also showed lowered social norms after they received the program, $t(39) = 5.25, p = .001, \eta^2 = .40$. Results suggest only females’ perception of social norms for teenage drinking were lowered post-intervention, with decreases maintained three months later.

Positive alcohol expectancies
For males, the Time x Condition interaction was significant, $F(2, 142) = 8.63, p = .001, \eta^2 = .11$. Post hoc analyses indicated that the intervention group showed decreased scores from baseline to post-intervention, $t(34) = -4.24, p = .001, \eta^2 = .35$, which were maintained at the 3-month follow-up, $t(32) = -2.09, p = .045, \eta^2 = .12$. The control group’s scores also decreased after they received the program scores, $t(40) = -2.67, p = .011, \eta^2 = .15$. For females, the effect of Time was non-significant, $F(2, 174) = 2.11, p = .125, \eta^2 = .02$, but there was a significant effect of Condition, $F(1, 87) = 5.63, p = .020, \eta^2 = .06$. Mean scores indicated that the wait-list control had overall higher scores than the intervention group. The Time x Condition interaction was non-significant, $F(2, 174) = .58, p = .562, \eta^2 = .01$. Results suggest only males lowered their positive alcohol expectancies, which were maintained 3 months later. However it is worth noting that males held significantly higher positive alcohol expectancies than females at baseline, $t(171) = 3.92, p = .001, \eta^2 = .08$. 

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Self-efficacy to refuse alcohol

For males’ self-efficacy to refuse alcohol, the Time x Condition interaction was significant, $F(2, 146) = 8.98, p < .001, \eta^2 = .11$. Post hoc analyses indicated that the wait-list control group decreased in self-efficacy from baseline to after the intervention group received the program, $t(41) = 3.72, p = .001, \eta^2 = .25$, which then improved (almost to baseline levels) 3 months later, $t(41) = -3.27, p = .002, \eta^2 = .21$. No change was evident for the intervention group (all $p$s < .05). For females, there was a significant effect of Time, $F(2, 174) = 3.31, p = .039, \eta^2 = .04$. Post-hoc analyses indicated a decrease in self-efficacy to refuse alcohol from baseline to post-intervention, $t(91) = 2.60, p = .011, \eta^2 = .07$, which did not significantly improve at 3-month follow-up. The Condition effect was non-significant, $F(1, 87) = 0.03, p = .854, \eta^2 = .00$, as was the Time x Condition interaction, $F(2, 174) = 2.03, p = .134, \eta^2 = .02$.

Only males displayed increased self-efficacy post-intervention, yet this was evidenced only for the wait-list control group and these improvements did not exceed earlier baseline levels of refusal self-efficacy.

Table 6.1: Descriptive statistics for males and females

<table>
<thead>
<tr>
<th>INTERVENTION</th>
<th>Males (n = 34)</th>
<th>Females (n = 49)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Wave 1</td>
<td>Wave 2</td>
</tr>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Media literacy skills</td>
<td>7.03</td>
<td>2.55</td>
</tr>
<tr>
<td>Preference for alcohol branded merchandise</td>
<td>2.50</td>
<td>.66</td>
</tr>
<tr>
<td>Understanding of persuasive intent</td>
<td>3.46</td>
<td>.80</td>
</tr>
<tr>
<td>Social norms</td>
<td>3.53</td>
<td>.38</td>
</tr>
<tr>
<td>Alcohol expectancies</td>
<td>2.25</td>
<td>.72</td>
</tr>
<tr>
<td>Self-efficacy</td>
<td>3.91</td>
<td>1.06</td>
</tr>
</tbody>
</table>
Discussion

This study, which we believe is the first quasi-experimental trial to test the suitability of an Australian AML program for males and females, indicates that program delivery in a normal school setting is appropriate. There were no gender differences in the main outcome effects; both genders showed improved ML skills and neither gender showed reduced preference for ABM.

Some variables did show gender differences, however. Firstly, the program lowered perceptions of social norms around alcohol use for females but not for males. Inflated social norms are linked to increased drinking intentions and behaviours (Berends et al., 2016). These perceptions may be more difficult to shift for males due to a more ingrained drinking culture. While an increasing number of females are choosing to drink, males are still more likely to drink and drink excessively (Mahalik et al., 2015). Younger males may therefore be
more likely to see drinking behaviours modelled by older males and thus hold higher social norms. Only 10 minutes of one lesson in the program was devoted to explicitly challenging perceptions of social norms around alcohol consumption. The program would likely need to spend a greater amount of time explicitly addressing social norms to shift perceptions around alcohol consumption.

The results also showed lowering of alcohol expectancies for males as a result of the AML program, but not for females. This is consistent with results from other studies (Austin & Johnson, 1997). Societal expectations and representations of masculinity in advertisements (Andsager et al., 2002; Mahalik et al., 2015) may have led to males beginning the program with higher positive alcohol expectancies than females, as seen in the baseline results. This may have contributed to the program lowering alcohol expectancies for males but not for females given there was a floor effect for females’ positive alcohol expectancies at baseline. Contextual factors may have been responsible for these gender differences, and further research is required to evaluate these factors. For example, does alcohol sponsorship of sport have a greater influence on preadolescent males’ perceptions of social norms and alcohol expectancies than females? Future research could also explore contextual factors responsible for the decrease in self-efficacy to refuse alcohol observed among female from baseline to post-intervention. This knowledge could be used to refine alcohol education programs.

Despite some confined gender effects in the current study, largely consistent results suggest that ML education likely has appeal and benefit to both genders as it connects with students’ lifeworlds and draws upon popular culture through utilising authentic texts to encourage action (Makin, Diaz, & McLachlan, 2007). Our AML program engaged both genders through the inclusion and critique of a range of advertisements that targeted both males and females, and use of a variety of teaching strategies to appeal to both genders. Furthermore, the program connected to the school Language Arts and Health curriculum which are designed for both genders. Given previous mixed findings on gender effects in AML programs (Austin & Johnson, 1997), this study provides a valuable contribution to the health promotion field as it indicates the suitability of AML programs for both genders in school settings.
6.6 References


CHAPTER 7: Process evaluation of an Australian alcohol media literacy study: Recommendations for designing culturally responsive school-based programs

Article published in BMC Public Health.


Chapter 7 is the fourth of five empirical papers in this thesis. This paper examines qualitative data from the multi-school study of the media literacy intervention. Aspects of this paper were presented at the American Educational Research Association Annual Meeting 2016 [Appendice O].
7.1 Abstract

Alcohol media literacy programs seek to mitigate the potentially harmful effects of alcohol advertising on children’s drinking intentions and behaviours through equipping them with skills to challenge the media messages they are exposed to. In order for such programs to be effective, the teaching and learning experiences must be tailored to their specific cultural context. Media in the Spotlight is an alcohol media literacy program aimed at 9 to 12 year old Australian children. This study evaluates the process and implementation of Media in the Spotlight, outlining the factors that facilitated and inhibited implementation. From this evaluation, a pedagogical framework has been developed for health professionals implementing culturally responsive programs in school settings. Process measures included: semi-structured interviews with teachers before and after the program was implemented (n = 11 interviews), program evaluation questionnaires completed by children (n = 166), lesson observations completed by teachers (n = 35 observations), and reflective journal entries completed by the researcher (n = 44 entries). Five key pedagogical considerations were identified that facilitated implementation. These were: connecting to the students’ lifeworlds to achieve cultural significance; empowering students with real-world skills to ensure relevance; ensuring programs are well structured with strong connections to the school curriculum; creating developmentally appropriate activities while providing a range of assessment opportunities; and including hands-on and interactive activities to promote student engagement. Three potential inhibitors to implementing the alcohol media literacy program in upper-elementary school classrooms were identified. These were topic sensitivities, classroom management challenges, and fitting new programs into already busy school schedules. However these inhibitors can be minimised through applying the above pedagogical considerations. Overall, the program content and individual lessons were well received by the teachers and students. The lessons learned from the development, implementation and evaluation of this program can provide health professionals with key pedagogical strategies for designing culturally responsive educational programs. Culturally responsive programs are critical for ensuring interventions are effective for their specific context.
7.2 Background

There are significant physical, mental and social consequences that can result from underage drinking, such as impaired memory and brain functioning, accidents, injuries, violence, risky sexual behaviour and self-harm (Botvin & Griffin, 2007; NHMRC, 2009; Scull, Kupersmidt, & Erausquin, 2013). Childhood (6-12 years of age) is a critical period when alcohol expectancies begin to form (Dunn & Yniguez, 1999), and children are most cognitively vulnerable to the persuasive appeals of advertising (Austin & Knaus, 2000; Considine, Horton, & Moorman, 2009; Kupersmidt, Scull, & Austin, 2010; Spoth, Randall, Shin, & Redmond, 2005). Research has demonstrated a strong correlation between children’s exposure to alcohol advertising, positive alcohol expectancies and future drinking (Collins, Ellickson, McCaffrey, & Hambarsoomians, 2007; Miller, Smith, & Goldman, 1990; Scull et al., 2013). A presumably simple solution to reducing children’s future drinking would be to reduce their exposure to alcohol advertising. Yet this solution becomes highly improbable given the current alcohol marketing landscape, with limited and ineffective regulation in countries such as Australia, New Zealand, Canada and the UK (Howard, Gordon, & Jones, 2014; Jones & Gordon, 2013). Children are exposed, and receptive, to high levels of advertising through avenues such as television (Fielder, Donovan, & Ouschan, 2009; Winter, Donovan, & Fielder, 2008), movies (Dal-Cin et al., 2009), branded merchandise (Henriksen, Feighery, Schleicher, & Fortmann, 2008; McClure, Dal Cin, Gibson, & Sargent, 2006) and, more recently, social media (White et al., 2015).

Media literacy education, which involves students accessing, analysing, evaluating, and creating media in a variety of forms (Bergsma & Carney, 2008; Jeong, Cho, & Hwang, 2012), is gaining momentum as an approach to health education in schools (Hobbs, 2005). A number of alcohol media literacy (AML) programs have been developed to challenge potentially harmful media messages and subsequently influence health behaviours and attitudes (Austin & Johnson, 1997a, 1997b; Chen, 2013; Goldberg, Niedermeier, Bechtel, & Gorn, 2006; Kupersmidt et al., 2010; Kupersmidt, Scull, & Benson, 2012; Sivaithamparam, 2011). These programs have demonstrated positive outcomes on a range of measures including a decreased preference for alcohol branded merchandise (a precursor to drinking.
behaviour), increased media literacy skills, and lowered drinking intentions (Gordon, Jones, & Kervin, 2015).

While AML programs have made a valuable contribution to the alcohol prevention field, the majority have been developed in the US and are therefore culturally relevant to that country. There is a need for AML programs to be developed for other cultural contexts, with specific attention to jurisdiction-specific alcohol marketing regulation and cultural nuances (Gordon et al., 2015). This is particularly important given that youth are more likely to drink the specific alcohol brands to whose advertising they are most exposed (Ross et al., 2015). The Australian advertising scene is replete with depictions of Australian cultural stereotypes such as the ‘larrikin’ male sharing a beer with mates at the beach or over a BBQ (Jones & Reid, 2010); and female-targeted advertising increasingly portrays drinking as a way for women to bond with their friends and demonstrate their independence from men (Gill, 2008). The critical importance of cultural considerations was demonstrated by the alcohol prevention programme Project Northland (Perry et al., 1993) which was highly successful with predominantly white, lower-middle class to middle-class youth (Perry et al., 1996), but unsuccessful when implemented with urban, low-income and multi-ethnic youth (Komro et al., 2008).

Existing AML programs have also focused solely or primarily on print advertisements, rather than teaching students skills in analysing the broad range of multimodal alcohol advertisements to which they are exposed in Australia and elsewhere (Gordon et al., 2015). Multimodal advertisements utilise more than one mode, such as television advertisements which combine visual, audio, spatial and gestural information to be processed.

Given these gaps in the evidence base, Media in the Spotlight, a culturally tailored AML program for Australian children, was developed. Findings from a quasi-experimental trial of the ten-lesson interactive program demonstrated positive results on a range of measures including increased media literacy skills, decreased perception of social norms for teen drinking and decreased alcohol expectancies (Gordon, Howard, Jones, & Kervin, in press).
It is critical to understand the factors that can increase uptake of such programs in schools and strengthen their sustainability. Previous evaluation research in this area has focussed primarily on quantifying the effectiveness of programs, with limited attention given to the implementation process (Gordon et al., 2015). Process evaluations can help to explain why a program was or was not effective in a real world setting (Dusenbury, Brannigan, Falco, & Hansen, 2003; Holliday, Audrey, Moore, Parry-Langdon, & Campbell, 2009; Melde, Esbensen, & Tusinski, 2006), thereby informing the improvement and sustainability of innovative programs in schools (Dusenbury et al., 2003). The purpose of this paper is to examine and reflect upon the implementation process of Media in the Spotlight, and through this provide a pedagogical framework for health professionals seeking to design and implement culturally responsive programs in educational settings.

7.3 Method

7.3.1 Participants

Four primary (elementary) schools from a metropolitan area in New South Wales, Australia were allocated to either the intervention group which received the ten AML lessons ($n = 83$ students), or a wait-list control group ($n = 82$ students). The participation rate across schools ranged from 72.6% to 87.5%, with an overall participation rate of 85.1%. Students ranged in age from 9 to 12 years ($M = 10.81, SD = 0.65$) and 52.8% were female. The six participating teachers ranged in teaching experience from 3 to 36 years ($M = 18.83, SD = 12.30$), with 1 to 12 years experience of teaching students in Grades 5 and 6 ($M = 5.67, SD = 3.78$).

7.3.2 Procedure

The study protocol was approved by the University Human Research Ethics Committee (HE14/361), the State Education Research Application Process (SERAP no. 2014112) and the participating schools. The program was implemented by the first author of this paper to increase implementation fidelity and delivered to the Grade 5 and 6 classes over a ten week
term, with one lesson taught each week as part of the English (Language Arts) and Personal Development and Health, Physical Education (PDHPE) school curriculum.

### 7.3.4 Measures

Multiple process measures were integrated into the intervention design to obtain rich data from stakeholders including teachers, students and the program implementer; and the triangulation of data sources was employed to increase study validity (Creswell, 2009). Process measures included semi-structured interviews with teachers before and after the program was implemented, student evaluation questionnaires, teacher lesson observations, and researcher reflective journal entries.

**Teacher Interviews**

Semi-structured, audio-recorded face-to-face interviews were conducted with six Grade 5 and 6 teachers involved in the study ($n = 11$ interviews), before and after the program was taught, to explore the teachers’ perceptions of the program. Five teachers participated in the pre-program interviews and six in the post-program interviews.

**Teacher Observations**

Non-participant observations were completed by the classroom teachers ($n = 35$ observations) as they observed the researcher delivering each lesson. The 35 observations were collected from five teachers across the ten lessons taught depending on which lessons they were present for. The teachers noted how effectively the program was implemented and any classroom management issues that arose while the program was being taught in a real world setting (Melde et al., 2006) on an observation grid.

**Program evaluation questionnaires**

The students’ ($n = 165$) impressions of the program were obtained through a program evaluation questionnaire that was created for this study. The questionnaire was administered at the end of the last AML lesson and asked students to record the most
important skill/ knowledge they learned from the program, and what they liked most and least about the program.

**Researcher Reflective Journal**

The reflective journal provided a personal perspective on how effectively the program was implemented and the challenges faced during implementation ($n = 44$ entries). The journal entries were largely unstructured to allow the researcher to freely record any thoughts and feelings on the lessons taught, however were focussed around pedagogical recommendations and inhibitors to implementation.

### 7.3.5 Analyses

A thematic analysis approach was used to analyse the data using NVivo. The transcribed teacher interviews were analysed with inductive coding whereby the findings were derived from the research objectives (pedagogical recommendations and inhibitors to implementation) and multiple readings and interpretations of the data themselves rather than an existing coding framework (Braun & Clarke, 2006). The coding framework derived from analysis of the interviews was then applied to the student program evaluation questionnaire, teacher observations and researcher reflective journal, thereby employing a deductive method. Credibility checks involved the research team reviewing the potential themes identified by the first author, followed by refinement and further review of the themes.

### 7.3.6 Brief program description

The content for Media in the Spotlight was based on the Centre for Media Literacy’s (Thoman & Jolls, 2005) five core media literacy concepts: understanding that all media messages are ‘constructed’ using particular techniques; created using a creative language with its own rules; have embedded values and points of view; constructed for a purpose such as to gain power or to entertain; and different people experience the same message differently (Thoman & Jolls, 2005). The program was also designed to meet outcomes from
both the English (Language Arts) and PDHPE (health) Australian primary (elementary) school curriculum, to provide greater time and flexibility to teach the program.

The content and pedagogy for the program was developed and refined through working collaboratively with academics and professionals in education, alcohol research, and social marketing fields; drawing upon considerations from a systematic review of existing programs (Gordon et al., 2015); and incorporating feedback from a pilot trial (Gordon, Jones, Kervin, & Lee, 2016). The lessons (each approximately one hour in duration) provided opportunities for students to work individually, in groups and as a whole class, and assessment opportunities were embedded within the activities. Each lesson began with an introductory activity to capture interest, elicit prior knowledge and revise concepts and skills taught in previous lessons. The lesson focus balanced explicit instruction with hands-on (practical) activities that utilised authentic texts from their real-world context. Each lesson concluded with a hands-on activity to apply the knowledge and skills learnt.

The program drew upon multimodal Australian advertising examples to ensure representation of the different facets of the advertising culture. Students analysed alcohol ads in sport; considered how alcohol sponsorship of sport can influence attitudes and behaviour; viewed forms of alcohol branded merchandise (ABM); speculated how ABM influences people to buy alcohol; were taught the range of techniques used to persuade such as colour, size, slogans, good times and attractive people; and then analysed alcohol print and TV ads, identifying specific techniques and hidden messages, and countering the hidden messages with facts about alcohol.

7.4 Results

The themes from the data are organised under two foci: 1) pedagogical recommendations and 2) inhibitors to implementation. Table 7.1 summarises how the pedagogical recommendations were carried out in Media in the Spotlight. The table may help other health professionals in adopting the approach advanced in this article.
7.4.1 Pedagogical recommendations

**Connect the program to the students’ lifeworlds to achieve cultural significance**
All of the teachers identified that the program was meaningful to the students as it connected to their lifeworlds. The program connected to seminal aspects of the Australian culture, through the inclusion of current and familiar advertisements across a range of advertising platforms, and references to popular sports, leisure activities, and cultural events.

*The ads, they were something that they’ve seen before, it’s now, not old ads, they seem to be ads that they can connect with.* [Teacher, 30yrs experience, Female]

*I liked all the videos you were showing early, the cricket where they had to count how many ads they saw. I think they enjoyed that and they were really surprised, by maybe how many, the amount of times they saw it, they thought wow, watched cricket before but hadn’t realised.* [Teacher, 16yrs experience, Male]

It is important to emphasise that the program did not increase the students’ exposure to, or interest in, alcohol advertisements, but rather made them critically aware of the presence of these advertisements and their impact on shaping societal values and beliefs.

**Empower students with real-world skills to ensure relevance**
Related to the above-mentioned theme, all of the teachers noted that the program equipped students with skills to critically analyse the alcohol advertisements that they are surrounded by and was therefore relevant to their everyday lives. Again, the additional data sources confirmed the identified theme. About half of the students identified a media literacy skill as the most important component of the program.

*I think they could now look at an ad and probably with their parents walking through a shopping centre and say look at that, what are they trying to do, and I think they’d be able to rattle off what the advertiser is trying to get you to think, which I was pretty impressed by, the level of understanding that they got throughout the 10
weeks and I think they could probably do that now without prompting. [Teacher, 18yrs experience, Female]

[I learnt] that you always have to look for the hidden message and the techniques used and if they’re true or not. [Student, School 1, program evaluation questionnaire]

Meta-analyses of school-based drug prevention programs have found that skills rather than knowledge are powerful for changing behaviour (Wilson, Gottfredson, & Najaka, 2001). In the context of this study, the students were equipped with skills that translated to their everyday lives.

Ensure programs are well structured with strong connections to the school curriculum
In the pre-interviews, all five teachers noted that the program would be easy for a classroom teacher to implement due to its structured and detailed nature. In the post-interviews, all six teachers expressed confidence that they would be able to implement the program as is, with just a few small adjustments to suit the needs of their classes. These adjustments may include providing additional scaffolding for a student with specific learning needs. In the pre- and post-program interviews, the teachers also noted that the program aligned well with outcomes from both the English (Language Arts) and PDHPE syllabi. The teacher observations and researcher reflective journal affirmed that the program was structured in a way that made it manageable to teach.

It was really detailed which is really good and obviously very clear the connections that are being made with the syllabus which I think is really helpful as a teacher because as you probably know time is so precious because there’s not much of it and we struggle to fit everything in. [Teacher, 10yrs experience, Female]

The way that you’ve organised it, as I said before, flows, so going from one activity to the next, each following week, I think they’ll sort of gain the knowledge as they go which will be good rather than sort of jumping around. Whereas I feel we’ve actually been involved in a few other research projects and a few of them tend to do that,
they jump around a little bit rather than continually building on the information, like building the field. [Teacher, 3yrs experience, Female]

In the current study, strong program alignment with the school curriculum and adequate detail were considered valuable components of a school AML program.

Create developmentally appropriate activities and provide a range of assessment opportunities
In the post-program interviews, all six teachers reported that they believed the students had achieved the intended learning outcomes due to their developmental appropriateness. The researcher’s reflective journal also noted that the majority of students appeared to be grasping the intended learning outcomes for each lesson. In either the pre or post-program interviews, four out of the six teachers commented positively about the opportunities for assessment, including formative assessment (exit slips), peer assessment (two stars and a wish) and summative assessment (counter-ads).

I think it was pitched definitely at the right level. I think they were able to understand all the concepts and everything pretty well. [Teacher, 36yrs experience, Female]

One of the best features I liked was your exit slips, I thought that was a really good idea, for them to refocus at the end of the lesson, but also for you as an evaluation tool, ‘did they get what I was hoping to achieve?’ I really like that idea. I think I might use that myself. [Teacher, 10yrs experience, Female]

Including assessments throughout the program allowed the implementer to continually assess whether the students were grasping the key concepts and provide further scaffolding where needed. Assessments can therefore be used to refine teaching practice, provide feedback on student learning, and report on whether learning outcomes have been met.

Include hands-on and interactive activities to promote student engagement
In the pre and post-program interviews, all of the teachers noted that the students were involved in the learning experiences due to the hands-on and interactive nature of the
program, providing examples from specific lessons. This was reinforced by the teacher observations and the researcher reflective journal. In the post-program interviews, five of the six teachers identified the creation of the counter-ad, where students changed aspects of an advertisement to reflect a truth about alcohol that was not shown in the original ad, as the most engaging component of the program for the students. In the student program evaluation, the majority of the students identified the hands-on activities, in particular the counter-ad creation, as the best part of the program.

_The counter-ad was fun because we could expose the truth_ [Student, School 2, program evaluation questionnaire]

_You’ve obviously tried to use a lot of teaching strategies, not just one way of doing things. The visual literacy stuff is really relevant…and anything in terms of designing stuff the kids love._ [Teacher, 10yrs experience, Female]

_Because there was a lot of visual, there was a lot of discussion, speaking and listening, there was a lot of communicating going on…it covered all learning, some children like tactile, some children like visual, so it covers all those learning needs._ [Teacher, 30yrs experience, Female]

Hands-on and interactive activities that engage students in the topic, and enable them to demonstrate and apply their knowledge, are more likely to sustain student interest (Pritchard & Woollard, 2010). The counter-ad activity was particularly engaging as it involved the students in creating text that challenged the messages presented in alcohol advertisements.
<table>
<thead>
<tr>
<th>Pedagogical recommendation</th>
<th>Media in the Spotlight</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Connect the program to the students’ lifeworlds to achieve cultural significance</td>
<td>- Current Australian print and TV advertisements were used in the program - Alcohol sponsorship of sport and ABM was explored in connection to popular Australian sports and alcohol brands - Alcohol consumption was discussed in the context of Australian culture and compared and contrasted to other cultures - Statistics on alcohol consumption were taken from Australian sources</td>
</tr>
<tr>
<td>2. Empower students with real-world skills to ensure relevance</td>
<td>- Students gained practice and feedback in deconstructing multimedia advertisements across a range of contexts - Students gained practice and feedback in challenging media messages - Students shared their deconstruction and counterad creation tasks with peers and the teacher</td>
</tr>
<tr>
<td>3. Ensure programs are well structured with strong connections to the school curriculum</td>
<td>- Each lesson followed a consistent structure (e.g. introduction, focus and conclusion) - Teaching hints were included throughout the program to explain specific teaching strategies or content knowledge - A suggested script and expected responses for discussion questions were included for each lesson - Symbols were used throughout lessons to highlight different assessment opportunities - All supporting materials including activity proformas and examples of student work were included in the program - The program had strong cross-curricular links and highlighted how lessons aligned with specific curriculum outcomes</td>
</tr>
</tbody>
</table>
4. Create developmentally appropriate activities and provide a range of assessment opportunities - The program was drafted and reviewed by education professionals. The program was piloted with Grade 5 and 6 classes and then revised based on teacher and student feedback and researcher observations. A range of diagnostic, formative, summative and peer assessment opportunities were included through the program. Assessment opportunities took different forms including anecdotal notes, student work samples and proformas.

5. Include hands-on and interactive activities to promote student engagement - A range of stimuli was used in the program including visual texts, short videos, role play, props, diagrams, word clouds, PowerPoint and student workbooks. A range of teaching strategies were used including activities involving movement, technology based tasks, think-pair-share discussions, design tasks, writing tasks and visual literacy tasks. Each lesson involved a mix of whole class, small group and independent work.

7.4.2 Inhibitors to implementation

Topic sensitivities

In the pre-program interviews, four of the five teachers flagged the sensitive nature of the alcohol topic as an issue to be mindful of, particularly around student disclosures.

*I suppose one challenge might be because it is talking about alcohol, you may get some kids saying some things...my brother likes to go out and drink, that sort of thing.* [Teacher, 10yrs experience, Female]

*I’ve got one boy who’ll look to be cheeky whenever he can... like the picture of the girls towards the end there I thought was tastefully appropriate, you could get definitely worse pictures than that, but I’m sure he’ll find something funny to say about it.* [Teacher, 16yrs experience, Male]
Alcohol topic sensitivities were not raised by any of the six teachers in the post interviews, suggesting that the topic was dealt with in a sensitive and culturally appropriate way. The teacher observations and researcher reflective journal also corroborated this finding. The topic was approached in a way that connected to the students’ lifeworlds, using the advertisements that they are surrounded by as a springboard for exploring problematic alcohol usage. Furthermore, while the topic is sensitive, it is mandated in the school curriculum. The schools and teachers were therefore in agreement that the topic needed to be taught to the children. The advertisements included in the program were carefully selected and only those which students would have already been exposed to were included. For example, it was decided to not include alcohol brand pages on Facebook given that the students are below the legal age for Facebook usage.

Classroom management issues
In the pre and post-program interviews, none of the teachers foresaw any significant challenges in implementing the program, although they flagged the usual everyday classroom management challenges, and the challenge of the implementer not knowing the children. The teacher observations and researcher reflective journal also noted everyday classroom management challenges.

No [major challenges]. Probably the challenges I saw were more from the point of view of the kids not being used to your teaching style and you not knowing them as well. [Teacher, 18yrs experience, Female]

There were a few that might have had a bit of difficulty...they struggle to pay more attention...but that’s more them, not so much the content you were teaching, because I know what their behaviour is normally like... [Teacher, 3yrs experience, Female]

Classroom management issues will always be present to an extent, however they can be minimised through implementing the aforementioned pedagogical considerations. In particular, a well-structured program that is achievable, interactive and relevant for students will keep them engaged and reduce the likelihood of classroom management issues. As highlighted by one of the teachers, some classroom management issues may be
alleviated by the regular classroom teacher implementing the program as they have a thorough knowledge of individual student needs and capabilities.

While minor classroom management issues were present, the absence of prior relationships and trust with students is not believed to have had a significant impact on students’ engagement with the program or depth of the class discussions. Observers often commented that a good level of discussion was generated in the lessons and insightful questions were asked by the students. For example, “the students all seemed engaged and participated in the discussions” [Teacher observation, Lesson 1]; “students were engaged with the material presented. Evidence: asking questions, commenting, discussing, pointing at video” [Teacher observation, Lesson 2]; “students showed enthusiasm throughout the discussion, redirecting comments to relate to content, great use of descriptive words that helped students dig deeper, good individual feedback, praise and movement around the room” [Teacher observation, Lesson 4]; “class were very engaged and attentive/no issues” [Teacher observation, Lesson 6].

The length of the programme (10 lesson taught over 10 weeks) allowed the candidate to build rapport and trust with the students. Further, the candidate had the opportunity to introduce herself and build rapport with each class prior to program delivery as she conducted the baseline questionnaire two weeks prior. The candidate also made a concerted effort from the beginning of the program to learn the names of the students and build rapport through displaying enthusiasm and providing positive feedback to the students. As noted by one of the teachers: “[Teacher] always enthusiastic! The students were very engaged...it was great that you were showing an interest in the students as to get to know their names” [Teacher observation, Lesson 1]. Finally, the candidate used the existing classroom management strategies present in each classroom to achieve consistency between herself and the classroom teacher. For example, one classroom awarded ‘raffle tickets’ to students that displayed positive behaviour; the candidate awarded these to students in each lesson to encourage positive behaviour.
Time constraints

In the post-program interviews, two of the six teachers identified lack of time as a potential barrier to implementation due to the competing demands present in elementary school.

*Time. Just time, like everything else. It’s one of those things that things happen, days happen...that just take away from your time and just to get through every single thing, may or may not be an issue depending upon what else is going on in the school.* [Teacher, 18yrs experience, Female]

*I think being in fourth term, there’s so much going on. In a way in Year 5 it is good because they’re a bit more mature, Year 6 maybe earlier, maybe third term heading towards high school.* [Teacher, 30yrs experience, Female]

The issue of time constraints in an “overcrowded curriculum” is commonly cited as a problem for teachers (Guérin, Sins, & van der Ploeg, 2013; Harris & Ammermann, 2016). However, teacher uptake and sustainability of programs can be increased through developing a structured program that is easy to follow, has clear and strong connections to the school curriculum, embeds assessment opportunities within the lessons and includes achievable outcomes. For the current program, each lesson addressed outcomes from two curriculum areas. This integration of subject matter also afforded more time and flexibility for teaching the program.

7.5 Discussion

This study evaluated the process and implementation of Media in the Spotlight, an interactive AML program created for a specific cultural context. The study aimed to provide a pedagogical framework for health professionals implementing culturally responsive programs in school settings. In a time of significant curriculum change and competing demands for elementary school teachers (Dilkes, Cunningham, & Gray, 2014), it is valuable to understand what teachers consider to be important in a health program, to increase program uptake and sustainability in schools. In drug and alcohol education especially, it is
critical for programs to be created in a way that is culturally responsive, to ensure program relevance and effectiveness (Gordon et al., 2015).

Overall, the program was well received by the teachers and feedback suggested that they were open to a cross disciplinary approach to alcohol prevention in schools. The teachers did not report any significant inhibitors to implementation apart from classroom management issues and the time constraints imposed by an overcrowded curriculum. The teachers also expressed confidence in being able to implement the program themselves due to the program’s structured and comprehensive nature. Given the demanding nature of the teaching profession, teachers value having all necessary resources included within programs so that they do not have to spend time sourcing information.

The qualitative data sources indicated that the program was enjoyable and acceptable to the students, with the hands-on activities identified as a key strength of the program. This finding is supported by education learning theories such as constructivism which posits that students learn through constructing knowledge and meaning from their experiences (Pritchard & Woollard, 2010). The inclusion of hands-on activities is particularly important for drug and alcohol education, as the most effective programs go beyond transmitting knowledge to teaching skills and building coping strategies (Lemstra et al., 2010). Future programs could consider including related extension activities for students that grasp the concepts quickly. This may be more feasible to achieve when the regular classroom teacher is implementing the program, as they would have an understanding of the needs and capabilities of individual students in the class.

Using culturally bound advertisements as an entry point to learning about alcohol proved powerful, as it connected to the students’ lifeworlds (Parry, 2014) through use of authentic text from contexts they were familiar with. The media plays a significant role in young people’s lives and can therefore be an effective way of creating relevance and motivation in lessons (Primack, Fine, Yang, Wickett, & Zickmund, 2009). The media literacy skills acquired can also enable students to resist the emotional messages presented through ads and positively influence behaviour change (Austin, Miller, & Silva, 2002; Hobbs, 1998; Kupersmidt et al., 2012). This principle, of drawing upon students’ lifeworlds and
empowering them with practical skills, can be applied to other sensitive health areas such as sexual health (Pinkleton, Austin, Cohen, Chen, & Fitzgerald, 2008) and body image (Wilksch, Tiggemann, & Wade, 2006). Of critical importance is ensuring that the stimuli selected is developmentally appropriate and specific to the children’s cultural context.

There are several limitations that should be considered when interpreting the results of this study. The teacher process evaluation data was collected from six teachers in four schools and therefore may not be representative of the wider teaching population, although opinions do represent a range of teaching experiences from early career to highly experienced teachers. Additionally, there may have been a bias against negative disclosure as the interviewer was also the intervention creator and deliverer. However this may have also helped disclosure as the interviewer had developed a rapport with the teachers. Cultural considerations may need to be more narrowly defined to specific regions within a country. Media in the Spotlight was developed, implemented and evaluated in an area with a high percentage of white Anglo-Saxon Australians. In other areas of Australia with more diverse ethnicities, the cultural considerations may differ. Nonetheless, the principles from the pedagogical framework can be applied to other contexts.

### 7.6 Conclusions

There are significant benefits in early intervention (Gauntlett, Hugman, Kenyon, & Logan, 2001), where issues such as underage drinking are prevented before the problem occurs. In order for these programs to be effective, they must be tailored to the cultural context in which they are being implemented. This paper describes the development and implementation of a school-based AML program for Australian upper-elementary school students, and provides a pedagogical framework for health educators when developing programs for different cultural contexts. Key principles include connecting to the students’ lifeworlds to achieve cultural significance; empowering students with real-world skills to ensure relevance; ensuring programs are well structured with strong connections to the school curriculum; creating developmentally appropriate activities while providing a range of assessment opportunities; and including hands-on and interactive activities to promote
student engagement. Potential inhibitors to implementation include topic sensitivities, classroom management challenges, and fitting programs into busy school schedules. However these inhibitors can be minimised through applying the above pedagogical considerations.

7.7 References


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**CHAPTER 8: How do elementary students interpret and redesign advertisements to create meaning? An analysis of counter-advertisements created by children**

*Article submitted to Health Education Research, 2017*


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Chapter 8 is the fifth of five empirical papers in this thesis. This paper examines work samples created in the multi-school study through a content and discourse analysis.

8.1 Abstract

Advertisements are persuasive texts that are designed to communicate ideas both explicitly and implicitly through visual grammar. Counter-advertisements provide students with the opportunity to engage with advertising texts as designers rather than consumers and in doing so develop and demonstrate their understanding of media literacy practices. The purpose of this paper is to explore how elementary students interpret and redesign advertisements to create meaning. Grade 5 and 6 students (n=161) created counter-advertisements as the final learning experience in a 10-lesson media literacy program focussed on alcohol advertising. Text from the counter-advertisements was analysed using discourse analysis. The counter-advertisements were also content analysed for message
content, persuasion strategies, and production components using a media literacy framework. The content of male targeted, female targeted and gender neutral ads were compared using chi-square analyses. The four main themes identified in the discourse analysis were vomit, sick, danger and poison, highlighting an emphasis on the short-term consequences of alcohol misuse; a finding that was corroborated in the content analysis. The discourse analysis emphasised use of sensory (un)appeal, a persuasive advertising strategy that was also prominent in the content analysis. The most frequently used production components were objects/symbols and colour. The use of persuasion strategies and production components differed depending upon the advertisement’s target gender. This study demonstrates elementary students’ ability to not only read critically, but also to create texts in response. Involving elementary students in the redesign of advertisements is a powerful pedagogy that enables students to demonstrate their understanding of media literacy practices.

8.2 Literature review

8.2.1 Advertising and the Australian context

Advertising is a powerful form of communication that can shape ideas, beliefs and attitudes (Alvermann and Hagood 2000, Considine, Horton et al. 2009). In the context of alcohol advertising, children and adolescents are frequently exposed to media messages that can have a harmful impact upon their health-related attitudes and behaviours. Longitudinal studies have demonstrated a link between exposure to alcohol advertising and drinking intentions and behaviours (Ellickson, Collins et al. 2005, Snyder, Milici et al. 2006).
In the Australian context, alcohol advertising regulation is largely weak and ineffective (Jones, Phillipson et al. 2010). Children are exposed to advertisements through a range of avenues including online (e.g. YouTube), environmental (e.g. on buses), sponsorships and branded merchandise (e.g. clothing or hats), and traditional forms such as TV and print (Gordon, Jones et al. 2015). These advertisements are culturally bound, situating alcohol as an integral component of Australian leisure through references to the laid-back Australian beach culture, nationalism and sport (Mckay, Emmison et al. 2009, Rowe and Gilmour 2009). While alcohol advertisements are not meant to appeal to children and teenagers, they implicitly portray identities and lifestyles that are popular with young people (Casswell 2004, Hill, Thomsen et al. 2013). Media literacy education can help to address the harmful impact of alcohol advertising on young people, through empowering them with critical thinking skills to resist advertising’s persuasive appeal (Kupersmidt, Scull et al. 2012).

8.2.2 Theoretical framework

Critical media literacy (CML) takes a broad understanding of literacy to include different forms of mass communication, popular culture, and new technologies (Garcia, Seglem et al. 2013). The focus of CML is on teaching students to question and challenge the media messages they are exposed to and develop a “critical consciousness” (p.2247) (Robertson and Scheidler-Benns 2016). Key principles of media literacy are understanding that all media messages: are ‘constructed’; use techniques that can differ from reality; are constructed using a creative language with its own rules; are experienced differently by different people due to unique perceptions; have embedded values and points of view; and are constructed for a particular purpose, which may be to persuade, educate, entertain and/or inform (Thoman and Jolls 2005).

Young people are increasingly faced with multimodal texts such as advertisements that require them to consider how different text elements (e.g. the gestural and spatial), interact to create meaning (Cope & Kalantzis 2009). In print advertisements, ideas are often conveyed implicitly through visual grammar; that is, the use and arrangement of image elements to create meaning (Kress and Van Leeuwen 2006). Understanding visual grammar...
in advertisements is a complex task, as all semiotic systems (i.e. the linguistic, visual, gestural, audio and spatial) need to be considered to understand the overall meaning of the text (Kress 2009, Bull and Anstey 2010). For example, a print advertisement often contains visual (image of product), gestural and spatial (group of people consuming the product), and linguistic (phrase describing the product) elements. In order for meaning to be made, each semiotic system needs to be considered in terms of its function within the multimodal text, as well as its relation to the other semiotic systems (Kress 2009, Lick 2015).

CML scholars advocate providing students with opportunities to create media texts that uncover and challenge dominant media narratives (Kesler, Tinio et al. 2016). One avenue for achieving this goal is to involve students in constructing counteradvertisements (hereafter counterads), whereby students critically read visual messages and then redesign them to communicate new meanings (Begoray, Higgins et al. 2013). For example, students can deconstruct existing alcohol advertisements, and then employ the same techniques used by advertising agencies to reflect factual information about the harms of alcohol use (Authors 2016).

Counterads provide students with the opportunity to engage with advertising texts as creators rather than consumers. In doing so, students are able to demonstrate their understanding of CML practices while challenging media discourse (Begoray, Higgins et al. 2013, Janks 2014). Counterads can also be effective in changing health beliefs and attitudes (Farrelly, Healton et al. 2002). For example, a 4-year longitudinal study found that adolescents (12 to 13 years of age at baseline) who were exposed to television antismoking advertisements (a form of counter-advertising) were significantly less likely to initiate smoking (Siegel and Biener 2000). Young people are more likely to connect with counterads that have been developed by, or received input from, their peers as the messages contain shared language and values (Hecht and Krieger 2006).

Existing studies demonstrate that high school students, college students and teachers are able to engage in critical examination of persuasive advertising and the creation of counterads (Harste and Albers 2012, Banerjee, Greene et al. 2013). For instance, a study analysed 49 print alcohol counterads created by high school students and 23 counterads...
created by college students in the United States (Banerjee, Greene et al. 2013). The study found that students understood the use of production components (e.g. setting and size) and successfully incorporated them in their counterads, however they may have needed further scaffolding on how to incorporate persuasion strategies (e.g. having fun and glamour). Similarly, an analysis of 19 print counterads created by elementary and secondary teachers found that the teachers understood visual grammar and were therefore able to incorporate production components in their counterads (Harste and Albers 2012).

While existing studies highlight the success of high school students, college students and teachers in creating counterads, it was not known how elementary school students would engage in this complex task. Furthermore, while numerous studies have been conducted on elementary students’ ability or inability to read critically and respond (Vasquez 2010), there is a dearth of research on their ability to create a counterad response. Given that elementary students are exposed to advertising through a broad range of avenues and are susceptible to advertisements’ persuasive appeals (Collins, Ellickson et al. 2007), counteradvertising could be a useful tool to mitigate the harmful effects of advertising with this age group. This article reports on a discourse and content analysis of counterads created by upper-elementary students in a multi-school study, in order to explore how students interpret and redesign advertisements to create meaning. This study focused on the messages Grade 5 and Grade 6 children created about alcohol following a 10-lesson alcohol media literacy program.

8.3 Methods

8.3.1 Participants

Participants were 161 Grade 5 and 6 students (74.5% participation rate) from four schools in a major Australian city. The four schools were selected based on similar Index of Community Socio-Educational Advantage (ICSEA) values (range = 1040 - 1045) to ensure comparability between schools. ICSEA values range from approximately 500 (representing extremely educationally disadvantaged backgrounds) to 1300 (representing extremely educationally
advantaged backgrounds), with a median of 1000 and consider parent occupation and education levels, remoteness and percent Indigenous student enrolment (ACARA, 2014). The students ranged in age from 9 to 12 years ($M = 10.81$, $SD = 0.65$), and 52.8% were female.

### 8.3.2 Context for counterads

All Grade 5 and 6 Students ($n = 216$) from the four schools were taught a ten-lesson alcohol media literacy program (AML) focussed on equipping students with skills to analyse alcohol advertisements (for an overview of the program see Gordo, Howard, Jones, & Kervin, in press). While all of the students participated in the program, data was only collected for analysis from the students who provided parental and student consent. The 10-lesson program emerged from a review of AML programs (Gordon et al., 2015) and was developed specifically for Australian elementary school children through selection of culturally relevant advertisements and learning experiences. The program connected to mandated curriculum outcomes in Language Arts and Health education.

The AML program culminated in the students creating a counterad to reflect a truth about alcohol that was absent from the original advertisement. For example, counterads might reflect some of the short and long-term harms that can result from overconsumption of alcohol such as injuries and memory loss. The planning and creation of the counterads took place in lessons eight and nine, after students were guided in their learning of critical viewing skills and a visual metalanguage. This sequence involved providing contextual knowledge of the harms caused by alcohol, discussing the persuasive purpose of advertising, building a metalanguage to talk about advertising techniques, identifying the ‘hidden messages’ presented through ads, and jointly deconstructing print and TV ads.

The students based their counterads on one of seven authentic advertisements for popular alcohol brands consumed in Australia which they had analysed in previous lessons. Popular advertisements were selected as research shows that students are more likely to drink the brands which they are more frequently exposed to (Ross et al., 2015). It was therefore considered valuable to teach students to critique these particular ads. Furthermore, the
inclusion of familiar ads connected the learning experience to the students’ lifeworlds, thereby ensuring relevance (Begoray et al., 2013). The selection included ads that were female targeted (i.e. Vodka Cruiser, Skinnygirl Margarita and Skyy Infusions), male targeted (i.e. Victoria Bitter and Bundaberg Rum) and gender neutral (i.e. Maxx Dry and Carlsburg) based on the subject matter and slogans included in the ad. These advertisements promoted a range of alcoholic beverage types; beer (i.e. Victoria Bitter, Maxx Dry and Carlsburg), spirits (i.e. Bundaberg Rum), and flavoured alcoholic beverages (i.e. Vodka Cruiser, Skinnygirl Margarita and Skyy Infusions).

In lesson eight, the students identified a hidden (implicit) message portrayed in their chosen ad (for instance, if you drink this product you will be popular) and then were asked to identify a fact (or ‘truth’) about alcohol that challenges the hidden message (for instance, if you drink too much you could embarrass yourself, which would not make you popular). The students then individually planned their counterad by annotating an A4 black and white photocopy of the advertisement for the changes they would make to the ad. The students provided feedback on each other’s work by giving two ‘stars’ (two positives about the ad) and a ‘wish’ (an aspect of the ad that could be further improved). The students then revised their counterad plan based on peer and teacher feedback. In lesson nine, the students created their counterad. Three classes used art materials (e.g., coloured paper, pastels and pencils) and one class used digital media (e.g., Microsoft Paint). Coloured photocopies of the counterads created by the 161 participants were subjected to analysis.

### 8.3.3 Discourse analysis

The text used in the counterads were analysed using Leximancer software. Leximancer uses unique algorithms to analyse meanings within passages of text by identifying key concepts and ideas (Smith & Humphreys, 2006). A key strength of using Leximancer is the reduction of expectation biases that can result from manual coded analysis (Dann, 2010). Visual concept maps were generated to provide greater insight into the language used by the students in their developed counterads. In order to obtain interpretable results, several technical operations were performed: (1) stop words such as ‘of’ and ‘the’, and the names
of the alcoholic beverages such as ‘Maxx Dry’ and ‘Bundaberg’ were removed while processing text as they did not create meaning; (2) a custom configuration was set up so that short fragments of text were considered valid prose; (3) repeated steps of examining the results, exploring and modifying settings, then further discovering the main topics within the text; and (4) relevant concepts were put together as a theme, and their relationships highlighted.

8.3.4 Content analysis

The counterads were analysed using a coding framework that was adapted from Banerjee and colleagues’ (2013) study (see Table 8.2). The existing framework was adapted to ensure relevance to the specific content taught to the students through the AML program. For example, the counter-arguing consequence ‘sexual encounter’ was omitted from the adapted framework as this consequence was not taught to the students in the program, as it was not considered age-appropriate. Additionally the counterads were coded for the gender that the ad was aimed at (male/female/neutral) and the product being sold (Victoria Bitter/Vodka Cruiser/Bundaberg Rum/Maxx Dry/Skinnygirl Margarita/Skyy Infusions/Carlsburg).

Three coders independently coded 5% of the sample using the developed coding framework. Advertisements were coded for the presence or absence of the categories in the coding framework. Differences in coding were discussed and the coding framework was further revised. Two coders then independently coded an additional 10% of the sample using the revised coding framework. Following the completion of coding, Krippendorf’s alpha was calculated to determine the level of intercoder agreement. KALPHA is considered to be comparable to Cronbach’s alpha, with a minimum score of .70 considered an adequate level of reliability. A $\kappa$ score of .78 was obtained for the independent ratings, indicating a highly satisfactory level of reliability. Given this degree of agreement in coding, all remaining ads were coded by only one of the two coders. Codes from the counterad analysis were entered into SPSS and chi-square comparisons conducted to identify associations between counterad content and the gender that the original advertisement targeted or specific advertisement selected (e.g. Carlsberg ad versus Vodka Cruiser ad).
Table 8.1: Categories and definitions used to code alcohol counterads

<table>
<thead>
<tr>
<th>Coding Categories</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counter-arguing consequences a</td>
<td>Information about the consequences of using the product, the benefits of the product use, and/or the values attained or emotions produced by product use or ownership (Ford, Smith, &amp; Swassy, 1988).</td>
</tr>
<tr>
<td>1. Alcohol-related illness</td>
<td>Information in the ad about any illness (e.g., vomiting, hangovers, feeling sick) due to alcohol use.</td>
</tr>
<tr>
<td>2. Alcohol-related disease</td>
<td>Information in the ad about any disease (e.g., cirrhosis, hepatitis) due to alcohol use.</td>
</tr>
<tr>
<td>3. Drinking and driving</td>
<td>Information in the ad about a car crash or erratic driving due to alcohol use.</td>
</tr>
<tr>
<td>4. Emotional</td>
<td>Information in the ad about emotional consequences of alcohol use (e.g., sadness, regret, guilt, shame).</td>
</tr>
<tr>
<td>5. Injuries/Death</td>
<td>Information in the ad about injuries or death due to alcohol use (e.g., hospital, tombstone, grave, dead person, RIP, warning symbols if explained).</td>
</tr>
<tr>
<td>6. Jail/Prison</td>
<td>Information in the ad about getting arrested or in a jail due to alcohol use.</td>
</tr>
<tr>
<td>7. Physical consequences</td>
<td>Information in the ad about unwanted physical consequences (e.g., beer belly, beer gut, unhealthy, unnatural) due to alcohol use.</td>
</tr>
<tr>
<td>8. Positive consequences</td>
<td>Information in the ad about the benefits of not drinking (e.g., looking sober, getting good grades, graduation, success in life).</td>
</tr>
<tr>
<td>9. Before-after depictions</td>
<td>Information in the ad regarding before and after consequences of alcohol use.</td>
</tr>
<tr>
<td>10. Negative consequences</td>
<td>Information in the ad about other harmful consequences of alcohol use e.g. memory loss, feeling dizzy</td>
</tr>
</tbody>
</table>

Persuasion strategies a

1. (Un)Attractive people          | Changing an attractive or glamorous person in the ad to look unattractive, to highlight the counteralcohol message.                                                                                                                                                                                                                   |
2. (Not) Good times               | Changing the good times in the ad to bad times, to highlight the counteralcohol message.                                                                                                                                                                                                                                           |
3. (Un)Popular                    | Changing the popular person in the ad to appear unpopular, to highlight the counteralcohol message.                                                                                                                                                                                                                               |
<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4. Sport</td>
<td>Challenging the link between alcohol and sport in the ad, to highlight the counteralcohol message.</td>
</tr>
<tr>
<td>6. Competitions</td>
<td>Offering prizes, competitions, give-aways and games, to highlight the counteralcohol message.</td>
</tr>
<tr>
<td>7. Sensory (un)appeal</td>
<td>Images or words that do not appeal to our sense of sight, taste and sound, to highlight the counteralcohol message.</td>
</tr>
<tr>
<td>8. Celebrity (un)endorsement</td>
<td>Using celebrities to highlight the counteralcohol message.</td>
</tr>
</tbody>
</table>

Production components<sup>a</sup> Visual literacy techniques.

1. Colour | Use of colours to stand out/contrast or illustrate the main point in the ad e.g. danger, unappealing etc. |
2. Setting | Illustrations in the ad that depict a clear setting or location. |
3. Size | Use of non-traditional sizes to illustrate the main point in the ad (e.g., alcohol bottle larger than the human person). |
4. Objects/symbols | Use of objects or symbols to illustrate the main point in the ad. |
5. Position | Centring an image in a way that draws attention. |
6. Body language/facial expressions and clothing | Use of body language/facial expressions and clothing to illustrate the main point in the ad (e.g., person slouched over to illustrate feeling unwell). Use of lighting to illustrate the main point in the ad. |
7. Lighting | Use of eye contact to illustrate the main point in the ad. |
8. Eye contact | Consistent message presented through the image and text (Gunther Kress, 2009) |

Coherence Yes  
No  

<sup>a</sup>Categories are not mutually exclusive.

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### 8.4 Results

#### 8.4.1 Ad selection

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The counterads were anonymous and therefore the genders of the students are not known; however we are able to report on the students’ selection of either a female-targeted, male-targeted or gender-neutral ad. The Vodka Cruiser, Skinnygirl Margarita and Skyy Infusions counterads were grouped together as ‘female targeted’; the Victoria Bitter and Bundaberg Rum counterads as ‘male targeted’, and the Maxx Dry and Carlsburg counterads as ‘gender neutral’ based on their content. Just under half of the students chose to base their counterad on a female-targeted ad (41.6%), about one third of the students selected a gender-neutral ad (32.3%) and about one quarter selected a male targeted ad (26.1%).

8.4.2 Counterad messages

Figure 8.2 shows the concept map that was the foundation for exploring the underlying text in the students’ counterads using Leximancer. The five main themes and their connectivity rates (in parentheses) were vomit (100%), sick (96%), danger (78%), poison (20%) and water (1%). The connectivity rate percentages from Leximancer calculated the connectedness of concepts within the themes and reflected the importance of each theme.

Vomit and sick as the most significant themes

The most important themes in the students’ counterads were vomit and sick. Concepts that were connected to the theme of vomit included: makes, drunk, death, die, open, life, knock and hangover. Examples mentioning vomit were:

    Surfing is a lot harder to do when drunk...I think I’m going to vomit...
    Warning may cause vomiting, headaches, sickness and death may occur

Concepts that were connected to the theme of sick included: feel, alcohol, people, trust, disgusting, never and look. Examples mentioning sick were:

    Alcohol will make you feel sick
    You could get sick, disgusting

Danger and poison as negative consequences of drinking

Danger was a major theme with related concepts including: warning, bad, fat and sweetened. Examples mentioning danger were:
Haters like us hate Rum, Dangerous Rum
Warning dangerous substance

*Poison* was a less prominent theme which found some overlap with the *danger* theme. Related concepts included: *fans* and *calories*. An example mentioning poison was:

Fans like us hate Bundaberg poison and toxic Rum

Figure 8.1: Theme map of slogans in students’ counterads

The target genders for the advertisements were selected as mapping concepts for further integration into the Leximancer analysis. Figure 8.3 displays the concept map with the file tags ‘male targeted’, ‘female targeted’, and ‘gender neutral’. The five main themes and their connectivity rates (in parentheses) were *danger* (100%), *warning* (71%), *life* (36%), *sweetened* (31%) and *hate* (1%). The figure indicates that particular concepts and themes are more closely linked to ads targeting a particular gender. The closer the concept appears
to a particular file tag, the more often these concepts are mentioned in the counter-ads targeting that particular gender.

The counterads based on male targeted advertisements were linked most with the *warning* theme, with related concepts including *warning, death, drunk, drinking, bad, people, disgusting, water* and *damage*. Examples from this theme (and male targeted ads) were:

- Alcohol is a major cause of injury and death
- Fans like us make bad choices with Bundaberg Rum

The counterads based on gender-neutral ads were more linked with the *life* theme, with related concepts including *life, die, vomiting, cause, product* and *sickness*. Examples from this theme (and gender neutral ads) are:

- Vomit out on life
- Will cause nausea and vomiting

The counterads based on female targeted ads were linked most with the *sweetened* theme, with related concepts including: *sweetened, lightly, open, look* and *calories*. Interestingly the *sweetened* theme did not overlap with any of the other themes, suggesting that the concepts included within the theme were unique to the female-targeted ads. Examples from this theme (and female targeted ads) are:

- Lightly sweetened with poison
- This is not how I really look!
The content analysis corroborated findings from the discourse analysis. The two messages most frequently depicted by students in their counterads were alcohol-related illness (64.0%), such as an image of someone vomiting; and injuries/death (50.3%), for instance warning signs. All of the other consequences were depicted by less than 10% of the sample. No differences were seen between the target gender of the ad and the counterad messages used in the content analysis.

This focus on short-term consequences of alcohol misuse could be a reflection of the alcohol harms that students are most readily exposed to through media portrayal and classroom instruction. These consequences could also be more easily grasped by the students due to their immediate and concrete nature. The exception was the female-targeted ads which focussed on appearance and weight. This finding is not surprising given the subject matter included in the original alcohol advertisements targeting females.
8.4.3 Persuasion strategies

The discourse analysis suggests that the students focussed on the persuasion strategy of sensory (un)appeal in their counterad slogans. Significant overlap could be seen between the themes of vomit, sick, danger and poison which all evoke strongly negative sensory images. In contrast, water, which was not connected to the other themes, is a more neutral theme that does not evoke strong mental images. This theme was used in the context of suggesting an alternative to alcohol use, for example, “drink water.”

The content analysis confirmed that the persuasion strategies most frequently used by students included sensory (un)appeal (76.4%), such as someone vomiting; followed by (not) good times (74.5%), for instance a sad facial expression. Other common persuasion strategies identified were (un)attractive people (40.4%), such as a change to the person’s physical appearance; and sporting mishaps (19.9%), including someone falling off a surfboard. Celebrity (un)endorsement) for instance a reference to Jenny Craig; and (un)popular, such as showing someone being rejected by their friends, were used by less than 2% of the sample, while competitions were not used at all.

Chi-square analyses indicated significant associations between the target gender and use of persuasion strategies. Female-targeted ads were more likely to use (un)attractive people (e.g. a change to the person’s physical appearance) as a persuasion strategy than male-targeted and neutral ads; $\chi^2 (2) = 6.63, p = .036; 47.8\%$ compared to 23.8\% and 44.2\%, respectively. Female-targeted ads were also more likely to use sensory (un)appeal (e.g. someone vomiting) as a persuasion strategy than male-targeted ads and gender neutral ads; $\chi^2 (2) = 15.12, p = .001; 89.6\%$ compared to 57.1\% and 75.0\%, respectively. On the other hand, gender neutral ads were more likely to use sport as a persuasion strategy than male-targeted and female-targeted ads; $\chi^2 (2) = 69.24, p = .000; 57.7\%$ compared to 4.8\% and 0.0\%, respectively. Gender neutral ads were also more likely to include (not) good times in their ads than the male-targeted and female-targeted ads; $\chi^2 (2) = 8.32, p = .001; 88.5\%$ compared to 64.3\% and 70.1\%, respectively.
Chi-square comparisons also indicated a significant association between the use of persuasion strategies and the specific advertisements on which the counterads were based. For example, the counterads for Skinny Girl Margarita were more likely to use (un)attractive people than the remaining six advertisements; $\chi^2 (2) = 29.55, p = .000; 76.9\%$, compared to percentages ranging from 13.3\% to 60.0\%).

These differences are likely a reflection of the students responding to the specific focus present in the existing advertisements. For example, female-targeted advertisements often focussed on messages relating to appearance, which provided a specific focus that guided the students in their counterad messages and subsequent persuasion strategies. The Skinny Girl Margarita ad suggested the message that drinking the product will make the consumer attractive and slim. This message was countered by the students with images of models that no longer represented popular notions of beauty. Instead, the models were presented as overweight and vomiting.

### 8.4.4 Production components

The production components most frequently incorporated into the counterads included objects/symbols (46.0\%), such as stop signs; colour (29.8\%), including green to represent poison; body language/facial expressions/clothing (29.2\%), for instance sad expressions; and eye contact (11.2\%), including looking directly at the viewer. Setting was incorporated into less than 2\% of the counterads, and lighting was not incorporated at all. The majority of the counterads presented a coherent message through the image and text (89.4\%). For example, the text on one counter ad read “Maxx out in hospital”, and the image depicted a person falling off their surfboard yelling “help!” No differences were seen between the target gender of the ad and the production components used.

As an illustrative example of the results from the discourse and content analyses, figure 8.4 displays a student’s counterad that was created in response to the SkinnyGirl Margarita advertisement. In the original ad, the text positions the reader to “trust” the drink as a healthy “natural” option that contains low calories, while the image implies beauty through
the inclusion of a slim model holding the product. The student inverts the ad’s message through changing the slogan to “The Margarita you can’t trust”. The student also uses a celebrity to un-endorse the drink through the inclusion of the text, “No. 1 at making people make bad choices – Jenny Craig”. The notion of beauty is mocked through depicting the model on the bottle as overweight rather than skinny and showing the model holding the product vomiting. The potential illnesses caused by the drink are reinforced through the text that says, “Nauseous Girl”, “Just open and be nauseous”, and “Hangover.com.uk”. The counterad also implies potential injuries through the inclusion of a black skull symbol on the bottle representing danger and the word “Poison” in black bold writing. The model in the text is no longer presented as having a good time as her facial expression has been changed to show a sad face. The student successfully uses the production techniques of symbols and facial expressions, and the persuasion strategies of (un)attractive people, (not) good times, sensory (un)appeal and celebrity (un)endorsement to present a coherent message about the potential harms of overconsumption of alcohol including alcohol illness and injuries.

Figure 8.3: Counterad for SkinnyGirl Margarita flavoured alcoholic beverage
8.5 Discussion

This study sought to explore how elementary school students interpret and redesign existing advertisements to create meaning. As argued by Hill and colleagues (p264) (Hill, Thomsen et al. 2013), “youth need to understand that advertisements attempt to sell more than a product; they also sell images (e.g., drinking is humorous, sexy, fun) that can shape attitudes, expectancies, and choices.” The results of our study suggest that the students understood this CML concept. They identified and challenged the messages in the alcohol advertisements through presenting some of the harms associated with alcohol misuse in their counterads. For example, the message that alcohol will make an individual appear tough was countered with the message that alcohol can result in injuries that would not make an individual look tough.

Further still, the students replicated persuasive advertising techniques in their counterads, demonstrating understanding of how media messages can influence and manipulate the viewer in their beliefs about a product and subsequent actions (Thoman and Jolls 2005). The students delivered consistent messages through the images, messages and techniques utilised in their counterads. For example, objects such as warning and danger signs were used to provide visual cues on the harms associated with alcohol use; colour and body language/facial expressions/clothing were typically used to create sensory (un)appeal and indicate that consuming the product will not result in a good time. This finding highlights the ability of younger children to engage in these complex CML practices.

An interesting finding from the study was the relationship between the persuasion strategies used by the students and the target gender of the advertisement. Alcohol advertisements tend to propagate gender stereotypes of femininity and masculinity, presenting the ideal female as slim and attractive and the ideal male as tough and blokey (Gill 2008, Jones, Phillipson et al. 2010, Jones and Reid 2010). While the students’ counterads challenged messages that alcohol can make someone look attractive or tough, the underlying use of these stereotypes to target males or females remained largely unchallenged. For example, while counterads that responded to the SkinnyGirl Margarita
advertisement challenged the notion that the product will make a female attractive and skinny, they did not challenge the advertisement’s overemphasis on beauty itself.

Results also highlighted that the students tended to represent immediate, short-term consequences of alcohol misuse in their counterads, such as vomiting and getting injured and dying, rather than long-term consequences such as cancer or alcohol dependence. This focus could be a reflection of the children’s young age, with the immediate and concrete nature of these short-term consequences being easy to grasp and straightforward to represent through visuals and words (Ghazi and Ullah 2015). However, this focus is likely also a reflection of the students’ life worlds, with short-term consequences being frequently represented in the media or seen firsthand. For instance, a content analysis of 50 G-Rated children’s animated film classics, such as Beauty and the Beast and James and the Giant Peach, found that alcohol use was portrayed in 50% of the films (Goldstein, Sobel et al. 1999). Seven of the 50 films depicted short-term effects of alcohol use such as getting drunk, hiccups or falling over, while none of the films addressed any long-term health consequences. While the students’ counterads challenged some of the images presented in alcohol advertising (e.g. drinking makes you attractive), other media messages such as the focus on short-term health consequences were perpetuated.

CML instruction needs to pay careful attention to the dominant discourses that are evident in media texts and equip students with skills to identify and challenge these messages (Thoman and Jolls 2005). In the context of media representations of alcohol use, long-term health consequences of alcohol misuse are typically absent. While the students successfully challenged the images that were presented through the alcohol advertisements, they likely needed further instruction and scaffolding to be able to challenge media messages around consequences of alcohol use. These messages are subtle and deeply ingrained in society, and thus require more interpretation on the part of the viewer. However these representations could be valuable to challenge while children are still forming their values and beliefs (Davis 2003).
8.5.1 Limitations and future research directions

These results must be considered in light of some limitations in the present study. The nature of the counterad task may have limited the messages conveyed by the students, and the persuasion techniques and production components used. Because the students were required to redesign an existing advertisement, they had to work with the existing media messages. It was also difficult to change production components such as setting or lighting, which may explain why the students rarely used these production components. Exploring and conveying multiple narratives is a key component of CML (Garcia, Seglem et al. 2013). A task in which the students created a counterad using a blank canvas rather than innovating upon an existing advertisement may have freed the students to convey more diverse narratives and provided greater scope for assessing the students’ literacy abilities. For example, ‘Spoof ads’ from US based Adbusters could have been used to demonstrate to students how to make a valid counterargument (Adbusters, 2016). One of their spoof ads for Absolut Vodka displayed an image of a bag of red cells in a hospital setting with the words ‘Absolut Coma’ underneath, highlighting one of the more severe consequences that can result from excessive alcohol consumption. However, innovating upon existing advertisements may be a good entry point for creating counterads as the students are provided with a ‘template’ to use and specific media message to refute.

The use of either art materials or digital materials also afforded different opportunities in the creation of the counterads. For instance, the use of Microsoft Paint may have made it easier for students to add new images to the advertisement as they could insert any image from Google images. Students were therefore not limited by their self-perceived artistic ability. At the same time, many of the students required additional time to complete their digital counterad due to a lack of proficiency in the use of Microsoft Paint. Art materials were therefore advantageous in their familiarity and accessibility to all students. It was for this reason that the majority of the classes used art materials, making it difficult to compare samples. Future research could conduct a critical examination of the different opportunities afforded by the two mediums.
The students may have needed more explanation and scaffolding on how to incorporate the persuasive techniques of celebrity (un)endorsement, (un)popularity and competitions in their counterads. This echoes the findings from Banerjee and colleagues’ study (Banerjee, Greene et al. 2013), which found that high school students were competent in their use of production techniques, yet needed greater scaffolding on how to use particular persuasion strategies. Nonetheless, the counterad task demonstrated the students’ understanding and ability to use CML to question, analyse and create multimedia texts. Future research could extend the task to include different media and modes such as HTML. Students could display their counterads on a website, thereby extending the audience beyond the teacher, classroom and school (Walsh 2007, Walsh 2009). A broader audience and purpose for the counterad may provide further motivation for the task and give students a greater sense of taking social action. Furthermore, the Internet platform would enable students to engage with additional multimodal literacy practices, such as use of audio (Walsh 2007, Walsh 2009).

It is worth acknowledging that the creation of counter-ads was used as a pedagogical tool rather than to create an effective or persuasive counter message for alcohol advertising to be used on its own. As noted in Pechmann and Reibling’s (2000) paper, effective tobacco counter-advertising campaigns focused on a single message such as emphasizing the benefits of not smoking or modelling refusal skills.

8.5.2 Conclusion

This study is novel in its examination of counterads created by children. Given students’ exposure and receptivity to advertising, it is important to equip them with skills to become critical consumers and creators of media. CML education provides students with critical viewing skills and a metalanguage for deconstructing and creating media texts. Involving students in the creation of counterads can be a powerful pedagogy for enabling students to demonstrate and apply their CML skills. Furthermore, it provides students with an opportunity to respond to complex social problems in proactive ways. The current study suggests that children even younger than those previously investigated are capable and
prepared for such instruction. Teaching these skills at a young age is important for enabling students to navigate and respond to an increasingly media saturated world.

8.6 References


CHAPTER 9: Summary and conclusion

9.1 Summary of key findings and contributions to the literature

This chapter summarises the key findings and contributions of this thesis to the literature. The chapter concludes with the limitations of this body of work and recommendations for future research. This chapter was not prepared for publication.

The overall aims of this doctoral research were to develop, implement and evaluate an alcohol media literacy program (AML) targeting Australian primary school children aged 9-12 years. This research was considered important given children’s extensive exposure to alcohol advertising (Jones & Magee, 2011; Victorian Department of Human Services, 2009; Winter, Donovan, & Fielder, 2008) and vulnerability to its persuasive appeals (Austin & Knaus, 2000; Dunn & Yniguez, 1999; Kupersmidt, Scull, & Austin, 2010). Three phases and six research questions guided this investigation.

9.1.1 Phase 1: Program development

Research question one: What considerations are needed to develop, implement and evaluate a school-based AML program for Australian children?

While systematic literature reviews and meta-analyses have been conducted on media literacy programs more generally (Bergsma & Carney; 2008; Jeong, Cho, & Hwang, 2012), the systematic literature review included in this thesis (Chapter 2) identified, critically reviewed and compared AML programs specifically. From these findings, a list of practical and theoretical considerations for designing future AML programs was provided. These considerations included the need for an interactive pedagogical approach within the naturalistic school setting, implementation fidelity and a holistic approach to program evaluation, a means for maintaining relevance, consideration of gender differences, relevance for an international audience and use of follow-up and longitudinal data.
Noteworthy findings from the eight studies included in this review were that the majority of studies had been conducted in the United States of America, and focused solely or primarily on television and print media. These findings highlighted the need for programs to be developed and evaluated in contexts outside of the US and to incorporate a broad range of media.

A culturally responsive AML program for Australian primary school children was developed based on the aforementioned considerations drawn from the systematic literature review. To the best of our knowledge, this was the first AML program to be developed, implemented and evaluated in an Australian context. The program was culturally tailored through the inclusion of Australian alcohol brands and media clips, references to Australian cultural traditions, and alignment with the Australian school curriculum. It was also the first AML program to focus on a broad range of alcohol advertisements, including print, television, sponsorship and branded merchandise.

Research question two: What is the feasibility and potential impact of an AML program for Australian upper-primary school children?

A formative pilot evaluation was conducted with 37 upper-primary school students (10-12 years of age) from two classes in one school to examine the feasibility and potential efficacy of the developed AML program (Chapter 4). The program significantly increased media deconstruction skills and understanding of persuasive intent; decreased interest in alcohol branded merchandise; and lowered perception of drinking norms. Results from the outcome and process evaluation suggested that an AML program for Australian upper-primary school children appears feasible, and has potential to lead to measurable outcomes. However, the evaluation was limited in its generalisability and ability to make causal inferences due to its single-group pre-post-test design and small sample size.
9.1.2 Phase 2: Program implementation and evaluation

Research question three: *Can an Australian AML program positively affect known predictors/precursors of drinking behaviours?*

Results from the multi-school study suggested that AML programs can positively affect predictors/precursors of drinking behaviours, consisting of media deconstruction skills (i.e. the ability to critically analyse advertisements), social norms (i.e. perceptions of the number of people that drink alcohol), and alcohol expectancies (i.e. beliefs concerning perceived physical and social consequences of drinking).

The program’s positive impact on media deconstruction skills was consistent with two previous alcohol media literacy studies which found students had improved media deconstruction skills as a result of the intervention (Kupersmidt et al., 2010; Kupersmidt et al., 2012). The current study further showed that results were maintained three months after the intervention, as seen in the intervention group follow-up data. Unlike other studies (Austin & Johnson, 1997a, 1997b), the current study lowered students’ perceptions of social norms for teen drinking, possibly due to the longer length of the intervention. These results were also maintained three months post intervention. Results for the positive expectancies measure, which were significantly lower at delayed post-test, largely supported results from Austin and Johnson’s (1997a) study, adding weight to the argument that media literacy is a cumulative skill that may reveal strengthened effects over time. While a number of AML studies have demonstrated acute effects of an AML intervention, this study demonstrated that these programs can have a lasting effect, and can be taught in connection with authentic examples from the community.

Research question four: *Are there any differences in the effectiveness of an AML intervention for males and females?*

Given that gender surfaced as a potential moderating variable for the effectiveness of existing AML interventions (Austin and Johnson, 1997a, 1997b; Chen, 2013; Kupersmidt et al., 2010), Chapter 6 provided a valuable contribution to the literature by demonstrating the
suitability of the developed program for both males and females. Media literacy education likely has appeal and benefit to both genders as it connects with students’ lifeworlds and draws upon popular culture through utilising authentic texts to encourage action. The intervention, which was delivered in co-educational classes, resulted in significantly higher media literacy skills but did not lead to less preference for branded merchandise or greater understanding of persuasive intent, and these effects did not differ by gender. There were, however, gender differences in social norms for teenage drinking and self-efficacy to refuse alcohol. Further research is required to evaluate socialisation and cultural factors that may have been responsible for gender differences. For example, does alcohol sponsorship of sport have a greater influence on preadolescent males’ perceptions of social norms and alcohol expectancies than females? This knowledge could be used to refine alcohol education programs.

Research question five: What are the key pedagogical considerations for, and inhibitors to, implementing a culturally responsive school-based health program?

Previous evaluation research in this area has focussed primarily on quantifying the effectiveness of programs, with limited attention given to the implementation process. Process evaluations can help to explain why a program was or was not effective in a real world setting (Dusenbury, Brannigan, Falco, & Hansen, 2003; Holliday, Audrey, Moore, Parry-Langdon, & Campbell, 2009; Melde, Esbensen, & Tusinski, 2006), thereby informing the improvement and sustainability of innovative programs in schools (Dusenbury et al., 2003). This body of work therefore made a significant contribution to the literature through its mixed method design that provided quantitative evaluation of the efficacy of the program, and qualitative insight into the implementation process. The process evaluation (Chapter 7) was considered critical for understanding factors that can increase uptake of such programs in schools and strengthen their sustainability. Furthermore, the process evaluation provided a pedagogical framework for health professionals seeking to implement a culturally tailored school-based program.

Five key pedagogical considerations were identified that facilitated implementation. These were: connecting to the students’ lifeworlds to achieve cultural significance; empowering
students with real-world skills to ensure relevance; ensuring programs are well structured with strong connections to the school curriculum; creating developmentally appropriate activities while providing a range of assessment opportunities; and including hands-on and interactive activities to promote student engagement. The AML program ensured cultural significance and real-world relevance by drawing upon familiar advertisements from the students’ cultural context (Parry, 2014), and equipping them with skills to question and challenge the media messages (Hobbs & Frost, 2003).

Three potential inhibitors to implementing the alcohol media literacy program in upper-elementary school classrooms were identified. These were topic sensitivities, classroom management challenges, and fitting new programs into already busy school schedules. However, these inhibitors can be minimised through applying the above pedagogical considerations. The study concluded that program delivery in a normal school setting is appropriate.

**9.1.3 Phase 3: Evaluation of student work**

Research question six: *How do primary school students interpret and redesign advertisements to create meaning?*

The AML program culminated in the students creating a counter-advertisement (hereafter counterad) to reflect a truth about alcohol that was absent from the original alcohol advertisement. While existing studies highlight the success of high school students, college students, and teachers in creating counterads (Banerjee, Greene, Hecht, Magsamen-Conrad, & Elek, 2013; Harste & Albers, 2012), it is not known how effectively primary school children would engage in this complex task. Chapter 8 of this thesis highlighted that primary school students were able to identify and challenge messages in alcohol advertisements through presenting some of the harms associated with alcohol misuse in their counterads. The students replicated persuasive advertising techniques in their counterads, thereby demonstrating understanding of how media messages can influence and manipulate them in their beliefs about a product and subsequent actions. This study contributed to the
literature through suggesting that even younger children than those previously investigated are capable and prepared for such instruction.

9.2 Limitations

Each stage of the research had its own set of limitations which have been addressed in the preceding chapters (see sections 4.5, 5.5, 7.5 and 8.5). As such, this section discusses some of the limitations of the thesis style, and program development, implementation and evaluation as a whole. Where possible, this section also addresses how these limitations were balanced by the strengths of this body of work.

9.2.1 Limitations arising from the style of presentation

This thesis was presented as a compilation of journal article style chapters. This style has a number of advantages including ensuring that each component of the research was methodologically strong and made a sufficiently unique contribution to the literature to warrant publication. Furthermore, it enabled feedback to be gained from international and national reviewers prior to submitting the thesis, thus assuring international standards and resulting in a stronger thesis. Finally, this style provided a means for making immediate contributions to the literature.

However there are also a number of limitations associated with this thesis style. One limitation is the repetition of literature in introductory paragraphs of each chapter, and repetition of references at the end of each chapter. Terminologies have also changed from chapter to chapter depending on the target audience of the intended journal article. The PhD candidate is referred to as the ‘first author’ in published chapters of the thesis, and as the ‘candidate’ in unpublished chapters. In chapters published in American journals, students aged 10-12 are referred to as elementary or upper-elementary school students. In unpublished chapters or chapters published in Australian journals, students aged 10-12 years are referred to as primary or upper-primary school students. It is acknowledged that
this changing terminology may be somewhat confusing for a reader that is not familiar with the full range of these educational contexts.

### 9.2.2 Limitations (and strengths) arising from the cross-disciplinary nature of the study

From a media literacy perspective, this study sought to equip students with skills to become critical consumers and designers of media; from an alcohol education/health perspective this study sought to reduce known predictors/precursors of drinking behaviours. While both of these outcomes were largely met, it could also be argued from a media literacy perspective that the program did not adequately allow for students to present diverse and opposing viewpoints, as would be expected in a critical literacy classroom. For example, a critical literacy classroom may have positioned the counterad activity as a more open ended task where the students were not restricted to presenting a health message. Instead, the students may have chosen to challenge the gender stereotypes presented in alcohol advertisements, or the consumerist values promoted. This limitation could be seen in part due to the alcohol education/health agenda which sought to create scepticism towards alcohol advertising and therefore had a more narrow focus on the harms associated with alcohol misuse.

Despite the aforementioned limitation, this cross-disciplinary work allowed for a novel approach to alcohol prevention. Drawing upon both the Personal Development, Health and Physical Education (PDHPE) syllabus (BOS, 2007) and English syllabus (ACARA, 2014), provided greater time and flexibility to teach school alcohol education, which is generally limited to being taught during PDHPE lessons. It also ensured real-world relevance and cultural significance through drawing upon everyday texts that were familiar to the students. The students were empowered with critical thinking skills to challenge the messages presented in media texts, thereby becoming active citizens who are able to take control of their environment.
From an alcohol education/health perspective the program may be seen as limited as it did not measure behaviour change per se, but rather focussed on predictors/precursors of drinking behaviours using a self-report questionnaire. Measuring long-term effects such as drinking patterns was beyond the scope of this study. This limitation was balanced by the inclusion of questionnaire items with acceptable levels of reliability and validity. Further still, a social desirability scale was included in the questionnaire to improve its validity and enhance confidence in conclusions drawn. However, it is acknowledged that media literacy education should be situated within the broader approach to school alcohol education, which includes a combination of knowledge, social and life skills, normative approaches and negotiation skills (Cahill, 2007). Further still, alcohol education should be situated within a broader approach to public health that includes alcohol price controls, restricting the time and place of alcohol sales and density of alcohol outlets, drink driving countermeasures and effectively regulating alcohol advertising and marketing (Babor et al., 2003).

### 9.2.3 Specific limitations of the research

While the AML program sought to achieve cultural relevance through the inclusion of Australian alcohol brands and media clips, references to Australian cultural traditions, and alignment with the Australian school curriculum, the program may need to be modified for other Australian contexts such as culturally and linguistically diverse (CALD) communities, and Aboriginal and Torres Strait Islander communities. This limitation was balanced with the process data that provided educators and health professionals with key considerations for implementing an Australian AML program. These considerations could be used to adapt and refine the program to ensure relevance for different contexts within Australia.

The study occurred in a naturalistic school setting whereby the intervention took place in a whole-class school setting rather than a laboratory or one-on-one teaching situation. While there are a number of advantages to this setting, including providing evidence of the program’s potential for sustainability in schools (Martineau, Mamede, St-Onge, Rikers, & Schmidt, 2013; McVey et al., 2010) and increasing the likelihood of students retaining the skills taught (Stichter et al., 2010), it also means that uncontrollable circumstances could
have occurred that impacted the results of the study. This disadvantage was also balanced by the inclusion of process data, which provided insight into why any variations occurred.

On the other hand, a drawback of the candidate delivering the program was reduced likelihood of the program being sustained in schools. If the program was to be adopted by schools and sustained, it would likely need to be taught by the regular classroom teachers rather than an external person. At this early stage of the program’s development, it was decided that the advantages of high implementation fidelity (e.g. consistency in teaching style, teacher’s voice, and classroom management style) and schools consenting to the research outweighed the disadvantage of less potential for sustainability in schools when choosing for the candidate to be responsible for the delivery of the program.

The use of a convenience sample means that specific findings may be unique to the environment studied. Furthermore, the logistics of working within a school setting meant that randomization of students was not possible. Instead, schools with similar demographics were selected to allow for comparison between the schools. Entire cohorts of students within schools were allocated to either the wait-list control or intervention group. The true effects of the evaluated program may therefore be difficult to estimate without randomisation. This disadvantage was balanced by the inclusion of rich qualitative data, which provided important insight into the teachers’ and students’ perceptions of the program.

9.3 Future research

For the purpose of the current study, the candidate implemented the AML program to ensure consistent delivery of the program, reduce possible confounding variables and increase the likelihood of schools participating in the research. However, the end goal would be to have classroom teachers implementing the program to increase its sustainability. Maintaining program integrity is a significant challenge when implementing drug education programs, as teachers are most likely to omit the interactive components of programs that contribute to their effectiveness (Cahill, 2007). This is sometimes due to a
lack of teacher confidence in using interactive teaching approaches and preference for more traditional didactic approaches (Dusenbury & Mathea, 1995), belief that transmitting knowledge is sufficient for changing behaviour, and difficulties in classroom management (Cahill, 2007).

Research is therefore needed into how to maintain program integrity while encouraging the adoption and sustainment of AML programs in schools (Cuijpers, 2003). One avenue to explore is the use of computer-facilitated programs, which hold promise for overcoming a number of obstacles that impact upon successful program implementation such as maintaining program integrity, lack of time or resources (Champion, Newton, Barrett, & Teesson, 2012), and ensuring the program content remains current. Creating an online version of the program is one way in which the program can remain relevant in a changing media landscape. An online platform would allow the ads used in the program to be updated regularly so that the ads used continue to be relevant in a similar way. While computer facilitated programs can provide interactive digital learning experiences, consideration would need to be given to how to maintain the interactive discussion based components of the programs. Given that 10-12 year olds are on the cusp of becoming entrenched in social media, revisions to the program could include strategies to support students in navigating and critiquing online advertising such as Facebook advertising.

Another avenue to explore is the effectiveness of teacher training in increasing the uptake and sustainability of school based alcohol prevention programs and ensuring implementation fidelity. Research has shown a positive relationship between teacher training and improved implementation fidelity, however has also highlighted barriers such as a lack of time to deliver the training (Ringwalt et al., 2003). Further research in this area is needed to inform policy surrounding teacher training and delivery of sensitive health topics.

Future research could determine the specific components of AML programs that contributed to their effectiveness. For instance, research could examine the extent to which the counterad creation (lessons 8, 9 and 10) in the current AML program improved students’ media deconstruction skills or influenced their alcohol related attitudes or behavioural intentions. These findings could improve implementation fidelity through determining the
essential components of AML programs that need to be included. Future research could also consider how to involve parents in AML programs, given that parents are a key social influence for primary school children (Dickinson, Hayes, Jackson, Ennett, & Lawson, 2014). For example, research could examine the effectiveness of AML programs when they incorporate a homework component to encourage children to discuss key topics learned in the program outside of the classroom setting.

A key methodological strength of this study was its crossover design which allowed for replication of the intervention findings with two separate cohorts of students, as well as follow-up data with the intervention group (see Chapter 5). Future research could conduct a randomized controlled trial with longitudinal follow-up data, to provide even stronger evidence on the effectiveness of the AML program in positively affecting known predictors/precursors of drinking behaviours. A longitudinal study would have the added benefit of measuring actual drinking behaviours, thereby providing insight into the program’s potential to delay initiation to drinking.

The media literacy framework that underpinned this body of work proved valuable in providing a springboard for exploring problematic alcohol use. Utilising authentic texts from students’ lifeworlds ensured that the learning experiences were culturally significant, had real-world relevance and were engaging for the students (see Chapter 6). Future research could apply this media literacy framework to other sensitive health topics such as sexual health. A challenge and opportunity for future research in this area is to find the balance between achieving a specific health agenda and upholding principles of critical literacy education. For example, how do media literacy programs achieve specific health outcomes while encouraging alternative and diverse perspectives on a health topic to be expressed?

Future research could also explore how to address contextual factors that contribute to differences in drinking attitudes, intentions and behaviours held by males and females. Alcohol advertisements are strongly gendered, often reinforcing gender stereotypes about men and women. Alcohol advertisements targeting men frequently associate the consumption of alcohol with the Western ideal of hegemonic masculinity and a ‘rite of passage’ for young men (Towns, 2012). For example, the Australian beer brand Victoria
Bitter associates their products with laddishness, larrikinism, mateship and irony (Mckay, Emmison, & Mikosza, 2009). While alcohol advertisements targeting females are increasingly portraying females’ independence from men, females continue to be highly sexualised and objectified through alcohol advertisements (Jones & Reid, 2010). For example, future research could explore how to teach students to critique stereotypical representations of males and females in alcohol advertisements. Breaking down gender stereotypes that are reinforced through the media could be effective in reducing some of the pressures young people feel to drink.

9.4 Conclusions

As argued by Jean Kilbourne, "...ads sell more than products...to a great extent they tell us who we are and who we should be" (Kilbourne, 2010). Several longitudinal studies have demonstrated the link between children’s exposure to alcohol advertising and subsequent attitudes, intentions and behaviours relating to alcohol (Anderson, de Bruijn, Angus, Gordon, & Hastings, 2009; Ellickson, Collins, Hambarsoomians, & McCaffrey, 2005; Grenard, Dent, & Stacy, 2013). The upper-primary school age group represents a critical period when students are cognitively vulnerable to the persuasive appeals of advertising and forming their beliefs about alcohol (Austin & Knaus, 2000; Dunn & Yniguez, 1999; Miller, Smith, & Goldman, 1990; Scull et al., 2013). The primary school context also allows for a cross-disciplinary approach to alcohol education as the classroom teacher is responsible for the delivery of all subjects. The upper-primary school context is therefore an appropriate setting for implementing an AML program.

This body of work resulted in the novel development, implementation and evaluation of an AML program for Australian primary school children. The program was theory-based, connected with outcomes from both the English and Health school curriculum, and was culturally tailored to an Australian context. This body of work highlighted the strengths of AML programs including their suitability to both genders, connection to students’ lifeworlds, focus on empowering students with real-world skills and provision of engaging and
interactive learning experiences that can effectively address precursors/predictors of drinking behaviours.

9.5 References


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**Appendix A.** Letter of information for parents, letter of information for students, and parent and student consent form

*Note – the letter of information to parents and students was slightly modified for each school to contain the relevant dates.

**LETTER OF INFORMATION TO PARENTS**

Dear parents,

Your child has been invited to participate in a research project conducted by the School of Education, University of Wollongong. The project will be conducted by Ms Chloe Gordon as part of her PhD research study (supervised by Associate Professor Lisa Kervin, Professor Sandra Jones, and Dr Jeong Kyu Lee) and is entitled, *Implementation and evaluation of a school-based alcohol media literacy program for Australian children*. We write to seek your approval and assistance to conduct this research and to involve your child as a participant.

**PURPOSE OF THE RESEARCH**

a) The purpose of the research is to trial a new program that teaches children how to critically analyse and evaluate alcohol advertisements.

b) This research is considered important because Australian children are exposed to significant amounts of alcohol advertising through many avenues such as television, outdoor advertising on billboards, Internet, sporting events, alcohol branded merchandise (e.g. alcohol brands on clothes) and in shopping centres.

c) This study is targeting Year 5 and Year 6 students because research has identified the primary school age-group as a critical period when alcohol expectancies begin to form.

d) A large body of research has demonstrated that exposure to alcohol advertising and positive alcohol expectancies increases the risk of future alcohol use for young people.

e) Given the significant harms caused by underage drinking, this is an important issue to address.

**INVESTIGATORS**

- **Associate Professor Lisa Kervin**
  (Primary Supervisor)
  Faculty of Social Sciences, School of Education

- **Senior Professor Sandra Jones**
  (Co-Supervisor)
  Australian Catholic University, Melbourne

- **Dr Jeong Kyu Lee**
  (Co-Supervisor)
  Faculty of Social Sciences, Centre for Health Initiatives (CHI)

- **Ms Chloe Gordon**
  (PhD Student)
  Faculty of Social Sciences, School of Education
METHOD AND DEMANDS ON PARTICIPANTS
The 10 media lessons will be taught to your child as part of the normal classroom program in Term 4, 2015. The 10 lessons will be taught by Ms Chloe Gordon (a qualified primary school teacher), with the classroom teacher present in the room at all times as an observer. Each lesson is approximately 50 minutes in duration.

Whole class
If you choose for your child to participate, they will complete a twenty minute questionnaire at three time points and a five minute questionnaire at the end of each lesson. Specific work samples may also be photocopied including the creation of an advertisement that promotes a healthy lifestyle. Your child’s name will not be used so that they remain anonymous. The 20 minute questionnaire includes questions related to media literacy, alcohol advertising, drinking and demographic information (i.e, age, gender and language spoken at home).

POSSIBLE RISKS, INCONVENIENCES AND DISCOMFORTS

Whole Class: The lessons will form part of the normal classroom teaching program. We can foresee no risks or inconveniences for your child.

Your child’s involvement in the study is voluntary and they may withdraw from the study at any time and withdraw any data that has been provided. If you choose for your child to not participate in the research their work samples and questionnaires will not be collected. The topic is not likely to be upsetting or uncomfortable for your child. However, if anything they talk about during the discussion does make them feel upset, we can assist them to obtain help by contacting you, teachers or counsellors in the school, or giving them the names of other people to talk to such as the Kids Helpline.

FUNDING AND BENEFITS OF THE RESEARCH

This research receives a small source of funding (approximately $1500) from the University of Wollongong HDR Education Student Fund. This research will contribute to the small, but growing field of alcohol prevention research for the late primary school years. Your child will have the opportunity to take part in a novel and relevant learning program which has strong connections to the new NSW English Syllabus for the Australian Curriculum (2014). Findings may also be published in educational journals. Confidentiality is respected, and your child will not be identified in any part of the research.

ETHICS REVIEW AND COMPLAINTS

This study has been reviewed by the Human Research Ethics Committee (Social Science, Humanities and Behavioural Science) of the University of Wollongong. If you have any concerns or complaints regarding the conduct of this research, you can contact the Ethics Officer, on (02) 4221 4457.
If you would like to meet with Ms Chloe Gordon or ask her any questions in person, we encourage you to attend the information session at [name of school] on Wednesday 3rd June (Week 7, Term 2) at 7pm in the school library. Ms Gordon will be presenting a brief overview of the program that will be taught to your child at the meeting.

Thank you for your interest in this study. If you have any further questions or concerns, you can contact any of the researchers by e-mail on:
Associate Professor Lisa Kervin – lkervin@uow.edu.au
Professor Sandra Jones - Sandra.Jones@acu.edu.au
Dr. Jeong Kyu Lee – jklee@uow.edu.au
Ms Chloe Gordon - cg760@uowmail.edu.au
LETTER OF INFORMATION TO STUDENTS

Dear students,

You have been invited to participate in a research project conducted by the School of Education, University of Wollongong. The project will be conducted by Ms Gordon as part of her PhD research study (supervised by Associate Professor Lisa Kervin, Professor Sandra Jones and Dr Jeong Kyu Lee) and is entitled, *Implementation and Evaluation of a school-based alcohol media literacy program for Australian children*. This letter is to ask if you would be willing to participate in this study.

PURPOSE OF THE RESEARCH

a) The purpose of the research is to try out a new program that teaches children how to critically analyse and evaluate alcohol advertisements.

b) This research is considered important because Australian children see a lot of advertisements for alcohol on television, outdoor advertising on billboards, Internet, sporting events, alcohol branded merchandise (e.g. alcohol brands on clothes) and in shopping centres.

c) This study is aimed at Year 5 and Year 6 students because this is an important time when students begin to form opinions about alcohol and how it can affect a person.

INVESTIGATORS

Associate Professor Lisa Kervin (Primary Supervisor)
Faculty of Social Sciences, School of Education

Senior Professor Sandra Jones (Co-Supervisor)
Australian Catholic University, Melbourne

Dr Jeong Kyu Lee (Co-Supervisor)
Faculty of Social Sciences, Centre for Health Initiatives (CHI)

Ms Chloe Gordon (PhD Student)
Faculty of Social Sciences, School of Education

METHOD AND DEMANDS ON PARTICIPANTS

Whole class
You will be taught 10 media lessons as part of the normal classroom teaching program. If you choose to participate, your work samples will be collected, including a 5 minute questionnaire completed at the end of each lesson. You name will not be used so that no one knows what you wrote.
POSSIBLE RISKS, INCONVENIENCES AND DISCOMFORTS

Whole Class: The lessons will form part of the normal classroom teaching program. We can foresee no risks or discomfort for you. The topic is focused on developing skills in media literacy, so is not likely to be upsetting or uncomfortable for you. However, if anything your talk about during the discussions do make you feel upset you can stop taking part. If you want, you can get help from your parents, teachers or counsellors in the school, other people such as the Kids Helpline.

FUNDING AND BENEFITS OF THE RESEARCH

This research will contribute to the small, but growing area of alcohol prevention research for the late primary school years. You will have the opportunity to take part in a new and relevant learning program which is related to your school work. Findings from the study will be used to improve the teaching program. Findings may also be published in educational journals. You will not be identified in the study.

ETHICS REVIEW AND COMPLAINTS

This study has been reviewed by the Human Research Ethics Committee (Social Science, Humanities and Behavioural Science) of the University of Wollongong. If you have any concerns or complaints regarding the conduct of this research, you can contact the Ethics Officer, on (02) 4221 4457.

Thank you for your interest in this study. If you have any further questions or concerns, you can contact Ms Gordon by e-mail on cg760@uowmail.edu.au
CONSENT FORM FOR PARENTS AND STUDENTS

Research Title: Implementation and Evaluation of a school-based alcohol media literacy program for Australian children

Researchers’ Names: Professor Sandra Jones, Associate Professor Lisa Kervin, Dr Jeong Kyu Lee and Ms Chloe Gordon.

I have read the letter of information to parents and students and have had the opportunity to ask the researcher any further questions I may have had. I understand that my child’s participation in this research is voluntary and they may withdraw at any time from the study without affecting their school results or treatment at school in any way.

I understand that the risks or inconveniences to my child are minimal in this study. I have read the letter of information to parents and students and asked any questions I may have about the risks. I understand that photocopies of my child’s work may be taken for work samples during the 10-lesson program. My child will also complete a 20 minute questionnaire at three different time points, and 5 minute questionnaires at the end of each lesson. My child’s name will not be used to identify their work in the study. If I have any concerns or complaints regarding the way the research is or has been conducted I can contact the Ethics Officer, Human Research Ethics Committee, Office of Research, University of Wollongong on 02 4221 4457. By signing below I am consenting to:

☐ My child completing a 20 minute questionnaire at three different time points and a 5 minute questionnaire at the end of each media lesson.

I understand that information from my child will be used for a thesis and possibly other published studies and I consent for it to be used in this matter.

I give permission for my child ___________________________ to participate in this research. (child’s name)

Parent/ Guardian signature_________________________Date__________________

Name (please print)________________________________________________________

Child’s signature _______________________________________________________

Please return this consent form to your child’s classroom teacher ASAP.
APPENDIX B. Participant information sheet for teachers and consent form for teachers
Appendix B. Participant information sheet for teachers and consent form for teachers

PARTICIPANT INFORMATION SHEET FOR TEACHERS

TITLE: Implementation and evaluation of a school-based alcohol media literacy program for Australian children.

PURPOSE OF THE RESEARCH

This is an invitation to participate in a study conducted by researchers at the University of Wollongong. The purpose of the research is to trial a new program that teaches children how to critically analyse and evaluate alcohol advertisements. This research is considered important because Australian children are exposed to significant amounts of alcohol advertising through many avenues such as television, outdoor advertising on billboards, Internet, sporting events, alcohol branded merchandise (e.g. alcohol brands on clothes) and in shopping centres. This study is targeting Year 5 and Year 6 students because research has identified the primary school age-group as a critical period when alcohol expectancies begin to form. A large body of research has demonstrated that exposure to alcohol advertising and positive alcohol expectancies increases the risk of future alcohol use for young people. Given the significant harms caused by underage drinking, this is an important issue to address.

INVESTIGATORS

Associate Professor Lisa Kervin
(Primary Supervisor)
Faculty of Social Sciences, School of Education

Senior Professor Sandra Jones
(Co-Supervisor) Centre for Health and Social Research, Australian Catholic University, Melbourne

Dr Jeong Kyu Lee
(Co-Supervisor) Faculty of Social Sciences, Centre for Health Initiatives (CHI)

Ms Chloe Gordon
(PhD Student)
Faculty of Social Sciences, School of Education

METHOD AND DEMANDS ON PARTICIPANTS

If you choose to be included, you will be asked to participate in the piloting of a media literacy program in your classroom. The candidate will audio-record a 30 minute interview with you before and after the program is conducted in your classroom to identify potential barriers and facilitators to implementing the program. Typical questions in the interview include: What are your overall impressions of the program? Does the program seem easy to use? How effective do you think the program will be in meeting the intended learning and behaviour outcomes? How effective do you think the program will be in promoting student engagement? The pre and post interviews will take place on the school grounds in a quiet location that is conducive to audio-recording, i.e. in the classroom or staffroom. The interviews will take place outside of teaching time, i.e. before or after school, or during a
break from teaching. The exact day and time will be determined by when is most convenient for you, i.e. Term 2 or Term 3 for the pre interview and end of Term 4 for the post interview.

The 10-lesson program will be taught by the candidate in Term 4 at a time that is convenient for you. We request that you remain in the room and observe the lessons taught. Student work samples completed during the teaching program may also be photocopied.

POSSIBLE RISKS, INCONVENIENCES AND DISCOMFORTS

Apart from the 1 hour of your time for the two thirty-minute interviews and observation of the 10 media literacy lessons, we can foresee no risks or inconveniences for you. Your involvement in the study is voluntary and you may withdraw from the study at any time and withdraw any data that you have provided. Refusal to participate in the study will not affect your relationship with the University of Wollongong.

FUNDING AND BENEFITS OF THE RESEARCH

This research receives a small source of funding (approximately $ 1500) from the University of Wollongong HDR Education Student Fund. This research will contribute to the small, but growing field of alcohol prevention research for the late primary school years. Your class will have the opportunity to take part in an innovative, practical and engaging learning program which has strong connections to the NSW English Syllabus for the Australian Curriculum and NSW PDHPE curriculum. Findings may also be published in educational journals. Confidentiality is respected, and your class of students will not be identified in any part of the research.

ETHICS REVIEW AND COMPLAINTS

This study has been reviewed by the Human Research Ethics Committee (Social Science, Humanities and Behavioural Science) of the University of Wollongong. If you have any concerns or complaints regarding the conduct of this research, you can contact the Ethics Officer, on (02) 4221 4457.

Thank you for your interest in this study. If you have any further questions or concerns, you can contact any of the researchers by e-mail on:
Associate Professor Lisa Kervin – lkervin@uow.edu.au
Professor Sandra Jones - Sandra.Jones@acu.edu.au
Dr. Jeong Kyu Lee – jklee@uow.edu.au
Ms Chloe Gordon - cg760@uowmail.edu.au
CONSENT FORM FOR TEACHERS

Research Title: Implementation and evaluation of a school-based alcohol media literacy program for Australian children.

Researchers’ Names: Associate Professor Lisa Kervin, Professor Sandra Jones, Dr Jeong Kyu Lee and Ms Chloe Gordon.

I have read the letter of information to teachers and have had the opportunity to ask the researcher any further questions I may have had. I understand that my participation in this research is voluntary and I may withdraw at any time from the study without affecting my relationship with the University of Wollongong in any way.

I understand that the risks or inconveniences to me are minimal in this study. I have read the letter of information to teachers and asked any questions I may have about the risks. I understand that I will be involved in two 30 minute interviews and observation of 10 media literacy lessons. My name will not be used to identify my interviews in the study. If I have any concerns or complaints regarding the way the research is or has been conducted I can contact the Ethics Officer, Human Research Ethics Committee, Office of Research, University of Wollongong on 02 4221 4457. By signing below I am consenting to (please tick):

☐ Participating in two thirty-minute interviews with the researcher about the media literacy program.

☐ Observing the 10-lesson media literacy program.

I understand that the data collected from my participation will be used for a thesis and possibly a journal publication, and I consent for it to be used in this matter.

Signed_________________________________ Date_______________

Name (please print)___________________________________________________________
APPENDIX C. How implementation fidelity was considered in the study
Appendix C. How implementation fidelity was considered in the study

Gordon, C. S. (in press). Teaching children to critically analyse alcohol advertisements: Why implementation fidelity is important and how it was achieved in a program evaluation study. SAGE Research Methods Cases.

Teaching Children to Critically Analyse Alcohol Advertisements: Why Implementation Fidelity Is Important and How It Was Achieved in a Programme Evaluation Study

Chloe Gordon
University of Wollongong, Australia. Email: cg760@uowmail.edu.au

Keywords
alcohol abuse prevention, implementation fidelity, media literacy, programme evaluation

Relevant Disciplines
Elementary Education

Methods Used
Evaluation Research, Programme Evaluation, Validity, Pilot Studies, Non-Participant Observation

Academic Level
Postgraduate

Contributor Biography
Chloe Gordon is a doctoral student in the School of Education, Faculty of Social Sciences at the University of Wollongong. She is a qualified teacher, holding a Bachelor of Education (Honours) and has teaching/tutoring experience with elementary school students through to college students. Chloe has presented her research work at national and international conferences in Australia and overseas. Her current research interests include alcohol abuse prevention, media literacy education, curriculum design and programme evaluation.
Link to the Research Output

**Abstract**
This case study seeks to highlight the importance of implementation fidelity and how it was achieved in a programme evaluation study. This study was focused on the development, implementation and evaluation of an alcohol media literacy programme for Australian children. In a nutshell, the programme aimed to teach children to critically analyse alcohol advertisements in order to delay initiation to drinking. Implementation fidelity was achieved through the development of a detailed programme, delivery of the lessons by the same teacher across classes and the development, utilisation and analysis of non-participant observations and a researcher reflective journal. Challenges in achieving consistent programme delivery included the inevitable differences in students’ learning needs and school logistics. Strategies for overcoming these challenges included ensuring knowledge of the students’ learning needs prior to implementing the programme, ensuring open lines of communication with the classroom teachers and keeping detailed records of any variances in programme delivery.

**Learning Outcomes**
By the end of this case, students should

- Know what implementation fidelity is
- Understand the importance of implementation fidelity in research
- Consider ways to achieve implementation fidelity in programme evaluation research
Project Overview and Context: Development, Implementation and Evaluation of an Australian Alcohol Media Literacy Programme

I contend that implementation fidelity, which involves the consistent delivery of a programme as intended, plays a key role in the success of programme evaluation research. This was my experience when developing, implementing and evaluating an alcohol media literacy programme for Australian upper elementary school children. By media literacy, I refer to teaching students to access, analyse, evaluate and communicate media messages in a variety of forms, as defined by Elizabeth Thoman and Tessa Jolls (2005). Examples of media messages include advertisements on the Internet (i.e. advertisements on YouTube, Facebook brand pages and banner advertising), in print (i.e. on billboards and in magazines) and on the radio, television, cinemas and merchandise. The need for an Australian alcohol media literacy programme arose from a systematic literature review conducted on existing alcohol media literacy programmes (if you are interested in reading the full review, see Gordon et al., 2015). This review found that alcohol media literacy programmes were successful in increasing students’ media literacy skills and understanding of persuasive intent, decreasing students’ interest in alcohol-related products (an indication of pre-drinking behaviour) and lowering perceptions of the number of teenagers who drink alcohol. However, the review also found that the majority of alcohol media literacy programmes had been developed, implemented and evaluated in the United States and were therefore culturally relevant to that region. For example, tobacco advertising still exists in the United States; however, it has been banned in other countries such as Australia. A few US alcohol media literacy programmes also include tobacco advertising. It would be unethical to include advertisements for tobacco in an Australian programme, as the students’ only exposure to the advertising would be through the programme.

With input from experts in education and social marketing, I developed a 10-lesson alcohol media literacy programme for Australian children. The primary aim of the programme was to teach 10- to 12-year-old children to critique alcohol advertisements, in order to delay initiation to drinking. This was achieved through teaching students about the negative consequences of drinking alcohol in contrast to the messages portrayed through the media, the techniques used by advertisers to make products appealing, how to deconstruct alcohol
advertisements and how to create a counter-advertisement that reflects a truth about alcohol. The learning activities were hands-on and connected with authentic text to encourage action. Illustrative is the learning experience which required students to annotate the techniques used in an alcohol advertisement to make it appealing, such as use of colour, words, size, humour and lighting. Particular attention was paid to ensuring the programme was culturally relevant to Australia, through the inclusion of Australian alcohol brands and media clips, references to Australian culture and knowledge of Australian alcohol regulation laws. For example, one of the learning experiences involved the students analysing a 5-min segment of the Carlton Mid One Day Cricket Match – Australia versus England. The students tallied each time they spotted an advertisement for alcohol and then discussed the impact of alcohol sponsorship of sports on cultural norms and beliefs.

To evaluate the effectiveness of the programme in achieving its goals, and to understand any barriers or facilitators to implementation, the programme was trialled through a pilot study in one independent school in a major Australian city. I was interested in not only the outcomes of the programme but also the process, to understand any barriers or facilitators to implementation. This additional knowledge is valuable for assisting with the sustainability of the programme in schools. For this reason, the investigation included gaining insights into the teachers’ and students’ perceptions of the programme, and examining the students’ skills, knowledge and attitudes on alcohol and advertising before and after the programme had been taught. To accurately measure the impact of the programme on students’ skills, knowledge and attitudes, it was important for the programme to be delivered consistently across the two classes in the independent school.

I found that, in line with other alcohol media programmes, students had increased media literacy skills (e.g. ability to recognise the persuasive advertising techniques used by advertisers) and understanding of persuasive intent, decreased interest in alcohol-related products and a lowered perception of the number of teenagers who drink alcohol as a result of the programme. The programme was also found to be engaging and relevant for the students, achievable, aligned with the school curriculum and easy to use, provided the teacher is flexible in responding to the needs of the class. These were positive results which suggested that an Australian alcohol media literacy programme has potential to empower
students to respond to alcohol advertisements and lower intentions to drink (see Gordon et al., (in press) in the list of further readings for the article reporting the results of this study). The data collected from the pilot study were analysed and used to refine the existing programme to then be implemented and evaluated across government schools in a major Australian city.

**Research Practicalities**

The research reported here is part of my PhD project that commenced in the beginning of 2014. Approval to conduct the pilot study component of the research was received from the University of Wollongong Ethics Committee, and the School Principal and classroom teachers of the participating school.

**Sampling and Attrition**

Two Grade 5 and Grade 6 classes (10- to 12-year-olds) from one school were invited to participate in the study. It was decided that the programme would be taught to the classes as part of the normal school curriculum. As such, all 57 students from the two classes participated in the programme regardless of parent and student consent. However, parent and student written consent were required to collect data from the students (questionnaire and work samples). Consent was received from 42 students (74%), which is considered reasonable for school-based research. Five students did not complete either the pre- or post-test, so their results were excluded from the study, resulting in a sample size of 37 (65%). Three teachers also provided data, the Grade 5 teacher, Grade 6 teacher and Grade 6 casual teacher (a relief teacher who fills in for the regular classroom teacher when they are away).

**Defining Implementation Fidelity and Its Importance in Programme Evaluation Research**

Implementation fidelity refers to the extent to which participants in different classrooms or schools are guaranteed to receive the intervention in the same way, as intended by the programme developers. Linda Dusenbury and colleagues (2003) identified implementation fidelity as being of critical importance to the success of programmes such as drug abuse prevention in school settings. When teachers change or omit components of a research-based programme, it can be difficult to assess the true impact of the programme. For example, it is difficult to ascertain whether changes in those who participate in an
intervention are due to an effective programme or unknown factors that may have been unintentionally added to or omitted from the programme.

Implementation fidelity can be achieved in a number of ways, or through a combination of methods. Some of these include

• providing teacher training, where the teachers are trained on how to deliver the intervention prior to implementation;
• using set resources such as a video and accompanying discussion guide to ensure that the intervention is delivered in the same way;
• using a fidelity checklist, whereby the teacher completes open-ended questions or a rating scale on how well they covered each component of a lesson;
• using process evaluations such as interviews or focus groups with the classroom teachers to provide insight into where and why variation occurs;
• using the same teacher to deliver the intervention to all of the classes;
• using computer- or Internet-based programmes to deliver the intervention to all of the classes.

For my study, I had to determine how to utilise methods that would maximise implementation fidelity while working within the budget and time restraints of the project, and the logistical restraints of the school environment. As noted by Gilbert Botvin (2004), programme implementation is challenging to achieve when contending with factors such as limited resources, multiple competing demands and insufficient time. In my own study, I was limited in human resources, as I was responsible for the delivery of the programme to all of the classes. I was therefore restricted in the number of classes I could include in the research.

Research Design

As stated earlier, I was interested not only in the outcomes of the programme but also the process, to understand any barriers or facilitators to implementation. As such, my pilot study was a mixed-methods study, consisting of quantitative measures (pre- and post-questionnaire) and qualitative measures (teacher interviews, student exit slips, teacher observations and a researcher reflective journal). These qualitative sources were important for ensuring input from various stakeholders involved in the field (i.e. teachers, students and
researchers). While it would have also been valuable to receive input from parents, this was considered beyond the scope of the study. The quantitative and qualitative data sources were collected before, during and after the implementation of the project.

**Implementation Fidelity in Action**

Implementation fidelity was considered during all three stages of the research project, from the development of the programme to its implementation and evaluation. Each of these stages is explored here.

**Developing the Programme**

Revisiting the development of the programme, I had to ensure that enough detail was provided in the programme to enable it to be delivered consistently across the classes. I therefore included a detailed introduction to the programme which explained key teaching strategies used, assessment opportunities and connections to the curriculum. Each lesson followed an identical structure to improve ease of use. This structure included the following: purpose of the learning experiences, syllabus outcomes, resources, assessment opportunities, introduction to the learning experience, focus of the learning experience, application of the learning experience and supporting materials. Where possible, work samples were provided to illustrate the intended outcomes of an activity, while suggested responses for discussion questions were provided to keep discussions on track. Additionally, symbols were used to provide visual cues on the resources needed, teaching strategies used and assessment opportunities. For example, the teaching strategy ‘think-pair-share’ was explained in the introduction to the programme and a visual cue (lightbulb icon) was used to identify when the teaching strategy could be used in the lessons. The following is the excerpt from the programme:

"**Think-pair-share** is a teaching strategy where students spend a few moments thinking individually about the problem, bounce their ideas off a partner and then have the opportunity to share their response in a whole-class discussion. This teaching strategy provides students with additional thinking time and the opportunity to share their thoughts. This teaching strategy encourages student classroom participation and increases the quality of student responses. There are numerous opportunities throughout
the program to utilise the think-talk-share teaching strategy. These opportunities are highlighted using the lightbulb icon.

All of these details were included to enhance the usability of the programme in the hope of improving implementation fidelity. Sharon Mihalic and colleagues (2008) found that attractive packaging of a curriculum and ease of use are important considerations in school-based programmes. Programmes that contain a clear structure and detailed instructions increase the likelihood of all the lessons being taught.

Implementing the Programme

To increase implementation fidelity, two lessons were taught each week during the morning literacy block to each class by a qualified teacher (who was also the researcher). This was not a straightforward decision, as there were both pros and cons for the classroom teachers delivering the programme and the researcher delivering the programme. An advantage of the researcher delivering the programme rather than the regular classroom teachers was consistent delivery of the programme. There was less likely to be variance in the way the programme was delivered (e.g., teaching style, teacher’s voice, level of enthusiasm displayed by the teacher, classroom management style) when the programme was implemented by only one teacher. As the programme developer, the researcher was highly familiar with the objectives and content of the programme and likely to deliver the programme in an enthusiastic manner due to her vested interest in the project. It was also perceived that schools would be more likely to consent to the research when the programme was implemented by an external person as it reduced the burden placed on the classroom teachers.

The drawback of the researcher collecting the data was the possibility of bias as she had a vested interest in the programme. Steps were taken to minimise bias including double coding of subjective student questionnaire data, discussing the findings with supervisors and triangulating the findings using multiple data sources to increase the validity of the findings. Another drawback of the researcher delivering the programme was the reduced likelihood of the programme being sustained in schools. If the programme was to be taken up by schools and sustained, it would likely need to be taught by the regular classroom teachers.
rather than an external person. At this early stage of the programme’s development, it was decided that the advantages of high implementation fidelity and schools consenting to the research outweighed the disadvantage of less potential for sustainability in schools when choosing for the researcher to be responsible for the delivery of the programme.

**Evaluating the Programme**

Non-participant observations were completed by the classroom teachers as they observed the researcher delivering each lesson. The purpose of the observations was to provide data on how effectively the programme was implemented and to record any classroom management issues that arose while the programme was being taught in a real-world setting. Dusenbury and colleagues (2003) argue that observational data should be combined with self-report data (i.e. the researcher reporting on implementation fidelity) to validate findings on implementation fidelity. As suggested by Chris Melde and colleagues (2006), uniformity between observations was created by providing the teachers with an observation grid to guide their observations (see Figure 1). The grid was divided into four sections: teacher interactions with students (allowance of questions, input during activities, generation of discussion, teacher enthusiasm), student engagement (classroom management issues, level of interest in discussions and questions asked, student enthusiasm), teaching content (the extent to which the planned lesson material is covered and deviations from the planned content, lesson timing) and use of supporting materials (the extent to which the supporting materials provided, for example, scaffolds and technology suggestions, are used and any materials that are added or omitted).

A reflective journal was kept by the researcher teaching the lessons to provide a personal perspective on how effectively the programme was implemented and any barriers to effective implementation. The journal entries were examined against the teacher observations to cross-validate findings on implementation fidelity and classroom management issues. A distinct advantage of utilising the reflective journal and teacher observations was that the data were documented during and directly after each lesson was taught. This immediacy provided detailed data that may have not been recalled during the teacher interviews that were conducted at the end of the 10-lesson programme. As
discussed by Michelle Ortlipp (2008), a researcher reflective journal also brings transparency to the research, as the researcher’s decisions, and the thinking, values and experiences behind these decisions, are made visible. The journal entries were largely unstructured to allow the researcher to freely record any thoughts and feelings on the lessons taught; however, they were focussed around implementation fidelity and the barriers and facilitators to implementation.

Results

The programme provided sufficient detail for the researcher to deliver the lessons consistently across classes. Although the classroom teachers did not deliver the programme, they acknowledged that the detail provided in the programme would have been helpful for successfully implementing the programme. The Grade 6 teacher noted,

*It’s very explicit in all of the instructions.*

Similarly, the Grade 5 teacher found it helpful that

*Expected responses are put there.*

The Grade 6 casual teacher appreciated that

*Everything looked like it was already in the program and you could just go off that. You didn’t need to be doing too much else preparation and everything was already in there, you didn’t have to go research something somewhere else, it was all ready to go.*

At the same time, the Grade 6 casual teacher acknowledged that it may have been difficult for the regular classroom teacher to have implemented the programme exactly as it was intended to be delivered:

*I think, because you [the researcher implementing the program] loved it so much and you’ve been in it so much, you did a good job ... I’m not so sure that it would have been exactly the same if I just picked it up and done it, cos you’ve written it and you’re passionate about it and you have an understanding of, you’ve probably watched the video a few times, or, you’ve got the ads for yourself, you’ve processed it and you’ve thought about the things to point out and show the kids, I’m not sure if I would have done it as well if I picked it up ...*
The teacher observations and researcher journal indicated that there were minimal deviations from the planned lesson content, and overall, the lessons were implemented with ease.

**Practical Lessons Learned: Challenges in Achieving Implementation Fidelity and How They Can Be Overcome**

A school is not a controlled, laboratory setting, nor would we want it to be! Therefore, while the programme was successfully implemented in both classes, as would be expected, there were circumstances that created challenges for achieving implementation fidelity. The following are some of the challenges faced, and how they were overcome to increase implementation fidelity:

- **Responding to students with specific needs.** In any classroom, there are going to be students with specific needs who require additional support and attention. In the context of this study, there was a child who had Down syndrome which made it difficult for her to understand and engage with the lesson material. Another student in the study had autism and became upset when other students intruded on his personal space. The researcher was made aware of these specific learning and behavioural needs before implementing the programme so she was better equipped to respond to the children. The researcher was also made aware of the students’ capabilities and therefore the quality of work to expect from them. For example, for the child with Down syndrome, the lesson content was several grades above her cognitive capacity to engage with the material, so the regular classroom teacher suggested that the student work with a teacher’s aide on separate work that had been set for her. In contrast, the child with autism had the capacity to engage with the lesson material. The researcher made a deliberate effort to provide opportunities for the student to contribute to class discussions when willing, and provide additional encouragement when he engaged positively with the lesson material. It is both valuable and important to have ongoing discussions with the classroom teacher on the learning and behavioural needs of a class before and during the delivery of a programme. These discussions are critical for ensuring that all students are supported and cared for, and increasing the success of programme implementation.
• **Responding to class dynamics.** One of the classes in the study was very lively and thrived on discussions, while the other class was quiet, reserved and reluctant to participate in discussions. As a result, the researcher had to develop creative ways to encourage the second class to participate in discussions. For example, classroom rewards (play money that was used in a class auction at the end of each term) were used more frequently with the second class to encourage participation in discussions. The researcher also provided more opportunities for the students to share their responses with a partner or group, or record their responses on a Post-it note before the responses were shared with the whole class. These strategies did not change any of the content that was taught or the core teaching strategies or activities that were implemented, but rather reflected a small adjustment to how discussions were initiated to maximise student input. These differences in class dynamics were flagged by the classroom teachers before the programme was implemented, so the researcher was somewhat prepared for these differences and considered how to encourage student input.

• **Responding to changes in school routines.** It would not be a normal day in an elementary school classroom if there was not a change to routine! Schools are busy places and therefore you need to be prepared and ready to be disrupted while teaching. While the programme was being taught, the researcher had to contend with students being taken out of class for learning support and school musical practice, students being away sick and students arriving to school late. Where possible, the researcher was vigilant in recording who was absent during a lesson, so that they could be provided with additional instructions if necessary in the following lesson. Towards the end of the school term, the teachers were scheduling last-minute practices for the school musical which meant that the media literacy programme had to be taught on an alternative day. This required flexibility on behalf of the classroom teachers and the researcher, as they negotiated an alternative day and time to deliver the lesson. The need for flexibility when dealing with complex scheduling issues in schools was also acknowledged by Lisa Jaycox and colleagues (2006) in their description of three projects that were implemented in schools.
Conclusions
When implementing and evaluating a programme, it is imperative that the programme is implemented consistently, to maximise the effectiveness of the programme and gain an accurate picture of its impact. Through careful consideration at each stage of the research process (development, implementation and evaluation), I was able to set up measures and procedures to increase the consistency in which the programme was implemented across the two classes. The teacher interviews, researcher reflective journal and teacher observations noted the success of these strategies in achieving implementation fidelity. As expected, there were also a number of challenges faced when delivering the programme, which required careful planning and flexibility on behalf of the researcher implementing the programme to overcome these challenges. As you conceptualise implementation fidelity in your own study, it is important to consider which strategies will be the most feasible and effective for the specific design and context of your study. Plan ahead and consider the challenges you may face when implementing your programme and then consider strategies to overcome these challenges. When working within the complexities of natural environments such as schools, you need to weigh the need to maintain the consistent delivery of a programme with the need to adapt a programme to meet the learning and behavioural profiles of the students. In my study, I employed teaching strategies to encourage student input from a more reserved class without omitting any of the lesson content. This balance needs to be considered in light of the specific context, purpose and design of your study.

Exercises and Discussion Questions
1. Consider the example strategies provided in this case study on how to achieve implementation fidelity. Which strategies do you think are most effective and why?
2. What additional strategies could be employed to maximise implementation fidelity?
3. Consider how implementation fidelity could be achieved in a different context, that is, implementing a counselling programme in a one-on-one setting, or implementing a physical activity programme in an after-school care setting. What challenges might you face in these settings and how could they be overcome or minimised?
4. Read other examples of studies (see Further Reading list) and explain the strategies that they used to achieve implementation fidelity.
Further Reading


References


APPENDIX D. Exit slips used in the multi-school study
Appendix D. Exit slips used in the multi-school study

Exit Slip
Lesson 1

What reasons would you give to a 13-year old teenager to *not* try a glass of alcohol at home?
Exit Slip
Lesson 2

What is advertising?

What is the purpose of advertising?

List examples of where ads can be found:
Describe the four different ways that we may think about an alcohol advertisement (hint: white, red, yellow and black).
Name the advertising techniques that you know:

Choose one of the advertising techniques and explain why you think it is effective:
Think back to your annotated sketch for a new Blueberry Breakfast Slice. What would be the hidden message of your ad and why?
Finish this sentence, if I buy this product then...because...
List the advertising techniques that are used in this ad.
Explain the similarities and differences between print and TV ads.
List the persuasive techniques that you are using in your counter-advertisement
What features of your counter-ad do you think are effective and why?

How could you improve the effectiveness of your counter-ad?
Exit Slip
Lesson 10

What is the most important skill/knowledge that you learned from Media in the Spotlight?

What did you like the best about Media in the Spotlight?

What did you like the least about Media in the Spotlight?
APPENDIX E. Analysis of verbal protocols from the pilot study
Appendix E. Analysis of verbal protocols from the pilot study

Method
To investigate the clarity of the pre and post-test measures and how they were understood by the participants, verbal protocols (Ericsson & Simon, 1993) were conducted with randomly selected students \((n = 5)\) from within the sample. The small sample size was due to the labour-intensive nature of this research method. Two of the participants were in Year 6 and three were in Year 5. These participants worked one-on-one with the facilitator of the program and thought-aloud as they answered the questions to provide insight into their cognitive processes (Young, 2005). To maintain anonymity verbal protocols were allocated an ID number. This methodology is valuable, as little is currently known about how primary school children interpret questions about drinking behaviour.

Procedure
The verbal protocols (VP) were conducted across two days; approximately two weeks before the pre-test was delivered to the whole class (3/9/14) and immediately after the post-test had been delivered to the whole class (5/11/14). The same five students who participated on the VP for the pre-test also participated in the VP for the post-test. The VP took place in a quiet room conducive to audio-recording whilst being visible to others for accountability. The time taken to complete the VP for the pre-test ranged from 20-30 minutes (including additional questions on students’ decision making), while the time taken to complete the VP for the post-test ranged from 12-22 minutes. The difference in pre and post-test completion time was likely due to the participants’ familiarity with the questionnaire and the facilitator of the program.

Analysis
The text generated by the VP were transcribed into Microsoft Word and then analysed manually due to the small quantity of data. Qualitative inductive coding was used whereby the findings were derived from the objective of the measures and multiple readings and interpretations of the data themselves rather than an existing coding framework (Braun & Clarke, 2006).
Results

Pre-test

Questions 1-6 (preference for alcohol or non-alcohol branded merchandise)

1) Students’ six statements (n = 30) were coded for what influenced the students’ decisions when selecting which product they liked better. Some statements covered more than one category. The categories included:
   - Appearance of the toy (e.g. colours, designs) = 20 responses
   - Practicality/interest in the toy (e.g. “don’t play cards”) = 3 responses
   - Alcohol brand awareness (discouraged students from selecting the product) = 5 responses
   - Non-alcohol brand awareness (like or dislike of the brand) = 5 responses

2) Only 5 out of the 30 responses (17%) indicated awareness of the alcohol brands included in the pictures

3) 3 out of the 5 students indicated awareness of the alcohol brands included in the pictures

Quotes from VP

I like A a little more because the other one [B] I think is a beer company
I like A a lot more because... and that one [B] I think is also alcohol
I like A a little more because the other one [B] is like Jim Beam; isn’t that like a drink?
I like A a lot more because the other one [B] is a beer company and everyone would be like, what! So I like A a lot more
I like them just the same... I know that’s a beer company, but I really don’t like Nike so I’m just going to like them the same

- The alcohol brands recognised were:
  - Jim Beam – recognised by 1/5 students
  - XXXX Gold - recognised by 2/5 students
  - Cougar - recognised by 1/5 students
  - Carlton Draught - recognised by 1/5 students
The alcohol brands that were not recognised by any of the students were:
- Bundaberg
- Jack Daniels

Questions 7-57 – any issues with understanding of questions

1. Q.43 People in alcohol ads do things that most people do when they drink alcohol -
   One participant left this question blank because they didn’t understand it
2. Q.48 When I’m watching TV at home and I see ads for alcohol, I stop and analyse them carefully
   - Two participants left this question blank because they don’t really watch TV
     - I don’t really watch TV, I just watch movies
     - I’ve never seen an alcohol ad on TV. I don’t really watch TV
   - Perhaps could modify this question to: When I see ads for alcohol, I stop and think about them carefully
3. Q.49 When I hear or see ads, I want to talk or argue back at them
   - The same two participants left this question blank
     - Haven’t seen any ads for alcohol

Post-test

Questions 1-6 (preference for alcohol or non-alcohol branded merchandise)

4) Students’ six statements (30 in total) were coded for what influenced the students’ decisions when selecting which product they liked better. Some statements covered more than one category. The categories included:
   - Appearance of the toy (e.g. colours, designs) = 18 responses
   - Practicality/interest in the toy (e.g. “don’t play cards”) = 1 response
   - Alcohol brand awareness (discouraged students from selecting the product) = 10 responses
   - Non-alcohol brand awareness (like or dislike of the brand) = 7 responses
5) 10 out of the 30 responses (33%) indicated awareness of the alcohol brands included in the pictures
6) 4 out of the 5 students indicated awareness of the alcohol brands included in the pictures
For example:

**Quotes from VP**

*I like them just the same - because Bundaberg, they make great ginger beer, but they also make alcohol*

*I like A a little more – It’s Hot Wheels so it’s like a kids thing, but like Jim Beam is more an adults because it’s alcohol*

*I like A a little more – because I feel like that’s supporting the brand of the alcohol*

*I like B a lot more – because I know that A is an alcohol company*

- The alcohol brands recognised included:
  1. Jim Beam – recognised by 4/5 students
  2. XXXX Gold - recognised by 1/5 students
  3. Cougar - recognised by 1/5 student
  4. Carlton Draught - recognised by 2/5 students
  5. Bundaberg – recognised by 2/5 students

- The alcohol brand that were not recognised by any of the students was:
  - Jack Daniels

**Discussion**

- The students displayed greater alcohol brand awareness after the intervention. Does this mean the students were not aware of/exposed to the brands prior to the intervention, or were they more conscious of the brands included in the questionnaire post intervention? Should a question on alcohol brand awareness be included in the pre-test to clarify these questions? However while these questions are raised by the data, they are not of concern provided that the program achieves the intended attitudinal change. If the students are more aware of the alcohol advertisements but are more sceptical of the alcohol brands, then the program has provided the students with more resistance and has been effective.
• Overall, the appearance of the toy (i.e. its colour and design) had a greater influence on students’ decisions than did alcohol brand awareness. This raises questions on the helpfulness of this measure on predicting students’ future drinking intentions.

• The verbal protocols were intended to provide insight into the students’ cognitive processes as they ‘thought aloud’ while completing the questionnaire. With hindsight it might have been more useful to interview the students after completion of the questionnaire to find out answers to specific questions, as the students found it difficult to be constantly thinking aloud and if the think-alouds were executed correctly it would have substantially increased the time taken to complete the questionnaire. This view is echoed by (Branch, 2000) who identified that some participants may find think-alouds too cognitively taxing and it may be more beneficial to use retrospective data.

References


APPENDIX F. Student questionnaire for the multi-school study
Appendix F. Student questionnaire for the multi-school study

*Note: the questionnaire administered at time points 1 and 2 did not include Qs 50-63. Questions 64-67 were included in the time point 2 questionnaire for the intervention group and time point 3 for the wait-list control group.

Media in the Spotlight Questionnaire

Disposable Cover Page

Time Point 3

Child’s Name: _____________________________________________________

Child’s Classroom: _________________________________________________

Child’s Identification Code: ___   ___   ___  ___   ___   ___

_________________________________________________________________

Be sure to remove this cover page after distributing the questionnaire to the child.

Destroy all cover pages by shredding.
Instructions:

- DO NOT WRITE YOUR NAME OF THIS QUESTIONNAIRE

- Because you are not writing your name on this, your answers will be CONFIDENTIAL (in other words, no one will know your answers). Do not worry about your parents, teachers or anyone else finding out what you said. We don’t need names on questionnaires because we’re only interested in how most people your age feel as a group – not any one person’s answers.

- Be sure to answer ALL of the questions honestly and carefully. If you are unsure of an answer, please give your best guess. However, if you do not want to answer a particular question, you may leave it blank. Remember, THIS QUESTIONNAIRE IS NOT A TEST. You will not be graded and there are no right or wrong answers.
For the next 6 questions, imagine you could choose between one of the two toys/clothing/bags in each photo. Please tell us which one you like better by ticking the box next to the answer you choose.

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
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<tbody>
<tr>
<td>1.</td>
<td>[ ] I like A a lot more</td>
<td>[ ] I like B a lot more</td>
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<td></td>
<td>[ ] I like A a little more</td>
<td>[ ] I like B a little more</td>
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<td>[ ] I like them just the same</td>
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<td>2.</td>
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<td>[ ] I like them just the same</td>
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<td>3.</td>
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<td>4.</td>
<td>□ I like A a lot more</td>
<td>□ I like B a little more</td>
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<td>□ I like A a little more</td>
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<td>□ I like them just the same</td>
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<tr>
<td>5.</td>
<td>□ I like A a lot more</td>
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<td></td>
<td>□ I like A a little more</td>
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<td>□ I like them just the same</td>
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<td>6.</td>
<td>□ I like A a lot more</td>
<td>□ I like B a little more</td>
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<td>□ I like A a little more</td>
<td>□ I like B a little more</td>
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<tr>
<td></td>
<td>□ I like them just the same</td>
<td>□ I like B a lot more</td>
</tr>
</tbody>
</table>
Tell us about this ad

Please look at the advertisement and answer the following questions about it. Include as much detail as you can.

7. What is being sold in the ad?

8. What type of person do you think would like this ad (for example, male or female, child or adult)? Explain your answer.

9. What is the purpose of this ad?

10. What did the people who made the ad do to persuade people to buy the product? List as many thoughts as you can.

11. What do they want you to think about this product? Finish this sentence:

If I get this product, then ___________________________________________________________________________________________________________________________________________________________________________________________________________.
12. Is there anything this ad is not telling you about the product that you would need to know before buying or using it? Explain your answer.

What do you think about alcohol and drinking?

Please answer the questions below by ticking the box below the answer you choose.

<table>
<thead>
<tr>
<th>How likely is it that...</th>
<th>NO, Very unlikely</th>
<th>No, unlikely</th>
<th>Neither likely or unlikely</th>
<th>Yes, likely</th>
<th>YES, very likely</th>
</tr>
</thead>
<tbody>
<tr>
<td>13. if one of my friends offered me a drink of alcohol before I turned 18 years old, I would drink it</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>14. before I turn 18 I will drink alcohol</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<td>☐</td>
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<tr>
<th></th>
<th>NO, strongly disagree</th>
<th>No, disagree</th>
<th>Neither agree or disagree</th>
<th>Yes, agree</th>
<th>YES, strongly agree</th>
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<tbody>
<tr>
<td>15. I feel like I have to drink alcohol</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>16. I would feel like I had to drink alcohol if my friends were drinking</td>
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<tr>
<th></th>
<th>All of them</th>
<th>Most of them</th>
<th>Half of them</th>
<th>Few of them</th>
<th>None of them</th>
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<tbody>
<tr>
<td>17. Australians drink beer</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>18. Friends drink together</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>19. Teenagers drink</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>20. Parties have alcohol</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>21. Drinking helps you fit in</td>
<td>NO, strongly disagree</td>
<td>No, disagree</td>
<td>Neither agree or disagree</td>
<td>Yes, agree</td>
<td>YES, strongly agree</td>
</tr>
<tr>
<td>22. Drinking makes you happy</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>23. Drinking makes young people seem grown-up</td>
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</table>

| 24. What are your family’s beliefs about drinking alcohol? | Very unacceptable | Unacceptable | I don’t know | Acceptable | Very acceptable |
| 25. What are your family’s beliefs about children under 18 drinking alcohol? |                   |             |                          |            |                   |

Please answer the questions below by ticking the ‘true’ or ‘false’ box.

| 26. Alcohol can cause liver damage and certain types of cancer | True | False |
| 27. Alcohol affects children and teenagers more than adults because their brain is still developing |       |       |
| 28. Drinking alcohol won’t affect your ability to learn new things |       |       |
| 29. There’s more chance a person will become a problem drinker if they start drinking when they are young |       |       |

What do you think about alcohol advertising?

Please answer the questions below by ticking the box below the answer you choose.

<p>| The purpose of alcohol advertisements is to... | NO, strongly disagree | No, disagree | Neither agree or disagree | Yes, agree | YES, strongly agree |
| 30. tell you everything there is to know about the product |                   |             |                          |            |                   |
| 31. make products look better than they really are. |                   |             |                          |            |                   |
| 32. tell you correct and accurate information about products |                   |             |                          |            |                   |</p>
<table>
<thead>
<tr>
<th>How much fun would it be to...</th>
<th>Not fun at all</th>
<th>Not fun</th>
<th>Neither fun or not fun</th>
<th>Fun</th>
<th>Very fun</th>
</tr>
</thead>
<tbody>
<tr>
<td>33. do things that people in alcohol ads do.</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>34. look like the people in alcohol ads.</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>35. be like people in alcohol ads.</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How often is this true?</th>
<th>NO, strongly disagree</th>
<th>No, disagree</th>
<th>Neither agree or disagree</th>
<th>Yes, agree</th>
<th>YES, strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>36. You can believe everything you see in alcohol ads.</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How often is this true?</th>
<th>NO, strongly disagree</th>
<th>No, disagree</th>
<th>Neither agree or disagree</th>
<th>Yes, agree</th>
<th>YES, strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>37. Alcohol ads are honest about what happens when people drink alcohol.</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>38. Alcohol ads make drinking seem better than it really is.</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>39. Alcohol advertisers try to take advantage of young people.</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>How often is this true?</th>
<th>NO, strongly disagree</th>
<th>No, disagree</th>
<th>Neither agree or disagree</th>
<th>Yes, agree</th>
<th>YES, strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>40. I like the way people look in alcohol ads</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>41. I like the things people do in alcohol ads</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>42. I like the things that happen in alcohol ads</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>
### How often is this true?

<table>
<thead>
<tr>
<th>Statement</th>
<th>NO, strongly disagree</th>
<th>No, disagree</th>
<th>Neither agree or disagree</th>
<th>Yes, agree</th>
<th>YES, strongly agree</th>
</tr>
</thead>
<tbody>
<tr>
<td>43. People in alcohol ads do things that most people do when they drink alcohol.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>44. People in alcohol ads look like real alcohol drinkers.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>45. People in alcohol ads act like most people act when they drink alcohol.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>46. I like the kinds of things that people in alcohol ads like.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>47. People I know are like the people I see in alcohol ads.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>48. When I see ads for alcohol, I stop and think about them carefully</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>49. When I hear or see ads for alcohol, I want to talk or argue back at them</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Please answer the questions below by ticking the ‘yes’ or ‘no’ box.

<table>
<thead>
<tr>
<th>Question</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>50. Have you ever felt like saying unkind things to a person?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>51. Are you always careful about keeping your clothes neat and your room clean?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>52. Do you sometimes feel like staying home from school even if you are not sick?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>53. Do you ever say anything that makes somebody else feel bad?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>54. Are you always polite, even to people who are not very nice?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>55. Sometimes, do you do things you’ve been told not to do?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>56. Do you always listen to your parents?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>57. Do you sometimes wish you could just play around instead of having to go to school?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>58. Have you ever broken a rule?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>59. Do you sometimes feel like making fun of other people?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>60. Do you sometimes feel angry when you don’t get your way?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>61. Do you always do the right things?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>62. Are there some times when you don’t like to do what your parents tell you?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>63. Do you sometimes get mad when people don’t do what you want them to do?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Thank you! This is the end of the questionnaire.
APPENDIX G. Interview questions for the pilot study and multi-school study
Appendix G. Interview questions for the pilot study and multi-school study

*Note: The post-program interview questions were the same as the pre-program interview questions except they were asked in past tense. E.g. Did the program seem easy to implement?

**Interview before the intervention**

Thank you very much for your time.

- I am interested in finding out your honest thoughts on the program. I won’t be offended if you have criticism.
- I just have to tell you that anything you tell me is confidential. Nothing you say will be personally attributed to you in any papers that result from this interview.
- Are you ok with the interview being recorded so I can remember what was said?
- Do you have any questions before we begin?

**What are your overall impressions of the program?**

- What do you like about the program?
- What would you change about the program?

**Does the program seem easy to implement?**

- What challenges do you think might arise when implementing the program?
- What features make the program easy to use, if any?

**How effective do you think the program will be in meeting the intended learning outcomes from English and PDHPE?**

- How effective do you think the activities will be in helping students to understand key concepts and achieve the learning outcomes?

**How effective do you think the program will be in meeting the intended behaviour outcomes? For example reducing intentions to drink alcohol and becoming more critical of alcohol advertising.**

- What evidence do you think there may be of changes in students attitudes during the program?

**How engaging do you think the program will be for students?**

- Are there particular lessons or activities that you think will be particularly engaging for the students?
- Are there aspects of the program that you think will be difficult for the students to engage with?
Do you have any suggestions for changes that could be made to improve the program?
- For example to improve its ease of use, effectiveness in meeting the intended learning and behaviour outcomes or engagement for students?

What prior learning do students have in media and alcohol?
- When does Healthy Harold come to the school?
- Any related extracurricular- activities offered?
- Any in-class units of work/lessons on advertising (this year and in previous years if knowledge of it)
- How comprehensive is students’ knowledge in these areas?

Is there anything you would like to add that could be important for me to know?

Logistics
• Are there any students with specific needs in the class? Learning or behavioural
• What’s your classroom management system? Rewards and consequences
• What do the students do when they finish their work early? I can prepare early finisher activity booklets in case
• Available technology – most of my lessons require a projector i.e. IWB. A couple require the internet. There’s one where I want the students to visit a website – are there available devices e.g. iPads/tablets? How many? Lesson one requires JAVA for the Wordle website. Whiteboard?
APPENDIX H. Observation proforma for the pilot study and multi-school study
Appendix H. Observation proforma for the pilot study and multi-school study

<table>
<thead>
<tr>
<th>Lesson 1: Alcohol Truth</th>
<th>Observation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Aspect</strong></td>
<td><strong>Teacher interactions with students (Allowance of questions, input during activities, generation of discussion, teacher enthusiasm)</strong></td>
</tr>
<tr>
<td></td>
<td>Good feedback given to student responses. Talking about short/long term consequences - needs reinforcement - assess knowledge by questioning facts which you did!</td>
</tr>
<tr>
<td></td>
<td>&quot;Great! Back-chatted compared to SS1, good job on bringing them back on task - sure she do chat! Very supportive manner, encouraging&quot;</td>
</tr>
<tr>
<td><strong>Student engagement (classroom management issues, level of interest in discussions and questions asked, student enthusiasm)</strong></td>
<td>Intro activity - every child involved - gave them some 'success' to begin with. Liked seeing their responses! Including activity - movement was a good lesson break/still getting into across. Instructions very clear/enthusiastic responses from students.</td>
</tr>
<tr>
<td><strong>Teaching content (the extent to which the planned lesson material is covered and deviations from the planned content, lesson timing)</strong></td>
<td>Very scripted program, followed closely but still used student contributions to add to lesson. Lesson timing worked well - more variety of content - taking 'guided decision making' (written response - exit slips) - useful tool to assess understandings.</td>
</tr>
<tr>
<td><strong>Use of supporting materials (the extent to which the supporting materials provided e.g. scaffolds and technology suggestions are used and any materials that are added or omitted)</strong></td>
<td>B.T.N - great resource, can be familiar with and used for quick and easy recall. Word cloud - usual learners' impact to add to knowledge.</td>
</tr>
</tbody>
</table>
APPENDIX I. Pilot Study: Explanation of the five key factors in implementation and accompanying quotes
Appendix I. Pilot Study: Explanation of the five key factors in implementation and accompanying quotes.

Five key factors in implementation emerged from the multiple qualitative data sources. These factors are expanded upon below. This appendix also includes suggested changes to improve the program that arose from the teacher interviews and observations.

Importance of school context
In the pre-program interviews, all three teachers believed that the students would be naive to the consequences of alcohol due to their religious upbringings and therefore may bring less prior knowledge to the topic. The Year 6 teacher expressed:

They’re quite sheltered and not very worldly, so I think the first part might be difficult.

In the post-program interviews, two of the teachers believed there would be a difference in how students from public schools would respond to the program in comparison to the Christian school where the study was conducted. The Year 5 teacher commented:

I think if you did it in a public school...it could be quite challenging...the kids here, they either believe the right answers or at least know the right answers, whereas in another school it could be cool to have the wrong answers.

Attainment of English and PDHPE learning outcomes to different extents
In the pre-program interviews two of the teachers noted the program’s strong connections to the English curriculum. For example, the Year 6 teacher was enthusiastic about the program’s focus on digital literacy and media literacy:

It’s really good for the English syllabus, especially the digital literacy and media literacy is not something that is done very well and done very much... in most classrooms.

In the post-program interviews, all three teachers identified the program’s connection to either the English or PDHPE syllabi. The Year 5 teacher commented:
I think in PDH you cover most of these [outcomes] quite well, Communicating, Decision Making...Interacting...Growth and Development...Personal Health Choices...

At the same time, in the post-program interview the Year 5 teacher expressed that the program did not cover enough English outcomes to be taught during the literacy block. In contrast, the Year 6 casual teacher perceived a significant advantage in integrating English and PDHPE:

I think that actually gave a lot more power to the alcohol discussion, rather than just doing it as a health thing, or just as an English advertising type thing.

Program’s useability provided flexibility
In the pre-program interviews, the structure of the program was perceived positively by all three teachers, as “it’s very explicit in all of the instructions” [Year 6 teacher], “expected responses are put there” [Year 5 teacher] and it used “lots of different teaching techniques or strategies” [Year 6 casual teacher]. However two of the teachers emphasised the need for flexibility when delivering the program.

In the post-program interviews, all three teachers again identified the structure and content of the program as a facilitator to implementation. The Year 6 teacher particularly liked the “exit slips” and the “pre-planning” of the counter-ads to “produce something worthwhile”, while the Year 6 casual teacher liked that the program was “all ready to go” and “you could have with a bit of preparation...presented it, as well as you did.” However the Year 5 teacher expressed that “if I was to implement it, I think I’d take out a lot of the steps and halve it, in order for it to happen.” The teacher observations and researcher reflective journal indicated that there were minimal deviations from the planned lesson content and overall the lessons were implemented with ease.

Perceived complexity and achievability of the lessons
In the pre-program interviews, all three teachers raised concerns around the complexity of the learning experiences for the year groups due to the inclusion of abstract concepts that require higher order thinking. The Year 5 teacher commented:

It’s fairly high level thinking...so...they’ll struggle with that.
In exit slip three, some students were unable to explain how media messages are interpreted, suggesting that the concept was abstract for the students and therefore not clearly understood. The students’ understanding of how media messages are interpreted was also questioned in the researcher’s journal entry.

In the post-program interviews, all three teachers perceived the program to be achievable for the students. In fact, the Year 5 teacher believed that the students could have been moved more quickly through some of the content. The Year 6 teacher observed:

I could see that...they had developed this knowledge...so they were able to confidently answer the question, like saying the bad effects of alcohol.

The achievability of the learning experiences was supported by student responses on a number of the exit slips. The majority of the students recognised the persuasive nature of advertising (exit slip two); listed a broad range of persuasive advertising techniques used by advertisers (exit slip four); identified an example of a hidden message (exit slip five); deconstructed a print ad, naming at least one technique used in the ad (exit slip six); and listed a similarity and difference between print and TV ads (exit slip seven). Analysis of the student work samples showed variance in the students’ ability and quality of work as would be expected of a year group, however overall the work samples demonstrated successful completion of the planned activities.

Program’s engagement and relevance for the students
In the pre-program interviews, all three teachers believed that the program would be engaging for the students. The Year 6 casual teacher expressed:

I think it’s interactive, it’s not fill in the questions, discuss things, answer the questions. I think the kids will really enjoy it.

In the post-program interviews, all three teachers noted the program’s success in engaging the learners and achieving relevance, particularly in equipping students with skills and understanding to respond to the advertisements they are surrounded by. The Year 6 casual teacher described the students’ sense of empowerment as a result of the program:
They had some almost power that they could do something, not about alcohol, but about something that they see often so they can relate it to their own lives.

Student responses on exit slips eight and nine suggested that the students were highly engaged in the task of creating a counter-advertisement. This task required the students to change an existing alcohol ad so that it exposed the harms associated with alcohol use. All of the students successfully listed at least one technique used in their counter-advertisements and at least one feature of their counter-ad that they thought was effective, with more than half of the students providing a reason for why a particular feature of the counter-ad was effective. Almost all of the students provided specific examples of the persuasive techniques used in their counter-ad and successfully listed a technique to improve its effectiveness. Finally, more than half of the students identified the creation of a counter-ad as the best part of the program.

In exit slip one, the students provided valid reasons they would give to a 13-year old teenager to not try a glass of alcohol at home, highlighting the relevance of the program to the students’ everyday lives. In exit slip ten, more than half of the students identified alcohol related knowledge as the most important component of the program, while about a third of the students identified advertising related skill/knowledge as the most important component of the program.

The researcher’s journal entries supported the assertion that the students were highly engaged in the learning experiences, describing the students as “very enthusiastic after the video was shown” [lesson 1]; “very excited to be watching the cricket [boys especially]” [lesson 2]; “engaged in the activity” [lesson 4]; “engaged in the discussions” [lesson 5]; and “engaged by the ads” [lesson 6]. Similarly, the teacher observations repeatedly noted that the students were “interested and engaged” [lesson 3]; “responsive and engaged” [lesson 5]; “engaged, interested and able to analyse the ads” [lesson 7]; “very engaged in the activity” [lesson 9]; and “enjoyed seeing the work of the other students” [lesson 10].
Suggested changes

Arising from the teacher interviews, suggestions for improving the program included maintaining the currency of the alcohol advertisements included in the program, ensuring alcohol brand knowledge before beginning some of the activities to ensure successful completion of the activities, and making sure students with specific learning needs are catered for. Arising from the teacher observations, suggestions included providing additional scaffolds, instructions and prompts in the program to increase clarity for the teacher and students. Suggested modifications to the program were held off until after the pilot study had been completed and all sources of data analysed to ensure the validity of the changes.
APPENDIX J. Pilot study: Proposed changes to Media in the Spotlight
Appendix J. Pilot study: Proposed changes to Media in the Spotlight

<table>
<thead>
<tr>
<th>Aspects of the lesson that worked well</th>
<th>Aspects of the lesson that didn’t work as well</th>
<th>Changes made</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Supported by classroom teacher observations and researcher reflections)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LESSON 1 – ALCOHOL TRUTH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Timing (1hr, including pre-test)</td>
<td>1. Researcher reflection suggested that some of the students were more reserved at the start of the lesson. The original opening question also seemed slightly complicated for the students to grasp</td>
<td>1. Broaden the opening question to ‘what do you know about alcohol?’ to increase the number of student responses</td>
</tr>
<tr>
<td>• Students responded well to majority of the discussion questions</td>
<td>2. Researcher reflection and teacher observations suggested that while the students really enjoyed the True/false activity, they began to lose focus</td>
<td>2. Include fewer questions in the True/False game</td>
</tr>
<tr>
<td>• Students responded well to the BtN clip – very engaged</td>
<td>3. Responses on the exit slips suggested that students focussed on the negative and more severe consequences of drinking too much alcohol</td>
<td>3. Informally discuss with students that while it is harmful for a child to drink alcohol, even in small amounts, it is ok for an adult to drink small amounts of alcohol</td>
</tr>
<tr>
<td>• Students were very enthusiastic about the True/false game and enjoyed the movement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Learning the names of the students beforehand helped during the discussion time, as well as for correcting behaviour</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### LESSON 2 – ADS, ADS, EVERYWHERE

- **Timing (50 minutes)**
- Post-it note activity was very successful with both classes – encouraged all students to provide responses and provided a useful snap shot of students’ prior knowledge
- Inclusion of cricket match was very engaging for some of the boys
- Use of think-pair-share encouraged discussion – particularly when I walked around the room and encouraged students to share their responses with the class

1. Researcher reflection and teacher observations noted that it was a bit difficult to see the finer details/print advertising in the cricket video clip (not as clear on a larger screen). Some children didn’t seem to be aware of the alcohol brands and so didn’t know “carlton” was an alcohol ad. Student work samples also suggested that students didn’t notice/recognise all of the alcohol advertisements shown

1. Show a shorter segment of the cricket match (approx. 5 mins) – provide students with clear examples of what they are looking for (provide screen shot examples in the teaching program)

### LESSON 3 – INTERPRETTING MEDIA MESSAGES

- **Timing (55 minutes – 1hr)**
- Opening discussion went well – the students were able to list a number of examples of places where they have seen ads for alcohol
- The ‘what makes ads appealing’ task worked well – the students understood the different visual literacy techniques and were able to give examples of each technique (see work samples as evidence)
- Providing the students with prompts (point-of-need scaffolding) during the ‘what makes ads appealing’ task was helpful and needed

1. Researcher reflection and student work samples (exit slips) suggest that the students did not have a strong understanding of how media messages are interpreted.

2. Analysis of the student exit slips and researcher reflection suggested that the exit slip question was too complicated

1. Modify section of the lesson on interpreting media messages to increase clarity and understanding – use more concrete and easy to understand examples (refer to De Bono’s six thinking hats)

2. Change question to: Describe the four different ways that we may think about an alcohol advertisement (hint: white, red, yellow and black).
### LESSON 4 – SELL IT TO ME

- Timing (1hr)
- Using post-it notes to allow all students to contribute to the annotation of the Vodka cruiser ad was positive – all students were engaged in the activity as a result.
- Providing the students with step-by-step instructions for the ‘design an advertisement’ activity was helpful. i.e. getting them to first design the ad (15 mins) and then annotate the ad (10 mins). The quality of the students’ designs were encouraging

1. Researcher reflection suggested that students were a bit shy/reluctant to share their ‘design an advertisement’ ads with the whole class.

1. Think of a way to make this less intimidating for the students, i.e.
   - The second class were happy for me to share their ad with the class for them
   - Allow students to share their ads with a partner/table group

### LESSON 5 – HIDDEN MESSAGES

- Timing (45mins – 50 mins – would have been a bit longer if the online game was completed individually/in pairs)
- Students were engaged in the discussions (used think-pair-share a few times)
- The online game worked well as a whole class activity – allowed the teacher to reinforce the key concepts as decisions were made by the class
- Use of resources from previous lesson helped students remember what they had learnt/focus on topic

1. Analysis of the exit slips and researcher reflection suggested that some students would have benefited from prompts to complete the exit slip

1. Ensure that students are able to review their sketch before completing the exit slip. To increase the clarity of the exit slip/stronger link to the learning experience, add to the instructions: *Finish this sentence, if I buy this product then...*
### LESSON 6 – EXPOSING THE ADVERTISER’S TRICKS, PART 1

- **Timing (65 mins)**
- Some students were able to complete the independent task competently and with minimal assistance – the Year 6 class coped better with the activity than Year 5 (not sure if this is because they’re older or because they were given clearer instructions being the second class)
- Students were all able to identify the product, audience, ad hooks and hidden message.

1. The independent task was challenging for some of the students and a number of the students required further prompts and feedback
   - Students particularly had difficulty supporting their choice of target audience with evidence from the ad and supporting their verdict with facts about alcohol

1. Provide more explicit examples of suggested responses (for the target audience and verdict) and write the examples on the board before beginning the activity for further support
   - Have a whole class discussion after students have analysed one of the ads to reinforce the correct answers before they begin the analysis of their second ad
   - Provide further instructions/prompts on the proforma, e.g. next to ‘ad hooks’, write ‘list 6 and explain why they are effective’, next to ‘verdict’, write ‘include facts about alcohol’

### LESSON 7 – EXPOSING THE ADVERTISER’S TRICKS, PART 2

- **Timing (60 – 65 mins)**
- Students were engaged by the ads (particularly inflatables and Tarzan)
- Students were able to deconstruct the multimedia ads independently - more competent than the previous lesson
- Providing the students with additional prompts before beginning the activity seemed helpful, i.e. including prompts on the proforma and being explicit in how to give a correct response
- Limiting the number of ads to deconstruct to two also ensured more time was spent on each analysis

1. Yeti ad was ok, but not as engaging for the students as the inflatables and Tarzan ad

1. Ensure that the ads included in the lesson are current (i.e. this year)
### LESSON 8 – CREATING A COUNTER-ADVERTISEMENT, PART 1

- Timing (50 - 65 mins)
- The scaffolded instructions were helpful for the students (they wrote down the hidden message and verdict for the ad before planning their counter-ad).
- Both classes understood the concept and were able to challenge the message in the ad.
- The Year 5 class was engaged in the lesson and responsive to the activities.
- The students enjoyed having a choice of which ad to work on.

1. There were a few classroom management issues (mostly beyond the control of the researcher) that disrupted the flow of the lesson:
   - **(Yr 5)** Students entering and exiting the classroom at different times (choir practice & support group) – some students did not have time to reflect on their ad as a result.
   - **(Yr 6)** Seating arrangement had changed due to 7 boys absent (suspended from school) (table of all boys was a bit disruptive).
   - Girl with Down Syndrome had her iPad confiscated in an earlier lesson (disrupted some of the students).

2. Year 6 class was not as engaged in the activity.

1. Be proactive in addressing any classroom management issues.
   - In hindsight, I could have changed the new seating arrangement which wasn’t working well, and requested that the girl with Down Syndrome was given her iPad back for the lesson so that she didn’t disrupt the other students.

2. The Year 6 class’ lower level of engagement in the activity was likely due to the above classroom management issues.

### LESSON 9 – CREATING A COUNTER-ADVERTISEMENT, PART 2

- Timing (50 – 55 mins)
- Students understood the activity, were engaged and worked productively.
- Students came up with a number of creative ideas for the counter-ads.

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<td>None</td>
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## Lesson 10 – Reflecting on Counter-Advertisements

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<td><strong>Timing (50 mins + post-test)</strong></td>
<td><strong>1. None – minor modifications had already been made to the lesson prior to teaching</strong></td>
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<td><strong>Students particularly enjoyed viewing other students work (PP of student counter-ads)</strong></td>
<td><strong>1. Minor modifications were made to the lesson prior to teaching:</strong></td>
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<td>- Students shared their ‘speech’ and counter-ad with the person next to them rather than to the whole class to save time and to make the task less daunting for the students</td>
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<td>- The teacher/researcher selected the best counter-ads from each class and prepared a PP presentation that displayed the original ad and the students’ counter-ads. The students whose counter-ads were displayed shared their ‘speech’ with the class. The PP presentation was very engaging for both classes.</td>
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APPENDIX K. Abstract: Australasian Professional Society on Alcohol and other Drugs National Conference (APSAD), 2014a
Abstract: Australasian Professional Society on Alcohol and other Drugs National Conference (APSAD), 2014a

Background, conceptualization and design of Media in the Spotlight: an alternative approach to school-based alcohol prevention programs

Issues
An extensive search of media literacy (ML) programs has failed to reveal school-based ML programs that i. address children’s alcohol related cognitions, attitudes and behavioural intentions in an Australian context. The few programs that do exist were developed in America which has a fundamentally different alcohol marketing landscape to Australia and ii. teach primary school students skills in analysing the broad range of alcohol advertisements to which they are exposed to in Australia, rather than focusing primarily on print advertisements.

Approach
To address these gaps, an innovative project to develop an Australian alcohol ML program called Media in the Spotlight began in 2014. The development of the program involved working collaboratively with academics and professionals in education and social marketing and an analysis of key considerations for the program via a systematic literature review of existing programs.

Key Findings
Media in the Spotlight, a 10-lesson alcohol ML program has been developed. The program is positioned in a ML framework and utilises both Inoculation Theory and the Message Interpretation Process model. This paper will describe Media in the Spotlight in greater detail, including its background, conceptualization and design. Implications: This research has resulted in the comprehensive development of a practical and culturally relevant alcohol ML program for Australian children. The program will be piloted this year and evaluated through quantitative outcome and qualitative process evaluations to assess how the program might address children’s alcohol related cognitions,
attitudes and behavioural intentions and the strengths and challenges of implementing the program.

**Conclusion & Implications for Practice or Policy**

If effective, the program has the potential to be widely implemented in Australian schools. Furthermore, the program has potential to challenge policy and curriculum around how substance abuse prevention is approached in schools.
APPENDIX L. Abstract: APSAD, 2014b
Appendix L. Abstract: APSAD, 2014b

Key considerations for developing an effective alcohol media literacy program: findings from a systematic literature review

Issues
Alcohol media literacy (ML) is an emerging field that aims to address the link between exposure to alcohol advertising and subsequent expectancies and behaviours. The design, rigour and results of alcohol ML programs vary considerably, resulting in a number of unanswered questions about effectiveness.

Approach
To provide insight into some of these questions, a systematic literature review of selected alcohol ML studies was conducted.

Key Findings
Based on a critical synthesis of nine interventions, our findings provide a comprehensive understanding of the descriptive, methodological and outcome characteristics of this small, 16- to 17-year (1997 to May 2014) body of significant research. This paper will present key considerations for the development of future ML programs based on findings from the review.

Implications
The review highlighted the need to employ an interactive approach, ensure implementation fidelity, conduct interventions in a naturalistic school setting, maintain the relevance of the program is a rapidly changing society, consider gender differences when designing the program, achieve program relevance for an international audience, consider a more holistic approach to program evaluation and consider the use of follow-up and longitudinal data.
Conclusion
This review has identified key considerations for the future planning and development of a ML program to address young people’s alcohol related cognitions, attitudes and behavioural intentions. The small pool of studies from which this review draws, highlights the emerging nature of this research area and the need for more rigorous evaluations of programs to be conducted.
APPENDIX M. Abstract: *Australian Literacy Educators'*

*Association National Conference, 2015*

Navigating the world of advertising through integrating English and Health

Students are surrounded by print-based and multimodal advertisements; on television, newspapers, magazines, radio, outdoor billboards, sports games, merchandise, shopping centres and the Internet. These advertisements can convey potentially harmful messages to students about health issues such as nutrition and alcohol consumption. There is a need to connect Health and English through a focus on media, in order to equip students with the skills and knowledge to respond to media messages. This presentation will showcase my experience of implementing a set of ten learning experiences with a Year 5 and a Year 6 class. The learning experiences aimed to respond to the new Australian English Curriculum to build students’ competence in reading, interpreting and responding to a broad range of multimodal alcohol advertisements. This presentation will discuss factors that facilitated and hindered the implementation of these learning experiences, illustrated with examples of student worksamples and my own reflections as the teacher.
APPENDIX N. Abstract: *Early Start Conference, 2015*
Appendix N. Abstract: *Early Start Conference*, 2015

‘[I learnt] how to look at ads differently...’: Lessons from an Australian alcohol media literacy program

**Objectives**

Given the harms caused by underage drinking, the influence of the media on children’s alcohol related attitudes and behaviours is an important issue to address. While alcohol media literacy (ML) programs in the US have proven effective, no such programs have yet been implemented and evaluated in Australia. We conducted a pilot study to examine the feasibility and potential impact of a program developed and delivered in an Australian context.

**Methods**

Data came from thirty-seven 5th and 6th grade students from one school in the Sydney region who participated in ten ML lessons. An embedded mixed method design was used. Pre and post-questionnaires were analysed to measure program outcomes; teacher interviews and observations, student exit slips and work samples and a researcher reflective journal were examined to understand program implementation factors.

**Results**

The program proved effective in increasing students’ ML skills and understanding of persuasive intent; decreasing interest in alcohol branded merchandise; and lowering perception of drinking norms. Key factors in implementation were the importance of school context; attainment of learning outcomes to differing extents; program’s useability providing flexibility; perceived complexity and achievability of the lessons and program’s engagement and relevance for the students.

**Key conclusions**

An Australian alcohol ML program appears feasible and has potential to lead to measurable outcomes. This research is significant as it focuses on early prevention, to empower students to respond to alcohol advertisements and reduce future alcohol related harms.

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On the sports field, YouTube and TV:
Equipping students to critically analyse alcohol advertisements

A 10-lesson alcohol media literacy program was developed by the authors based on the message interpretation processing model, Inoculation Theory and constructivist learning theory. The program intended to increase students’ media literacy skills and reduce intent to drink alcohol. This study evaluated the effectiveness of the program, within the Australian advertising scene, through a mixed-method embedded design. Australian upper-elementary classrooms were assigned to either the intervention group (n= 88), or a waiting list control group (n= 90). Questionnaires measured the program’s effectiveness; while teacher interviews and observations, student exit slips and work samples, and a researcher reflective journal examined the implementation process. The research contributes to the small but growing field of alcohol prevention research for the upper-elementary school years.