

**DRUG POLICY MODELLING PROGRAM
MONOGRAPH 19**

**MEDIA REPORTING ON ILLICIT DRUGS IN
AUSTRALIA:
TRENDS AND IMPACTS ON YOUTH
ATTITUDES TO ILLICIT DRUG USE**

**Caitlin Hughes, Bridget Spicer, Kari Lancaster
and Francis Matthew-Simmons**
Drug Policy Modelling Program

Paul Dillon
Drug and Alcohol Research and Training Australia

Funding has been provided by the Australian Government Department of Health and Ageing
under the National Psychostimulants Initiative

September 2010



Drug Policy Modelling Program Monograph Series

© NDARC 2010.

This work is copyright. You may download, display, print and reproduce this material in unaltered form only (retaining this notice) for your personal, non-commercial use or use within your organization. All other rights are reserved. Requests and enquiries concerning reproduction and rights should be addressed to the Information Manager, National Drug and Alcohol Research Centre, University of New South Wales, Sydney, NSW, 2052, Australia.

The Drug Policy Modelling Program Monograph Series is funded by Colonial Foundation Trust.

Published by National Drug and Alcohol Research Centre.

September 2010

ISBN: 978 0 7334 2930 9

The correct citation for this publication is: Hughes, C., Spicer, B., Lancaster, K., Matthew-Simmons, F., & Dillon, P. (2010). Monograph No. 19: Media reporting on illicit drugs in Australia: Trends and impacts on youth attitudes to illicit drug use. *DPMP Monograph Series*. Sydney: National Drug and Alcohol Research Centre.

THE DRUG MODELLING POLICY PROGRAM

This monograph forms part of the Drug Policy Modelling Program (DPMP) Monograph Series.

Drugs are a major social problem and are inextricably linked to the major socio-economic issues of our time. Our current drug policies are inadequate and governments are not getting the best returns on their investment. There are a number of reasons why: there is a lack of evidence upon which to base policies; the evidence that does exist is not necessarily analysed and used in policy decision-making; we do not have adequate approaches or models to help policy-makers make good decisions about dealing with drug problems; and drug policy is a highly complicated and politicised arena.

The aim of the Drug Policy Modelling Program (DPMP) is to create valuable new drug policy insights, ideas and interventions that will allow Australia to respond with alacrity and success to illicit drug use. DPMP addresses drug policy using a comprehensive approach that includes consideration of law enforcement, prevention, treatment and harm reduction. The dynamic interaction between policy options is an essential component in understanding best investment in drug policy.

DPMP conducts rigorous research that provides independent, balanced, non-partisan policy analysis. The areas of work include: developing the evidence-base for policy; developing, implementing and evaluating dynamic policy-relevant models of drug issues; and studying policy-making processes in Australia.

Monographs in the series are:

01. What is Australia's "drug budget"? The policy mix of illicit drug-related government spending in Australia
02. Drug policy interventions: A comprehensive list and a review of classification schemes
03. Estimating the prevalence of problematic heroin use in Melbourne
04. Australian illicit drugs policy: Mapping structures and processes
05. Drug law enforcement: The evidence
06. A systematic review of harm reduction
07. School based drug prevention: A systematic review of the effectiveness on illicit drug use
08. A review of approaches to studying illicit drug markets
09. Heroin markets in Australia: Current understandings and future possibilities
10. Data sources on illicit drug use and harm in Australia

MEDIA REPORTING ON ILLICIT DRUGS IN AUSTRALIA

11. SimDrug: Exploring the complexity of heroin use in Melbourne
12. Popular culture and the prevention of illicit drug use: A pilot study of popular music and the acceptability of drugs
13. Scoping the potential uses of systems thinking in developing policy on illicit drugs
14. Working estimates of the social costs per gram and per user for cannabis, cocaine, opiates and amphetamines
15. Priority areas in illicit drug policy: Perspectives of policy makers
16. A summary of diversion programs for drug and drug-related offenders in Australia
17. A review of Australian public opinion surveys on illicit drugs
18. The coordination of Australian illicit drug policy: A governance perspective
19. Media reporting on illicit drugs in Australia: Trends and impacts on youth attitudes to illicit drug use

DPMP strives to generate new policies, new ways of making policy and new policy activity and evaluation. Ultimately our program of work aims to generate effective new illicit drug policy in Australia. I hope this Monograph contributes to Australian drug policy and that you find it informative and useful.

A handwritten signature in black ink, reading "Alison Ritter". The signature is fluid and cursive, with the first name "Alison" and the last name "Ritter" clearly distinguishable.

Alison Ritter

Director, DPMP

ACKNOWLEDGEMENTS

First and foremost we would like to acknowledge the Commonwealth Department of Health and Ageing for funding this project under the National Psychostimulants Initiative and for recognising the potential importance of the mainstream media. In addition, we acknowledge the ongoing support of the Colonial Foundation Trust as part of the Drug Policy Modelling Program (DPMP).

Thank all those who provided assistance in the conceptualisation and design of the project, particularly Michael Lodge from the NSW Department of Health (formerly of DPMP) who was involved in the commencement of the project. Mention is warranted to Professor Simon Chapman and Professor Rodney Tiffen from the University of Sydney and Professor Melanie Wakefield from the Cancer Council Victoria for their advice on media analysis and media effects methodologies. Thanks also to Adjunct Professor Tom Carroll from the University of Sydney and Dr Jen Badham from Critical Connections for their respective advice on prior drug and alcohol media campaign research and survey design. Finally, thanks to our independent reviewers, Professor Melanie Wakefield and Nicola Singleton from the UK Drug Policy Commission. Input should not be taken as endorsement of the final product. Any errors are the fault of the research team and not those who have provided advice or input.

Thanks also for the statistical advice of Dr Tim Slade, Barbara Toson and Elizabeth Conroy from the National Drug and Alcohol Research Centre and Dr Jake Olivier from the School of Mathematics and Statistics, The University of New South Wales; to Alasdair Nicol from WOPR for the online survey development and administration; to Simon Baty from Newspaper Works for generating trends in youth media consumption of newspapers in Australia; to Monica Barratt from the National Drug Research Institute for sharing her knowledge on online surveys and recruitment methods; to Marion Downey from the National Drug and Alcohol Research Centre for generating initial media interest in the project; to DPMP for feedback throughout the project; and to those who participated in the pilot of the survey and focus groups, especially NDARC staff volunteers.

This project has required a huge amount of stakeholder assistance in the promotion and recruitment for our nationwide survey and focus groups. We are indebted to the many government departments (federal, state and local), non-government, youth and drug agencies and universities, technical colleges and online forums who promoted the study. Indeed over 160 agencies assisted. This is a phenomenal effort and without this we would not have been able to attain a large sample of youth.

Finally we would like to say a huge thank you to all the young people that took part in the study: for your enthusiasm and insights into the impacts of media reporting on illicit drug use.

TABLE OF CONTENTS

List of tables	vi
List of figures	vii
Executive summary	1
Introduction	9
Media in Australia: Production and consumption	12
Media consumption in Australia.....	12
Youth consumption of media in Australia: Does it differ?	14
Media regulation and production	16
Theories on media effects.....	18
Agenda setting.....	19
Framing	19
Perceptions of risk and norms	20
Moderation of media effects	21
Information processing theories.....	21
Impacts of media on attitudes	23
Impacts of media on attitudes – licit drugs.....	24
Impacts of media on attitudes – illicit drugs.....	25
Difficulty studying media effects	28
The current study.....	29
Methodology.....	31
Part 1: Media analysis	31
Part 2: Online survey.....	36
Part 3: Focus groups.....	43
Limitations	45
Media analysis results.....	46
Part 1: Sample characteristics.....	46
Part 2: Dominant portrayals regarding illicit drugs.....	48
Part 3: Sub portrayals regarding illicit drugs	54
Part 4: Trends in media reporting	62
Survey results	69

MEDIA REPORTING ON ILLICIT DRUGS IN AUSTRALIA

Part 1: Sample characteristics.....	69
Part 2: Youth media consumption and perceptions of media	73
Part 3: Impact of media portrayals on youth as a whole.....	75
Part 4: Impact of media portrayals on sub-groups of youth	84
Focus group results	92
Effect of media portrayals	92
What <i>shapes</i> media interpretation	94
Discussion	102
Australian newspapers: How often do they report on illicit drugs?	102
Trends in <i>patterns</i> of media reporting	102
A criminal justice issue: The consequences of framing.....	103
Can media impact upon youth attitudes toward illicit drugs?	105
Mechanisms of influence	106
How big is the impact of the media now?	107
Policy implications.....	107
Recommendations	110
Future research.....	111
Conclusion	113
References.....	115
Appendix A: Media coding instrument and descriptors	123
Appendix B: Media articles on illicit drugs used in survey	129
Appendix C: Media analysis of articles used in survey and focus groups	131
Appendix D: The Blue Moon Research and screening tool	134
Appendix E: Media content analysis - tabular format	136

LIST OF TABLES

Table 1: Australian media consumption in 2010 on a daily and more than weekly basis, by selected mediums, comparing consumption amongst 18-24 year olds vs. the general population (n=1,000)..	14
Table 2: Estimated average daily and weekly newspaper circulation figures in Australia, by paper, region, and day of week (July-September 2008)	32
Table 3: Articles used in the Drug Media Survey, with source details, journalist, drug and indicated portrayal.....	37
Table 4: Survey participants by state and territory compared to the 2009 ABS population estimates for 15-24 year olds	69
Table 5: Articles used in the Drug Media Survey, with drug, indicated portrayal and frequency of portrayal.....	75
Table 6: Ecstasy articles – mean (and standard error) for risk, acceptability and future use measures	81
Table 7: Mean difference between the dominant ecstasy portrayal and the atypical ecstasy portrayals for risk, acceptability and future use measures	82
Table 8: Cannabis articles – mean (and standard error) for risk, acceptability and future use measures	83
Table 9: Mean difference between the dominant cannabis portrayal and other atypical cannabis portrayals for risk, acceptability and future use measures.....	83
Table 10: Ecstasy articles – mean (and standard error) for risk, acceptability and future use measures by sex	85
Table 11: Cannabis articles – mean (and standard error) for risk, acceptability and future use measures by sex.....	85
Table 12: Ecstasy articles – mean (and standard error) for risk, acceptability and future use measures by drug use history.....	86
Table 13: Cannabis articles – mean (and standard error) for risk, acceptability and future use measures by drug use history	88
Table 14: Ecstasy articles – mean (and standard error) for risk, acceptability and future use measures by Blue Moon category	89
Table 15: Cannabis articles – mean proportion (and standard error) for risk, acceptability and future use measures by Blue Moon category	91

Table 16: Blue Moon archetypes showing key characteristics and proportion of youth (based on Blue Moon sample of 2,306 youth aged 15-24 years)	135
Table 17: Topic by drug type (proportion) (corresponding to Figure 10)	136
Table 18: Consequence by drug type (proportion) (corresponding to Figure 11)	136
Table 19: Moral evaluation by drug type (proportion) (corresponding to Figure 12)	136
Table 20: Consequence by topic type (proportion) (corresponding to Figure 13)	137
Table 21: Number of articles (and proportion) by drug, by year (corresponding to Figure 14 and Figure 15)	137
Table 22: Number of articles (and proportion) by topic, by year (corresponding to Figure 16)	137
Table 23: Number of articles (and proportion) by moral evaluation, by year (corresponding to Figure 17).....	138
Table 24: Number of articles (and proportion) by consequence, by year (corresponding to Figure 18 and Figure 19).....	138

LIST OF FIGURES

Figure 1: Proposed model for impacts of media reporting on youth attitudes to illicit drug use.....	29
Figure 2: What is a frame?	34
Figure 3: Number of articles in the sample, by year of publication (n=3,959).....	46
Figure 4: Proportion of articles where illicit drugs were the main focus, secondary focus, mentioned in passing or other (n=4,397).....	47
Figure 5: Drug types (proportion) (n=3,959)	48
Figure 6: Criminal justice/law enforcement topics vs. other topic types (proportion) (n=2,002)	50
Figure 7: Portrayed consequences (proportion) (n=2,043)	51
Figure 8: Portrayed moral evaluation (proportion) (n=2,045)	53
Figure 9: Number of sources used (proportion) (n=2,045)	54
Figure 10: Topic by drug type (proportion) (n=2,002)	56
Figure 11: Consequence by drug type (proportion) (n=2,043)	57
Figure 12: Moral evaluation by drug type (proportion) (n=2,045)	58

MEDIA REPORTING ON ILLICIT DRUGS IN AUSTRALIA

Figure 13: Consequence by topic type (proportion) (n=2,002)	59
Figure 14: Number of articles by drug type, by year (n=2,045)	62
Figure 15: Articles by drug type, by year (proportion) (n=2,045)	64
Figure 16: Number of articles by topic, by year (n=2,002)	65
Figure 17: Moral evaluation, by year (proportion) (n=2,045)	66
Figure 18: Number of articles by consequence, by year (n=2,043)	67
Figure 19: Consequence, by year (proportion) (n=2,043)	68
Figure 20: Lifetime drug use of survey participants compared to the 2007 NDSHS data for 16-24 year olds	70
Figure 21: Recent drug use of survey participants compared to the 2007 NDSHS data for 16-24 year olds	71
Figure 22: Blue Moon archetypes comparing survey participants aged 16-24 years (n=2,296) to the Blue Moon Research sample aged 15-24 years (n=2,306)	72
Figure 23: News media consumption in the last 12 months, by type (n=2,296)	73
Figure 24: Perceptions of media coverage on illicit drugs (n=2,284)	74
Figure 25: Extent to which respondents agreed or disagreed with the statement “this article makes me think illicit drug use is risky/acceptable,” by ecstasy article (mean response)	77
Figure 26: Extent to which respondents asserted “this article make(s) me more or less likely to use illicit drugs in the future,” by ecstasy article (mean response)	78
Figure 27: Extent to which respondents agreed or disagreed with the statement “this article makes me think illicit drug use is risky/acceptable,” by cannabis article (mean response)	79
Figure 28: Extent to which respondents asserted “this article make(s) me more or less likely to use illicit drugs in the future,” by cannabis article (mean response)	80

EXECUTIVE SUMMARY

Many factors are known to influence attitudes toward and demand for illicit drugs. This report examines the role of the news media, a medium that has a potentially important role in influencing the prevalence, patterns and harms associated with illicit drug consumption. Whether by way of television, radio, newspapers or online, society is constantly bombarded with mass media messages. The daily activity of the mass media is to fill a “news hole” of a predetermined size with any number of competing topical issues, within strict publication constraints (Tiffen, 1989). While news outlets have limited space to dedicate to issues, illicit drugs are clearly newsworthy. The big unknown is how much space is devoted to illicit drugs, how drug issues are framed, and what effect media framing has on attitudes or likelihood of future drug use?

Research from other fields has demonstrated that media reporting on tobacco, body image and violence can elicit short and long term change in attitudes and behaviour. Indeed the link between media and violence is argued to be on par with or even greater than the effect of smoking on lung cancer, condom use on sexually transmitted HIV, homework on academic achievement and calcium intake on bone mass (Anderson, et al., 2003). Media has thus been proven to be a potentially powerful and even dangerous influence upon attitudes and behaviour.

While strategies have been developed to counter the negative effects of media coverage of violence, the alcohol and other drug sector has been slow to acknowledge or identify the potential effects of media reporting on attitudes to illicit drugs. Within Australia and indeed internationally we have no measures of the effects on attitudes and behaviour of news media reporting on illicit drugs. Can, for example, media messages *increase* the likelihood of illicit drug use? Conversely, can they *reduce* the likelihood of illicit drug use? And, how important is the *framing* of the media messages? From a public health perspective answering such questions is crucial.

The last decade has seen a significant shift both within Australia and the broader international arena in the nature of mass media production and ways that mass media is consumed. These questions have become all the more pertinent in the age of the 24 hour news cycle where the volume and types of new media available to consumers has expanded exponentially (Cunningham & Turner, 2010).

The current study

This study starts to address the intersection between news media and illicit drug use. It examines two major aspects of news media: media production – as denoted by patterns and trends in Australian news media reporting on illicit drugs – and media effects – as denoted by impacts on youth attitudes to illicit drug use.

The purpose of this study was fourfold:

1. To identify the dominant media portrayals used to denote illicit drugs in Australian news media and dominant portrayals by drug type (cannabis, amphetamines, ecstasy, cocaine and heroin);
2. To identify the extent to which media portrayals have changed over time (from 2003-2008): measured in terms of the number and type of media reports on illicit drugs;
3. To explore the impacts of different media portrayals on youth attitudes to illicit drug use: namely their perceptions of the risks and acceptability of use and their likelihood of future use; and
4. To determine if the media differentially affects sub-populations of youth, and if so, to identify the sub-populations of youth that are *most* responsive to media reporting on illicit drugs.

For the purposes of this study, we use media to describe mainstream print news and current affairs, and not advertising or social marketing campaigns. While many forms of media are used in Australia, newspapers are the only one for which there was sufficient freely available data to enable frequency and patterns of reporting to be examined over time. Furthermore, they are deemed a useful proxy for all forms of news reporting (Wakefield, Flay, Nichter, & Giovino, 2003). The findings thus have broad implications for understanding the nature of news media reporting in Australia: whether in terms of newspapers, television, radio or online news. In this study we defined youth as people aged 16-24 years, which current Australian research identifies as the group most likely to take up and/or use illicit drugs in a frequent manner.

Methodology

A three stage research design was utilised, including: a retrospective content analysis of newspaper articles on illicit drugs published between 2003 and 2008; an online survey on the impacts of media portrayals on youth attitudes to illicit drug use; and focus groups with youth.

In the first component of the study we examined newspaper reporting on illicit drugs in Australia over the period 2003-2008. Our sample comprised a total of 11 newspapers: one national newspaper, seven major metropolitan daily and weekend newspapers in Sydney, Canberra, Melbourne, Brisbane and Perth, and three regional/local newspapers in Geelong, Newcastle, and Sydney. Articles that contained one or more mention of five different drug types (or derivatives) were included: cannabis, amphetamines, ecstasy, cocaine and heroin. In total, 42,436 articles were identified, and a sub-sample of over 10% was selected for media content analysis. The final sample of 4,397 articles makes this the largest known media content analysis sample of its kind to specifically analyse reporting of illicit drug issues in the news media.

A number of aspects were coded for each article including: descriptors e.g. date, newspaper, state and region; type of article e.g. news, feature or editorial; topic e.g. criminal justice, harms or policy commentary; sources/primary definers e.g. politicians, welfare, user or researcher; and value dimensions including overall tone of the article e.g. positive, neutral or negative, moral evaluation of

MEDIA REPORTING ON ILLICIT DRUGS IN AUSTRALIA

illicit drugs e.g. drugs denoted as good, no risk/minimal risk or bad, and the implied consequences of illicit drug use e.g. legal problems, social problems or pleasure.

In the second component of the study we mimicked the design from tobacco media effects research and developed an online repeated measures ‘drug media survey’ to assess the impact of different media portrayals on Australian youth attitudes to illicit drugs. Given the variable prevalence of illicit drug use and portrayals used in mainstream media, our survey measured the impacts in relation to two illicit drugs: cannabis and ecstasy. Any two drug types could have been chosen but we focused on these since they are the most commonly used illicit drugs in Australia.

For each drug type four news articles were selected as representative of a cross-section of portrayals used in Australian newspaper media reporting. While newspaper portrayals were used in this study, these are portrayals that could appear in any news media form e.g. online news or radio. To minimise visual differences all articles were presented using the same format and with only the headline and first three to four paragraphs.

Each participant was shown the eight media clippings in a random order then asked how the article affected their perceptions of the risk and acceptability of illicit drug use and their likelihood of future drug use. The survey also included a number of instruments designed to measure demographics, media consumption, prior drug use history and pre-existing attitudes to drugs, drug use and life.

Promotion of the online survey involved widespread media coverage across Australia with the aim of recruiting as broad a sample of youth as possible. Specifically the survey was promoted through university careers noticeboard websites, government and youth oriented websites, online chat forums and blogs, and street press. We also used social networking sites including referral methods and a Facebook advertisement. Between 4 January 2010 and 20 April 2010 a total of 3,187 respondents accessed the online survey and 72% completed the survey, giving rise to a total sample size of 2,296 youth aged 16-24 years.

The final component of the research involved focus groups with 52 youth aged 16-24 years who lived in Sydney, Australia. The focus groups lasted 60-90 minutes and were designed to complement the web-based survey. The focus group participants were shown a series of three newspaper articles, and asked to identify their immediate impressions, what guided their interpretation of the articles, and their thoughts on the potential impacts of the article on young people’s perceptions of illicit drugs and drug use behaviour. Participants were asked to specifically consider impacts on different sub-groups of people such as those who have never used illicit drugs compared to people who were current ecstasy/cannabis users. The final sample included 33 females and 19 males. The mean age of the females was 20.5 years and the mean age of the males was 19.7 years.

Results

Media analysis

The media analysis demonstrated that the dominant portrayals regarding illicit drug issues in the Australian print media tend to focus on heroin or cannabis (with 27.0% and 24.5% respectively of the sample) and rarely on ecstasy (4.9% of the sample). Despite fears that positive portrayals of drugs in the media may encourage or peak interest in drug use, the sample showed that articles with a “good” moral evaluation of drugs were extremely rare and accounted for only 1.9% of the sample. Most articles were written with a neutral tone (83.5%).

The dominant portrayals depict law enforcement or criminal justice action, and emphasise the legal problems associated with drugs/use. For example, criminal justice action regarding users or traffickers amounted to 55.2% of articles within the sample.

As expected, given the dominance of criminal justice and law enforcement topics, the most commonly denoted consequence of illicit drugs/use in the sample was legal problems (59.9%). But health problems (14.2%), social problems (10.1%) and cost to society (10.1%) consequences accounted for small albeit significant proportions.

Illicit drug frames differed somewhat between drugs, with for example greater emphasis for heroin articles on legal problems, greater emphasis for amphetamine articles on crisis and bad moral evaluation of drugs and greater emphasis for ecstasy articles on negative health consequences and “risks” from use. This illustrates the presence of subtle differences in how illicit drugs are portrayed in Australian print media: in terms of what makes them news today and how illicit drug use is spoken of.

There were also subtle shifts in the amount of articles published and framing of drug issues over time. Of note was a shift in the portrayal of non-legal consequences of use. Between 2003 and 2005 there was a shift away from reporting drugs as leading to health problems or as a cost to society. Then from 2005 to 2007 there was another shift towards reporting drugs as a health or social problem. This trend reversed somewhat in 2008. This demonstrates that the in spite of the dominant portrayals, the way illicit drugs are framed can shift with changing events and agendas.

Survey analysis

Of the 2,296 survey respondents aged 16-24 years, the sample had a mean age of 20.0 years (SD=2.6 years). The sample was dominated by females (67.4%) and people who lived in metropolitan areas (67.3%). Lifetime use of alcohol and tobacco was reported by 90.4% and 56.2% of survey participants respectively. A substantial minority of the sample reported lifetime use of an illicit drug. Of the illicit drugs, lifetime use was most frequently reported for cannabis and ecstasy, with 48.5% and 29.2% of participants respectively.

Survey participants reported a high level of consumption of news media in the last 12 months. Between 66.4% and 86.5% of participants reported that they had weekly or more frequent contact

with television news, online news, radio news and/or print newspapers. By canvassing youth perceptions of the media we found that only 36.2% of the sample saw media as a good source of information on illicit drugs. Conversely, 59.0% said they could not trust journalists to tell the truth about illicit drugs.

Media portrayals on illicit drugs influenced youth attitudes to drugs. With only one exception, the media portrayals affected the overall sample of youth in an “anti-drug” manner: that is, they increased perceptions of risk, reduced perceptions of acceptability, and reduced the reported likelihood of future drug use. This effect was observed across both drug types. In spite of our prediction that impacts would be observable only amongst particular sub-groups of youth, we detected notable impacts on the sample as a whole.

Media effects were not-uniform. Those most affected were females (compared to males), non users (compared to recent users and non-recent users), and those who denoted themselves as less interested in/susceptible to drug use (based on a screening tool that measured attitudes to drugs, drug use and life).

The type of portrayal affected both the size and direction of impact. Portrayals *endorsing* drug use tended to increase “pro-drug” attitudes. Conversely, negative portrayals tended to reduce pro-drug attitudes. The most effective portrayals for reducing pro-drug attitudes were the negative health and social consequence portrayals (articles for example about cannabis and mental health problems, and ecstasy and pill spiking). These were more effective than the dominant crime and arrest portrayals.

Focus group analysis

The focus groups confirmed that youth are highly aware that media has differential impacts on young people’s attitudes to drugs: some youth were more inclined to be affected, while others were more likely to reject all messages. Others filter and reject messages according to the particular portrayal being depicted, the perceived credibility of the article and the fit of the message with their pre-existing schemas. Four key factors identified as shaping how youth interpret media were pre-existing knowledge and belief systems (including beliefs about drugs), media literacy skills, media framing, and the frequency of the media message.

Youth are more likely to accept messages that are deemed credible (e.g. use evidence appropriately, cite expert sources and use a neutral tone). They are also more likely to accept messages that are deemed *meaningful*. Health and social portrayals tend to be more powerful because they depict a more persuasive risk message. These portrayals appear to elicit a preventative message to non-users and a harm reduction message to recent and non-recent users and thus are capable of affecting multiple sub-populations of youth.

Implications

This study provides evidence that what the news media says about illicit drugs can influence youth attitudes to illicit drugs. This indicates that what is perceived as newsworthy, how it is discussed, and

who is cited can all contribute to (or work against) youth receptivity to the messages and the likelihood of shaping their attitudes.

We have also demonstrated that illicit drugs are highly pervasive in Australian print news media and that Australian youth have high levels of contact with such media. This suggests that the seemingly innocuous news media may be one of the many factors that effects demand for illicit drugs. We believe this to be a factor that many, including the alcohol and other drug sector, have overlooked.

Our findings, while exploratory, suggest that in the main the Australian news media is likely to be having a deterrent effect on youth, and increasing for example perceptions of risk of using illicit drugs. Yet, our findings also indicate that the preventative role of news media is currently being stymied. This is because the portrayals that were deemed most likely to deter youth, such as cannabis psychosis, are currently the least covered in Australian news media.

The key question is whether it is possible to modify the nature of Australian news media production and more specifically, the nature of drug reporting. The answer to the question we believe is yes, although success is likely to depend on how this is facilitated. We do not see targeting media itself – through more proscriptive media guidelines – as the best approach to improving the use of mainstream media. Media guidelines are not well supported or used by editors and journalists (Blood & McCallum, 2005). Moreover, as this report has identified newspaper reporting is on the whole avoiding pro-drug messages. The main message that is deleterious concerns elite drug use, but “banning” this portrayal is not a realistic solution given the plethora of other entertainment media.

Opportunities for increasing effectiveness rely more on other avenues, specifically by way of targeted dissemination. We know that in an atmosphere of intensified competition, declining editorial resources and organisational constraints, journalists have been forced to increase their output, which has led to a growing dependence on public relations practitioners and press releases (Davis, 2000). Indeed, one in five newspaper articles are derived from public relations material (Lewis, Williams, & Franklin, 2008).

There is considerable evidence to suggest that the disproportionate focus on law enforcement topics in our newspaper sample reflects the higher engagement of Australian law enforcement sectors with news media outlets. Each of the 10 police forces that operate in Australia has a dedicated media liaison team to handle enquiries, coordinate media conferences and issue press releases. Media organisations can now subscribe to receive daily media releases from NSW Police (NSW Police, 2010) and in Victoria they can even log on to a purposely designed website that includes interviews for media personnel (Victoria Police, 2010). This ensures that police agencies provide a large and easily accessible output of material on crime in general. Illicit drugs is clearly one such crime.

There is a potential to increase output of media releases by other agencies throughout Australia denoting health, social and risk warning type portrayals. This includes drug and alcohol research centres, non-government agencies as well as government departments themselves. Key advantages of media advocacy are that news coverage of illicit drug issues is highly pervasive, continuous and

cheap. It has been argued that in relation to smoking, mainstream media may be more cost-effective than social marketing campaigns (Durrant, Wakefield, McLeod, Clegg Smith, & Chapman, 2003). We see a particular opportunity to increase news media output on health and social harm portrayals. Indeed, these portrayals are so under depicted – 4.8% of Australian print media – that even a small increase in coverage denoting harms should translate into more deterrent messages for Australian youth.

Recommendations

News media is a tool that *could* and *should* be better utilised by the alcohol and drug sector. To facilitate this goal, we have derived a set of recommendations that includes:

To government

1. Supplement all social marketing campaigns about illicit drugs with targeted news coverage. This should enhance efforts to prevent illicit drug use and related harms.
2. Increase funding for media liaison activities by drug and alcohol research centres and non-government organisations, such as the Australian National Council on Drugs, to allow resource-strapped organisations to increase engagement with news media.
3. Supplement the teaching of media literacy skills in Australian primary and secondary school curricula through the provision of drug and alcohol specific media literacy units.

To researchers/research agencies

1. Build a culture of media engagement. Provide training for *all* alcohol and other drug researchers in how to engage with the media, especially how to respond to sensitive questions from the media.
2. Increase the potential relevance of media releases denoting drugs research. Core strategies include using inter-sectoral media strategies to incorporate, for example, police or youth comment. This is critical since academic sources alone are far less persuasive.
3. Make drug experts available to regularly address and educate media students about drug issues and cooperate with the tertiary education sector to include drug and alcohol training modules in media communication and journalism courses.

To media outlets

1. Include online links or references to drug information and counselling support lines, such as Lifeline, for all stories denoting health or social harms from illicit drugs e.g. overdose.
2. Offer expert media briefings to help improve journalists' understanding of illicit drug issues. Provide journalists with a list of contacts or a liaison service to enable journalists to obtain expert comment at short notice on illicit drug issues.
3. Provide online links for all cited drug statistics, research and reports. This will enhance the usability and credibility of any published media stories on illicit drugs.

Limitations

There were a number of limitations with the methodologies employed in the current study. In regards to the media analysis of Australian print newspaper reporting, the full coding of articles for which drugs were a primary or secondary focus meant that many of the more peripheral messages

were ignored. Consequently, our sample may be more generalisable to “news” stories and not to coverage of drugs as part of entertainment, travel, or sports sections in newspapers.

Due to cost and availability, this study used newspapers as a proxy for news media in general. We are not sure that the same portrayals are reflected in other media types. We also do not know the role different visual and sensory factors may play in processing messages through different mediums such as television. Although this needs to be tested in future research, we are confident that the dominant media portrayals of illicit drugs identified in this study are likely to be indicative of representations in the wider Australian news media.

In the second component of the study, the use of a self-selected sample and an online survey methodology brings a unique set of limitations. Participation relied on self selection. While we used a variety of methods to recruit participants, they cannot necessarily be taken as representative of the general youth population. The obvious disadvantage with online surveys is their capacity to exclude those without access to the internet, however this appears less problematic for Australian youth audiences, amongst whom only 6-10% do not have access to internet (Pink, 2009). A particular risk with all self-report surveys is that demand characteristics may inflate results.

It is important to recognise that this was the first study that examined impacts of news media framing on youth attitudes to illicit drugs. It used a repeated measures simulated experimental design and as such we could not test the ecological validity of the results. Replication, using cross-sectional and longitudinal studies, as has been done in the smoking arena is therefore essential (see for example Wakefield, et al., 2003). There is a need to extend the study. For example, this study examined the impact of news media portrayals on *attitudes* towards illicit drugs and not the impact on actual drug using *behaviour*.

Conclusion

It is apparent that media messages regarding illicit drugs are pervasive and that youth have frequent contact with mainstream news media. This study at the very least has indicated that the media is likely to be an important tool for influencing youth attitudes to and demand for illicit drugs. Many factors affect illicit drug use, including price, availability, socio-economic status, peer influence and societal perceptions of acceptability. We by no means suggest that the mainstream media is the ‘silver bullet’ in drug prevention, but we assert that it is a tool that ought to be better understood and utilised alongside other preventative measures. The onus is now on the alcohol and other drug sector to recognise the potential power of news media and to increase resourcing capabilities to foster better and more frequent engagement with news media outlets. We suggest such investment is likely to pay dividends, because as summed up by one young Australian: “Media is probably one of the few ways that prevention message(s) can keep being pushed.”

INTRODUCTION

Many factors are known to influence attitudes toward and demand for illicit drugs. This report examines the role of the news media, a medium that has a potentially important role in influencing the prevalence, patterns and harms associated with illicit drug consumption. Whether by way of television, radio, newspapers or online, society is constantly bombarded with mass media messages. The daily activity of the mass media is to fill a “news hole” of a predetermined size with any number of competing topical issues, within strict publication constraints (Tiffen, 1989). While news outlets have limited space to dedicate to issues, illicit drugs are clearly newsworthy. The big unknown is how much space is devoted to illicit drugs, how drug issues are framed, and what effect media framing has on attitudes or likelihood of future drug use?

Research from other fields has demonstrated that media reporting on tobacco, body image and violence can elicit both short and long term change in attitudes and behaviours. Media reporting on violence for example can lead to a plethora of effects: desensitisation towards violence; increased acceptance of violence as a tolerable means of conflict resolution; reduced victim assistance in cases of violent assault; and increased likelihood of violent and aggressive behaviour (Anderson, et al., 2003). Indeed the link between media and violence is argued to be on par with or even greater than the effect of smoking on lung cancer, condom use on sexually transmitted HIV, homework on academic achievement and calcium intake on bone mass (Anderson, et al., 2003). While strategies have been developed to counter the negative effects of media coverage of violence, the alcohol and other drug sector has been slow to acknowledge or identify the potential effects of media reporting on attitudes to illicit drugs.

Knowledge about media and illicit drugs is indisputably scant. We know that illicit drugs (such as cannabis, heroin, cocaine, amphetamines and ecstasy) feature in thousands of news stories each year (Bell, 1985) and remain one of the most popular motifs used in films, television, magazines and online chat rooms (MacDonald & Estep, 1985; Roberts & Christensen, 2000; Roberts, Henriksen, & Christensen, 1999). Research suggests, for example, that 18-22% of popular television shows, movies and songs make reference to illicit drugs (Roberts & Christensen, 2000). However no equivalent content analysis of illicit drugs has been conducted of newspaper coverage, nor of other news mediums such as radio, television or online media. We thus have no ‘ballpark figure’ of the scale of news media coverage regarding illicit drugs in Australia. Nor do we know the extent to which media reporting on illicit drugs has changed over time: has it increased, decreased or stayed the same?

We are not the first to note this absence. In 2001, media was identified as “a new battleground” for the alcohol and other drugs (AOD) field (Proctor & Babor, 2001) to examine the role of the media and its effect on audiences, its impact on drug policy, and avenues by which the AOD field can influence media for legitimate purposes. While there has been some research that has examined media effects, such as how media can set the agenda on drugs and can influence political commentary and even political decisions, the nature of this research has been more ad hoc (Beckett,

1994; Bell, 1985; see for example Christie, 1998; Elliott & Chapman, 2000; Fan, 1996; Lawrence, Bammer, & Chapman, 2000; McArthur, 1999; Miller, 2010; Noto, Pinsky, & De Carvalho Mastroianni, 2006; Saunders, 1998; Teece & Makkai, 2000; Blood, Williams, & McCallum, 2003; Watts, 2003). There has also been negligible research into the impact of media on attitudes and behaviour (Gotthoffer, 1998; Lancaster, 2004; Stryker, 2003). The anomaly is thus that while of frequent consternation to the field (see for example Blood & McCallum, 2005; Wodak, 2010; Wright, 2010), the AOD sector has largely ignored the role of media.

The main exception is non-mainstream media such as the evaluation of social marketing campaigns regarding tobacco and illicit drugs, and advertising of alcohol and tobacco (see for example Biener, Ji, Gilpin, & Albers, 2004; Biener, McCallum-Keeler, & Nyman, 2000; Brown & Witherspoon, 2002; Carroll, 2000; Davis, Gilpin, Loken, Viswanath, & Wakefield, 2008; Donovan, Boulter, Borland, Jalleh, & Carter, 2003; Durkin, Wakefield, & Spittal, 2006; Freeman & Chapman, 2007; Jones & Gregory, 2007; Palmgreen, Donohew, Lorch, Hoyle, & Stephenson, 2001; Pechmann & Reibling, 2006; Research and Evaluation Committee, 2004; Tan, Montague, & Freeman, 2000; The Social Research Centre, 2007, 2008; Unger, Cruz, Schuster, Flora, & Johnson, 2001; Wakefield & Durrant, 2006). The relative lack of attention paid to the impacts of mainstream media is striking, whether assessed in terms of impacts on individual attitudes to drugs, behaviour or policy.

As will be demonstrated, understanding the role of the media is becoming ever more pertinent due to the increasing proliferation of media in modern society. By examining two major aspects of news media: media production – as denoted by patterns and trends in Australian news media reporting on illicit drugs – and media effects – as denoted by impacts on youth attitudes to illicit drug use, this report will start to address the intersection between media and illicit drug use. Can, for example, media messages *increase* the likelihood of illicit drug use? Conversely, can it *reduce* the likelihood of illicit drug use? How important is the *framing* of the media messages? Are there certain groups of individuals who are more receptive to particular media messages? Can mainstream media be utilised as a preventative tool for Australian drug policy? These are some of the issues that will be examined in this report.

The purpose of this study is fourfold:

1. To identify the dominant media portrayals used to denote illicit drugs in Australian news media and dominant portrayals by drug type (cannabis, amphetamines, ecstasy, cocaine and heroin);
2. To identify the extent to which media portrayals have changed over time (from 2003-2008): measured in terms of the number and type of media reports on illicit drugs;
3. To explore the impacts of different media portrayals on youth attitudes to illicit drug use: namely their perceptions of the risks and acceptability of use and their likelihood of future use; and
4. To determine if the media differentially affects sub-populations of youth, and if so, to identify the sub-populations of youth that are *most* responsive to media reporting on illicit drugs.

Although the term mass media refers to “the organised means of communicating openly, at a distance, and to many in a short space of time” (McQuail, 2010, p. 4), for the purposes of this study, we more narrowly use media to describe mainstream news and current affairs, and not advertising or social marketing campaigns. While there is often a blurring of the lines between mainstream news and advertising, these represent fundamentally different approaches to media production. They differ in terms of who has access into and who controls media production and the explicit purposes for which they are produced (van Dijk, 1996). For example, while mainstream news media is fundamentally about providing information and social commentary, and is in theory accessible to all, advertising and social marketing campaigns are centrally produced, targeted and controlled. Advertising and social marketing campaigns are also often pre-tested to maximise the likelihood that messages will elicit the desired effects. For many people illicit drugs are an “unobtrusive” issue – one which they see in the news but do not experience in everyday life (McCombs, 2004, pp. 60-62). For this reason we feel it particularly important to examine the effects of everyday news and current affairs messages on youth attitudes to illicit drug use.

We commence this report by identifying contemporary patterns of media consumption and production in Australia and how media has changed over time. We then provide a comprehensive overview of communication theories on the dominant mechanisms by which media can affect knowledge and attitudes. Finally, before turning to the current study, we identify the extant literature on the impacts of media portrayals on attitudes to drugs, be they alcohol, tobacco or illicit drugs.

MEDIA IN AUSTRALIA: PRODUCTION AND CONSUMPTION

The last decade has seen a significant shift both within Australia and the broader international arena in the nature of mass media production and ways that mass media is consumed. The volume of media production has expanded exponentially (Cunningham & Turner, 2010), so too the types of media that are available to media consumers. The most notable shift has been in the proliferation of online news and user generated media such as blogs and social networking sites. As media has exerted greater influence on modern society, media consumers themselves have changed their individual practices of media consumption. Here we outline the nature of media consumption and issues concerning news media production and regulation in Australia.

Media consumption in Australia

Australians use television, radio, newspapers, magazines and increasingly online and multimedia technology for entertainment, news and information. Comparing Australia to 17 other liberal democracies, Tiffen and Gittens (2004) found that Australia ranked third with 738 televisions per 1,000 people. They also found that 162 newspapers were sold per 1,000 people daily in 2000 (down from 305 per 1,000 Australians in 1990).

Media consumption is notoriously difficult to measure and estimates differ according to the questions asked and by whom. Estimates also vary considerably according to how mediums are classified (commercial television vs. all television) and how consumption is measured (exposure vs. retention/absorption). Variance in estimates reflect in part the purposes for which survey data are collected, with most being collected for internal and commercial purposes. A byproduct is that many media consumption estimates in Australia, such as those conducted by Roy Morgan, have restricted access. This makes it difficult to assess overall patterns and trends in Australian media consumption.

In spite of these challenges it is clear that Australians have traditionally preferred television as their primary source of news and information, with newspapers and radio as their second and third preferences. For example, the major sources of Australian information on news and current affairs according to the Roy Morgan (2007) poll were television (53.5%), newspapers (20.5%), radio (16.0%), internet (9.5%) and magazines (0.5%). The 2007 Australian Survey of Social Attitudes found a similar pattern: 39-49% of surveyed Australians reported daily use of television for news and 38% and 16-26% respectively reported daily use of newspapers and radio (cited in Young, 2009).

Australian audiences have historically been large consumers of news, and although in 2007 80% of Australians surveyed said that 'catching up' with the news was a regular part of their day, there appears to have been a decline away from traditional news sources (newspapers and 'serious' television news programming) (Young, 2009). Tiffen and Gittens (2004) for example reported that newspaper circulation per 1,000 population almost halved in Australia, from 323 in 1980 to 162 in 2000. Yet the nature and extent of decline is subject to some dispute, with for example the Australian Survey of Social Attitudes reporting that between 2004 and 2007 daily *commercial* television use reduced from 65% to 49%, while daily use of newspapers and non-commercial television (ABC

and/or SBS television) fell by only 2% (Young, 2009). Methodological differences aside, it is clear that some forms of news media have declined in popularity.

The decline has been attributed to two main and perhaps inter-related factors: changes in the nature of news *production* and changes in consumer *preferences*. For example, amongst commercial television operators there has been a shift from producing ‘serious’ news shows towards ‘soft’ news shows such as Channel 7’s *Sunrise*, whose popularity is argued to have pushed some people *away* from traditional news sources (Young, 2009). A second change is in relation to consumer preferences, with audiences increasingly choosing news sources that are “brief, fast and enable them to filter out the content they don’t want” (Young, 2009, p. 157). Evidence in support of this is an increasing preference to use the internet as a route for deriving information on Australian news and current affairs, which Roy Morgan reported increased from 3% in 2004 to 10% in 2007 (Roy Morgan, 2007). A final change is that consumers are shifting towards the use of multiple, as opposed to singular, news sources (Quinn, 2005), which is argued to reflect a fundamental shift in the nature of news usage, and no doubt a by-product of the proliferation of mediums.

New strategies have been developed to retain audiences and meet new consumer preferences. Chief amongst these are methods to enhance newspaper readership, including the distribution of free simple newspapers such as the mX in Sydney, Melbourne and Brisbane, which commenced in 2001, 2005 and 2007 respectively. The content of the mX generally includes lighter news articles, sports commentary and entertainment news. The core market of the mX is aged 34 years and under (mX, 2010, 5 February). The introduction of mX mirrors worldwide trends towards production of free newspapers, such as the youth focused *RedEye* published by the Chicago-based Tribune Company or those published internationally by the Metro International Company (Quinn, 2005). Similarly, although audiences watching traditional television news and current affairs are both declining and ageing, the satirical and comedy news formats (e.g. *The Panel*, *The Chaser*, *CNNNN* and *Good News Week*) that emerged in the mid to late 1990s in Australia have been hugely popular with younger audiences (Turner, 2005). Importantly, it is not just format but also content which has changed. For example, Turner (2005) mentions a shift in the news agenda away from politics and towards increased coverage of crime or celebrities.

Australian general audience views of media credibility

Although Australians heavily rely upon the media for their news and information, 81% of those surveyed believe that media ownership is too concentrated and 70% believe that the media industry should have less power over media production (Denemark, 2005). A 2010 survey conducted by Essential Research (2010) found that although commercial television news has the highest consumption, only 9% said they had a lot of trust in it while 55% expressed some trust. Those surveyed had the same levels of trust in daily newspapers (9% a lot and 53% some trust), but less trust in online news and opinion websites (5% a lot and 44% some trust). This points to what Denemark (2005, p. 237) describes as a “love-hate relationship” with the media – a strong reliance upon the media for news and information but also a significant scepticism of that information.

Youth consumption of media in Australia: Does it differ?

It is commonly assumed that youth differ markedly from adults in their media consumption patterns but research and data, albeit limited, suggests the patterns remain similar. For example, one study that specifically examined youth and adult media consumption was derived from an online sample of 1,000 Australians (Essential Research, 2010). As shown in Table 1, the proportion of 18-24 year olds that access Australian news and current affairs media on a *daily* basis was lower than the general Australian population, particularly for the more traditional mediums (television, newspapers and radio). Yet when comparing media consumption on a more than weekly basis, the youth patterns of media consumption mimic very closely the general population pattern. This suggests that youth tend to access mainstream media on a less frequent basis than the general population, but still have high levels of exposure to multiple media types. Similar to the general population, their main mediums for accessing news and current affairs tend to be television, newspapers and radio.

Table 1: Australian media consumption in 2010 on a daily and more than weekly basis, by selected mediums, comparing consumption amongst 18-24 year olds vs. the general population (n=1,000)

Medium	Daily		More than weekly	
	Total pop (18+)	Youth (18-24)	Total pop (18+)	Youth (18-24)
Commercial TV news and current affairs	48%	28%	75%	60%
News and opinion in daily newspapers	26%	15%	48%	44%
Commercial radio news and current affairs	24%	14%	46%	42%
News and opinion websites	23%	18%	45%	37%

Source: Essential Report, 2010.

Currently in Australia, there is limited publicly available information outlining the patterns over time of youth media consumption (Sternberg, 2006). The best available information concerns newspapers. There are some indications that youth readership of newspapers has declined in Australia. Young (2009) has reported that those aged 18-24 years showed the biggest decline in newspaper audience share between 2000 and 2004. But data provided by Roy Morgan indicate that over a longer time frame, namely from 1999 to 2009, there has been limited change. Specifically, the number of 16-24 year olds in Australia that reported reading any newspaper in the last 7 days increased slightly between 1999 and 2003, stabilised between 2003 and 2006 and then declined between 2006 and 2009 (Newspaper Works, 2010). Thus, in 2009 about 2,000,000 16-24 year olds reported reading a newspaper in the last seven days, which was similar to that reported ten years prior.

There are two provisos to this conclusion. Firstly, the specific questions utilised to measure newspaper readership changed, which means recent figures are not directly comparable with data from earlier periods. Secondly, this estimate does not take into account changes in population distribution, with figures from the Australian Bureau of Statistics (2009) suggesting there has been an overall growth in the number of people aged 16-24 years living in Australia. As a consequence the

overall proportion of youth readership may have declined. Nevertheless, the data suggests that over the last decade youth readership of newspapers in Australia has stayed relatively constant.

More generally, the current belief is that youth are not rejecting news and current affair media altogether. Instead, compared to other news consumers, youth are more likely to use multiple sources (Ang, Brand, Noble, & Sternberg, 2006) and to pick and choose their media in a way that enables informed decisions. Evidence suggests that as the first generation to grow up with online technology, some members of Generation Y may get their news and information almost exclusively online. For example, in a 2007 study, the Australian Communications and Media Authority (2009) found that Australian 15-17 year olds spend an average of two hours and 24 minutes online each day. As the data above indicate many members of Generation Y continue to use a wide variety of media for entertainment including radio, television, mobile phones, the internet, magazines and newspapers (Quinn, 2005).

Two specific trends in youth media consumption warrant attention. First, the proliferation of new media sources has arguably resulted in a change in the social context of media use for young people - a shift from what was a family activity into a private more autonomous experience, with personal computers, internet, gaming and televisions often used in the bedroom away from adult supervision (Roberts, Foehr, Rideout, & Brodie, 1999). Second, Sternberg (2006) argues that youth media literacy represents a generational marker, especially in relation to electronic media and the internet. Media literacy, which is defined as the process of learning to evaluate media messages in terms of accuracy, reliability, purpose and bias, has become a core skill. It is fostered through broad spectrum and targeted training such as how to critically analyse media messages about smoking (Bergsma, 2002). In Australia media literacy training is provided as part of the primary and secondary school curriculum. An Australian Media Communications Authority report undertaken by Penman and Turnbull (2007) has however noted that the nature of the curriculum differs between states, with Queensland being identified as one of the best providers of media literacy skills.

Overall the data suggests that media remains popular and a potentially powerful influence on youth attitudes. Indeed, given estimates that youth spend more time engaging with media per day than they spend devoted to any other leisure activity (Strasburger, 2004), the power of news media has arguably increased for at least some sub-populations of Australian youth.

Youth views of media credibility

It has been suggested that the old fashioned style of mainstream news media is frustrating and irrelevant to younger audiences, resulting in a shift towards alternative media such as youth radio stations, street press and e-zines amongst this age group (Youth Affairs Council of Victoria Inc, 2003). That said, according to a study conducted by Celcius Research for the Newspaper Works (2007), 42% of Australian 14-17 year olds view print newspapers as having more credible content than other media types. Essential Research (2010) indicated higher levels of trust, with 57% and 60% of youth aged 18-24 years old respectively having a lot or some trust in daily newspapers and commercial television news and current affairs.

Media regulation and production

Media production in Australia is regulated by the Australian Communications and Media Authority (ACMA). A number of additional industry bodies also act as watchdogs, including the Commercial Broadcasting Association of Australia, Commercial Radio Australia and the Australian Press Council which oversee television, radio and print media respectively and have developed voluntary codes of practice. These all include the broad guideline not to promote or present illicit drug use as desirable (Commercial Radio Australia, 2004). The Australian Press Council (APC) warrants particular mention since it has devised more explicit guidelines on drug reporting.

The APC (2010) has adopted general principles that emphasise the freedom of the press as an essential element of a democratic society, and that the Council will apply the principles with dominant consideration first and foremost to what it perceives to be in the public interest. Beyond the legal obligations which apply to publications by all persons and corporations (e.g. antidiscrimination, privacy, contempt of court and defamation) the APC Guidelines encompass general principles such as fair, accurate and balanced reporting; the correction of inaccuracies; and honest and fair comment. In addition to the general principles, the APC has issued statements regarding the reporting on specific sensitive issues such as asylum seekers, elections and suicide (for full guidelines see Australian Press Council, 2010). These are not intended to be prescriptive ‘rules’ for the press but rather act as advisory documents. For example, the APC guidelines on reporting of suicide first emerged in 1994 following strong evidence that media coverage may be a risk factor in ‘copycat’ suicide (see for reviews Stack, 2003). The guidelines “strongly commends” editors to publish contact details for counselling services in articles discussing suicide (Australian Press Council, 2001b). Their uptake by journalists and impact on reporting behaviour remains poorly understood (Pirkis, Blood, Beautrais, Burgess, & Skehan, 2006).

The APC has adopted media guidelines on “drugs reporting” since 1978. The first guidelines noted Commonwealth Government concern that fear arousing articles may incite interest in illicit drugs (Australian Press Council, 1978). The most recent guidelines for the “Reporting of Drugs and Drug Addiction” were produced in July 2001 and provide more specific advice on how and how not to report on drug issues. The guidelines acknowledge the tension between reporting “the world as it is” versus seeking “to play a deliberate part in influencing social change” (Australian Press Council, 2001a). For example, as per the first media guidelines, it notes that while reporting on the emergence of new drugs is newsworthy, doing so may “excite the interest of young people in drug experimentation.” It moreover notes that in reporting on drug issues, newspapers should: avoid publishing details which may assist in consumption or manufacture; avoid highlighting the ‘glamour’ of drug use; not exaggerate or minimise the harmful effects; report responsibly on public debate about drug use and addiction; and highlight where possible preventative measures.

Yet a study funded by the Australian National Council on Drugs (ANCD) into news coverage on illicit drugs found the guidelines were not routinely known of or followed. Specifically they noted limited recognition within either the print media or the alcohol and other drugs sector of the APC’s

guidelines (Blood & McCallum, 2005). For example, even “good” journalists (those deemed to provide excellent reporting on drug issues) did not recognise the guidelines. The ANCD report also noted their scope was limited to the coverage of drug issues by print media. While the ANCD recommended that the media guidelines on the reporting of drugs and drug addiction be actively promoted “as the standard by which (all) Australian media should be held accountable” (Blood & McCallum, 2005, p. 27), their own report noted that most journalists saw media guidelines as having limited effect. The journalists and editors also argued that better knowledge of the media guidelines would not “help improve the nature, style or extent of news coverage” (Blood & McCallum, 2005, p. 3).

Despite the virtuous principles offered by the Australian Press Council and industry bodies, it is important to remember that with the advent of the 24 hour news cycle the process of producing and distributing news has changed dramatically. In an atmosphere of intensified competition, declining editorial resources and organisational constraints, journalists have been forced to increase their output, which has led to a growing dependence on public relations practitioners and press releases (Davis, 2000). The relationship between journalists and sources is difficult to monitor due to the often confidential nature of these dealings (Davis, 2000), but media researchers have attempted to show the trend away from investigative journalism and the increased reliance on press releases. A study of 2,207 newspaper articles and 402 broadcast items in the United Kingdom found that news is “routinely recycled from somewhere else” and that “any meaningful independent journalistic activity by the media is the exception rather than the rule” (Lewis, et al., 2008, pp. 17-18). One in five newspaper articles were found to have been wholly or mainly derived from public relations material, plus nearly half of all press stories were found to have been largely cut and pasted from news agency services, often without attribution.

News organisations are increasingly reliant on advertising and sales revenue, but the goal of profit maximisation is not always easily translated into the traditional practices of news gathering and processing (Tiffen, 1989). Put simply, “over the last two decades, publicity, promotion and public relations have become just as integral to the practices of commercial news production as to the marketing and positioning of the commercial media organisation itself” (Turner, 2005, p. 10). Turner (2005, p. 13) further argues that journalism “has increasingly opted to define itself, in effect if not always explicitly, as a form of entertainment rather than information.” With the emphasis on ‘news as entertainment’ and sensationalist, profit driven media, the line between the media’s role as entertainers and ‘watchdogs’ is becoming increasingly blurred (Denemark, 2005). Changes in media production and consumption may therefore influence the extent and nature of media effects.

THEORIES ON MEDIA EFFECTS

The nature and extent of the effect of media messages upon audiences has fascinated researchers, political operatives, policy makers and media professionals for decades. McQuail (2005, p. 456) describes media effects theory as a “paradox” – it is plagued by the assumption that the media have significant influence over our thoughts and behaviour and yet there is little agreement about the nature or extent of these effects. McLeod et al. (1991, p. 242) highlight the diversity of possibility stating “media effects may take different forms, have distinctive processes, and require assessment in varied ways.” Definitions of media effects are often vague but Eveland (2003, p. 396) offers a summary of McLeod et al.’s (1991) more explicit approach suggesting that media effects theory has five characteristics:

- (a) a focus on the audience; (b) some expectation of influence; (c) a belief that the influence is due either to the form or content of a ‘media message system’; (d) the use of ‘variable’ terminology and discussion of causality; and (e) the creation of empirically testable hypotheses.

Approaches to media effects research have changed over time as the development of theory has led to new evidence and variables being taken into account (McQuail, 2005). From the turn of the 20th century to the end of the 1960’s, there was an evolution from a post-war propaganda fear that media messages had ‘strong effects’ and operated like a hypodermic syringe, automatically injecting audiences with stimulus and generating uniform behavioural effects, to a belief that the media had ‘minimal effects’ and only reinforced existing attitudes (Baillie, 1996; Berelson, Lazarsfeld, & McPhee, 1954; Entman, 1989; Glover, 1985; McQuail, 2005; Scheufele, 1999). It was assumed that audiences either selectively screened out messages which did not accord with preconceived beliefs or paid little attention to media messages if they did not readily understand them (Entman, 1989). The current standpoint is referred to by McQuail (2005, p. 461) as “negotiated media influence.” It unites elements of both strong and minimal effects theory in that it shows how media shapes the construction of social reality, but it also acknowledges the multifarious ways a media message may be processed and interpreted by its recipient (Scheufele, 1999). Contemporary media effects research takes a broad view by considering the conditions of media *production* while simultaneously examining how individuals interpret media, taking into account the contributing social and cultural context (McLeod, et al., 1991). It is for this reason we examine both media production and the nature of media effects in this current study.

The media can influence audiences in a number of ways: by setting the agenda and defining public interest, and by framing the issues through selection and salience. By these mechanisms the media influences attitudes towards risk and norms. It must be noted that the mechanisms rarely operate in a simple cause and effect manner and that media effects often work synergistically or may indeed result in no effect at all. For ease of interpretation we examine each separately but for the purposes of this study we focus on perceptions of risk and norms.

Agenda setting

The agenda setting function of the media defines salient issues, captures the attention of the public and shapes public opinion. There is a correlation between how much emphasis the media place on a problem, and how significant the audience perceives that issue to be (McCombs & Shaw, 1972). For example, research has shown that the media can more greatly influence public concern about social control issues such as crime and drug use, than changes in the actual reported incidence of the problem (Beckett, 1994). The nature of media production means that a limited number of issues can remain newsworthy at a particular time, and the choice of what is included (or excluded) sets the agenda and defines public interest. In his seminal statement conceptualising media agenda setting, Cohen (1963, p. 13) wrote:

The press is significantly more than a purveyor of information and opinion. It may not be successful much of the time in telling people what to think, but it is stunningly successful in telling its readers what to think *about*.

Subsequent research has suggested that in a modern mass-mediated environment the media also tells us “*how* to think about it” (McCombs, 1997, p. 441).

The agenda setting process builds consensus about what issues are the most important within the community (McCombs, 1997). For example, there is strong evidence from the small number of studies of drugs and media in Australia that the media plays a crucial role in shaping public opinion and policy decisions through agenda setting. One clear example of the agenda setting effect was seen in the late 1990s in Australia. As heroin overdoses rose, the *Herald Sun* newspaper in Victoria began publishing a “heroin toll” alongside the road toll which tracked the number of heroin related deaths compared to road accident deaths. It was published on the editorial page under the heading “stop the carnage” and continued to be published until 2005. It was a constant reminder to the Victorian public of lives lost, and kept drugs and particularly heroin at the forefront of the public agenda as a “profound social and personal problem” (Watts, 2003, p. 75). McArthur (1999) also argues that a shift in media coverage regarding the efficacy of methadone treatment in the 1980’s positively contributed to community understanding of the value of treatment. The media strongly called for solutions and emphasised treatment as an effective policy lever for reducing income generating crime. Although there is evidence that the media do shape public opinion and policy, the media-message effect will be minimal unless there is resonance between the public and the news media as both parties actively participate in the agenda-setting process (McCombs, 1997).

Framing

The concept of framing is commonly used in communication literature, but rarely structurally defined. It can be understood as “an approach to the effects of media – that in general denotes the idea that the media deal with certain issues in different ways and that, therefore, the issue is covered and reported to the public in different frames or perspectives” (Kohring & Matthes, 2002, p. 143). Entman’s definition (1993, p. 52) has remained central to subsequent research in the field:

Framing essentially involves selection and salience. To frame is to select some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition, causal interpretation, moral evaluation, and/or treatment recommendation for the item described.

Studies in behavioural sciences indicate that the way a problem decision is framed provides a “contextual cue” which may significantly influence decision making or changes of opinion (Iyengar, 1991, p. 11). Framing is important because in the absence of personal experience, media portrayals guide audience interpretation and influence the formation of new opinions (Clegg Smith, et al., 2008). For example, Fan’s (1996) time series analysis of illicit drugs press coverage in the USA between 1985 and 1994 found that by framing drugs as a crisis, the media significantly contributed to shifts in public attitudes with 5-60% of the public regarding drugs as the United State’s most important problem.

Based on principles of selection and salience there are many ways newsmakers have the power to shape the way a story is presented through framing (Clegg Smith, et al., 2002). The power is demonstrated through strategic ideological framing of not only the facts of the story itself but of the actors, leaders, affected communities, relevant arguments and proposed solutions (Pan & Kosicki, 2001). For example, the selection and omission of particular sources contributes to the framing of an issue, with official sources such as politicians and government figures often dominating drug stories in the media (Teece & Makkai, 2000) whereas ‘alternative voices’ tend to be marginalised (Hansen, Cottle, Negrine, & Newbold, 1998). In the same way, choice of language is important in framing problems and solutions. For example, the ‘drug war’ metaphor used in the United States drug media coverage suggests strong intervention of a military or law enforcement nature as the logical solution to a war-like problem, rather than suggesting health or economic interventions (McLeod, et al., 1991). Framing therefore affects what is said about issues, by whom and the definition of optimum solutions.

Perceptions of risk and norms

The media can influence individual perceptions of risk and public behaviour more generally, whether it be regarding sexual behaviour, road safety, sun protection or drug use. Understanding of risk and norms develops through social practices but also through the ever changing way that risk and norms are presented to audiences in media content (Blood, et al., 2003). Noto et al. (2006) argue that while the media cannot by itself change the population’s behaviour, it can reinforce concepts. Unlike experts, who have the skills to analyse the potentiality of a particular risk, the general public must build their understanding and perception of risk through cultural practices, and the media play a significant role in this process (Blood, et al., 2003). For example, studies of adolescent sexual behaviour suggest that in the absence of parental communication or peer information about sex, adolescents will rely on normative media portrayals of sexual behaviour as a non-risky practice as an important source of information (Brown, L’Engle, Pardun, Guo, & Kenneavy, 2006; Brown, Tucker Halpern, & L’Engle, 2005). For youth audiences particularly, the context of the portrayal and

consequences are especially significant for assessing risk and norms. If the behaviour is performed by attractive, successful or powerful role models or associated with positive outcomes such as approval, money, power, romance and sex, then the individual is more likely to learn and imitate that behaviour (Roberts, Henriksen, et al., 1999). This is an important consideration when examining illicit drugs in the media as portrayals of celebrity drug use may have a normative effect.

The media acts as a norm reinforcer by virtue of the fact that many individuals share the same news which draws their collective attention to certain issues and, in turn, groups begin to agree about what those important issues might be (Shaw, McCombs, Weaver, & Hamm, 1999). Put simply, “the mass media reflect and reinforce values” (Shaw, et al., 1999, p. 13). The media affects the socialisation process of individuals by teaching people how to act and interact with others in their environment (Baillie, 1996). The power of the media to act as a norm reinforcer is well demonstrated in literature regarding alcohol. The global media crosses geographical and cultural boundaries offering common, normative messages. As a consequence global media has the power to influence alcohol and alcohol related behaviours, and particularly the attitude that alcohol is a normal, integral part of everyday life (Baillie, 1996). This norm reinforcer role accords with cultivation theory which suggests that behaviours can become accepted as typical and normal if they frequently appear in the media (Roberts, Henriksen, et al., 1999).

Moderation of media effects

The effect of the media will be moderated by the way messages are interpreted and will not always result in uniform impacts. We discuss the reasons why by examining information processing theories.

Information processing theories

The way audiences process information is crucial to understanding the effects of media on attitudes. There are a number of schools of thought regarding information processing, for example, selective scanning, active processing, reflective integration and dual processing. Information processing theory helps to “explain how attitudes emerge from a dynamic interaction of new information with people’s existing beliefs” (Entman, 1989, p. 350), and how individuals process and make sense of messages (Geiger & Newhagen, 1993). From this perspective, it is not the content of the media message that is significant but rather the attributes that are likely to affect how an individual processes and remembers mediated communication (Geiger & Newhagen, 1993).

Drawing upon psychological models, information processing theory suggests that individuals organise their thinking through systems of ‘schemas’ that store “substantive beliefs, attitudes, values, and preferences along with rules for linking different ideas” (Entman, 1989, p. 349). Entman (1989) describes a four step process whereby a media message may be processed. First, the person determines whether or not the media report is salient. If it is, the individual uses the rules of their system of schema to process the information. This may lead to retention of the information, or rejection of the information, and if retained the information can influence attitudes.

Kosicki and McLeod (1990) propose a simpler process involving three discreet strategies – selective scanning, active processing and reflective integration. Selective scanning “involves tuning out items that are not of interest or use to the audience member”; active processing is the receiver’s “attempt to make sense of the story, going beyond the exact information given to interpret the information according to his or her own needs”; and reflective integration “represents the postexposure salience of information such that it occupies the mind and is the subject of interpersonal discussion” (Kosicki & McLeod, 1990, p. 75). These strategies help to sift through the volume of information presented, rejecting or retaining the information depending upon how significantly the information resonates with the receiver’s existing beliefs.

The theory of dual processing suggests that there may be two alternate paths to message processing, and that the adopted pathway will affect individual preference. There is a “central route” of processing which requires the recipient to actively focus on the argument presented to them and the “peripheral route” where attention is paid more to the affective cues of the message (Gelders, et al., 2009, p. 352). Similarly, Chaiken (1980) distinguishes between “systematic” and “heuristic” views of persuasion, again depending upon the level of cognitive effort of the recipient. Chaiken explains, “in the systematic view, recipients focus primarily on message content... conversely, in the heuristic view of persuasion, recipients avoid detailed processing of message content and instead rely on information such as the source’s identity in judging message acceptability” (1980, p. 754). The level of involvement of the message recipient can be significant in determining the way information is processed and the effect of the media message.

These information processing theories are helpful in explaining why the effect of media messages on attitudes may not always be uniform. Studies of political opinion for example have shown that pre-existing ideology may “affect responses to specific media reports; different identifiers may read the same message differently” (Entman, 1989, p. 351). Certain audiences, for example youth, may be more or less susceptible to the particular framing of a media message depending upon the interplay with other social influences such as parent-child interaction, cultural background, peer influence or the extent to which the message concurs with other sources (Roberts & Christensen, 2000).

Accordingly, most contemporary media effects research is not concerned with whether the media has influence on an audience as a whole, but rather is concerned with discovering the conditions under which a certain population will be affected (McLeod, et al., 1991). Audiences will not necessarily be influenced simply because a certain portrayal is presented. The effects will depend on many individual characteristics including an individual’s information processing mechanisms, whether portrayals are contradicted or supported by other sources, peer influence, family influence and other social and cultural factors (Brown & Witherspoon, 2002; Roberts, Henriksen, et al., 1999). Interestingly, research into the “third person effect” has shown that many young people believe that others are likely to be more strongly influenced by the media than they themselves will be (Strasburger, 2004).

IMPACTS OF MEDIA ON ATTITUDES

The previous section identified the multifarious ways that media can affect audiences. Here we focus specifically on impacts on individual attitudes, illustrating in particular media effects of portrayals of licit and illicit drugs.

An extensive body of research has accumulated from diverse fields which has demonstrated that media can impact on attitudes. Media can impact on attitudes regarding body image (for example Brown & Witherspoon, 2002; Meyers & Biocca, 1992; Mills, Polivy, Herman, & Tiggemann, 2002; Posavac, Posavac, & Posavac, 1998), violence (for example Anderson, et al., 2003; Brown & Witherspoon, 2002; Brown, 1996; Rowell Huesmann & Taylor, 2006) and sexual behaviour (for example Brown, et al., 2006; Brown, et al., 2005; Brown & Witherspoon, 2002; Huston, Wartella, & Donnerstein, 1998; Taylor, 2005). Importantly, these results have been shown using multiple methodological approaches including experimental laboratory studies, randomised experiments, field studies, cross-sectional and longitudinal surveys (for discussion see Anderson, et al., 2003).

This research has demonstrated that media effects can be powerful. Yet as per the information processing theories, media effects are not uniform. For example, research indicates that watching violence on screen is related to short and long term impacts on attitudes, specifically aggressive thoughts or emotions, desensitisation to violence and increased perception of acceptability as a means of conflict resolution. Media effects are highly dependent on age, personality, media content and context (Anderson, et al., 2003; Brown, 1996). For example, in both simulated experiments and longitudinal studies those with predispositions towards aggressive behaviours are more likely to attend to violence on television and to be affected by viewing violence (Anderson, et al., 2003). The amount of exposure to violence is also a key influence upon the likelihood of pro-violence attitudes emerging.

Media content is also important, with more realistic portrayals having an increased likelihood of effecting viewers than, for example, violence exhibited in cartoons. Portrayals where violence appears justified are also more likely to increase perceptions of the acceptability of aggressive behaviour, and to increase the likelihood of aggressive or violent behaviour. The media is not solely to blame for aggressive behaviour. Instead it contributes significantly along with other factors such as “gender, developmental patterns, personality characteristics, family stability, socioeconomic status, and characteristics of the community” (Brown & Witherspoon, 2002, p. 156). As identified in the meta-analysis by Anderson et al. (2003) key recommendations from the extant violence-media effects literature include efforts to limit violence through calls for media self-regulation, media literacy, and parental education on the benefits of controlling the amount of violence that children and teenagers view. These examples show that media influence will not be uniform across an audience and that media affects individuals in the context of other social and psychological factors.

Impacts of media on attitudes – licit drugs

The majority of media effects research on licit drugs has focused on marketing and advertising messages in the media, and the efficacy of public health campaigns. Nonetheless, this has provided important insights into the effects of non-mainstream media. For example, in a large review of longitudinal and cross-sectional studies, it was found that there was strong and consistent evidence that even brief exposure to tobacco industry advertising was linked to increases in adolescents' intention to smoke and initiation of smoking behaviour (Davis, et al., 2008). Research also indicates that government public health media campaigns can prevent youth smoking (Biener, et al., 2004). That said, the evidence as to which types of anti-smoking messages are most effective is contradictory. For example, Wakefield and Durrant (2006) found that quit advertisements did not significantly affect youths' intentions to smoke but found that the same group thought advertising messages about pharmaceutical smoking-cessation products made it seem easier to quit. The reason for this anomaly remains unclear but it is thought to reflect the different implicit messages about the ease of quitting.

The particular framing of anti-smoking messages has also been found to affect the persuasiveness of messages. Pechmann and Reibling (2006) found advertisements that framed smoking as a health issue were much more powerful than frames that referred to the environmental risks of smoking, poor body image or smelly breath of smokers, or frames that sought to promote non-smokers as cool. As per the information processing theories, not all anti-smoking advertisements influenced youth smoking intention uniformly. For example, it was found that females, more than males, perceived advertisements portraying illness to be more effective (Biener, et al., 2004).

Studies of the influence of alcohol advertising are also instructive. An Australian study found that both under-age and legally aged young people believed that alcohol was required to have a good time, and these groups were readily able to identify messages in advertising that suggested alcohol products lead to social benefits (Jones & Gregory, 2007). Brown and Witherspoon (2002, p. 160) argue that:

The cumulative evidence from limited experimental studies and more extensive survey work with adolescents suggest that alcohol advertising on television does influence teens' attitudes about drinking and does have a moderate direct effect on initiation of drinking and indirect effects on problem drinking and drunk driving.

Less research has examined mainstream media, that is, the effect of news media or the messages elicited from entertainment media (e.g. primetime television, magazines and films). Mainstream media portrayals arguably reinforce the normative messages gleaned from advertising. For example, early content analysis studies of prime time television programs showed that alcohol was the beverage most commonly portrayed and constituted more than half of all licit or illicit drug use in these programs (MacDonald & Estep, 1985).

Experimental evidence indicates that mainstream media portrayals of alcohol use can teach young people that adults prefer alcoholic drinks over non-alcoholic drinks. Moreover, a lack of negative media portrayals of alcohol use and consequences can increase positive beliefs about alcohol consumption (Roberts & Christensen, 2000). Studies have found that males were more susceptible than females to the influence of media portrayals regarding alcohol (Brown & Witherspoon, 2002).

One of the most powerful examples of the effect of the media on smoking behaviour comes from a New Zealand cross-sectional population based study conducted over a 42 week period. Laugesen and Meads (1991) linked negative newspaper tobacco portrayals with cigarette sales data for the general population (as an objective measure of tobacco consumption). When newspapers doubled the number of news columns covering smoking issues, this achieved an equivalent reduction in cigarette sales to a 10% increase in the price of a packet of cigarettes.

Impacts of mainstream news on youth smoking behaviour are more controversial. Pierce and Gilpin (2001) in their analysis of smoking in the American news media from 1950 to the early 1980s found that population rates of successful smoking cessation reflected the levels of news media coverage of smoking and related health issues, but did not directly impact upon smoking initiation in young people. It was suggested in this study that health messages about smoking were not salient for young people because youth either did not engage with that particular news media source or simply were not receptive to the message. Conversely, Clegg Smith et al. (2008) and Niederdeppe et al. (2007) found evidence that news media coverage on smoking did impact on youth. Specifically, Clegg Smith et al. (2008) found that a greater volume of newspaper coverage of smoking and health related issues was related to greater awareness of smoking harm, disapproval of smoking, lower perceived peer smoking prevalence and lower likelihood of smoking behaviour.

Impacts of media on attitudes – illicit drugs

Turning specifically to illicit drugs, most media research to date has focused on framing, not its impacts on attitudes. For this reason, in the following section, we also make mention of studies which have used media content analysis to analyse portrayals of illicit drugs in the media.

Perception of risk

Media framing of issues has been found to influence perceptions of risk regarding illicit drugs. Gelders et al. (2009) found that those who have little contact with drugs and drug users, tend to shape their perception of risk and therefore their behaviour around prominent frames in the media. For many people illicit drugs are an “unobtrusive” issue – one which they see in the news but do not experience in everyday life (McCombs, 2004). Non-users identify the news media as one of their main sources of information about illicit drugs and in this way the media shapes community perceptions of risk and of illicit drug users more generally. For example, in the lead up to the opening of the medically supervised injecting centre in Sydney in 2001, press coverage was found to be “unnecessarily alarmist.” Coverage by the *Daily Telegraph* particularly was found to have fuelled speculation through the use of “risk language,” increasing public perception of community threats

associated with the centre (Blood, et al., 2003, p. 96). At present there remains a lack of knowledge regarding whom is the most/least affected and why.

We know that media portrayals can affect perceptions of risk during particular time periods. For example, the media have often played a key role in Early Warning Systems informing the public of risks associated with a new ‘dangerous’ drug (Gelders, et al., 2009). Gelders et al. (2009, p. 351) argue that “public risk perceptions, and perceptions of susceptibility and severity are directly associated with the degree of coverage of substance use in the media. To the extent that an issue dies down in the mediated landscape, it starts to wane in terms of the attention it receives in public deliberations.” Public awareness campaigns aim to saturate media and have two purposes – to discourage people from initiating drug use and to encourage those who use drugs to quit. It has been suggested that zero-tolerance public health messages cannot successfully do both simultaneously (Jones & Rossiter, 2004). Severe warnings about negative consequences of illicit drugs may be perceived as believable by those who have never used drugs or those who have had a negative experience with drugs, but it was found that those who do use drugs perceived the same warning messages as being only mildly believable (Jones & Rossiter, 2004). Less is known about the long term effects of every day media messages upon risk perceptions.

Drug use

Very few studies internationally have examined the effect of media messages on potential drug initiation and actual use. More specifically, there is a “surprising dearth” of research regarding media effects on youth drug use (Snyder & Nadorff, 2010, p. 484).

The major area of media effects research and drug use has been in relation to potential impacts on drug initiation. It has been suggested that “exposure to glamorous or normalized depictions of substances increases youth initiation and perception of the acceptability of substance use” (Thompson, 2005, p. 480) and the media is one such medium of interest. Using the model of product curiosity, one experimental study in the United States (Lancaster, 2004) found that news media coverage of a new illicit drug heightened interest and curiosity about the drug amongst those already predisposed to try drugs, demonstrating that news media messages may have an effect on actual drug use. Another American study indicated that 28% of college students who said they had tried ecstasy and 31% who said they had tried GHB indicated that they did so because the media had increased their curiosity about the drug (Gotthoffer, 1998). In a study of American college students, Gotthoffer (1998) found that youth who had already tried drugs were more likely to be influenced by media coverage about a new illicit drug than those who had never used drugs. Looking at the sample as a whole though, the media was not the sole reason for drug use, with social norms and behaviour of friends playing a significant correlated role.

This indicates that two groups of people may be more affected by media messages about a new drug –those with greater interest in drugs and those already using drugs – and hence more likely to use illicit drugs. But the mechanisms and moderators remain unclear. Snyder and Nadorff’s (2010) review argued that the effect of the media on drug use is complex and may not simply relate to

initiation. Media might also affect behaviours such as seeking more information about a drug, experimental use, increasing levels of use or even decreasing levels of use.

One particularly pertinent study has suggested that the manner of news media reporting may be capable of increasing or decreasing levels of use. Stryker (2003) used aggregate longitudinal data from the United States Monitoring the Future Study (1975-1999) of high school seniors to compare reported abstinence from cannabis with “negative” and “positive” cannabis news coverage. They also found evidence that personal disapproval of drug use could mediate the effect. While as they stated the results were highly “provocative,” they leave many questions unanswered (Stryker, 2003, p. 323). In particular the binary grouping of media messages is a very simplistic way of examining media messages, particularly as we know portrayals and frames can differ vastly. The use of aggregate population trends means this is only an indirect measure of media effect: we do not therefore know *what* the youth were responding to, and more specifically what role news media played in their attitudes and behaviours. Nor do we know if whether all youth will respond uniformly.

Research concerning non-mainstream media effects suggests that media effects are unlikely to be uniform. Palmgreen et al. (2001) found that television awareness campaigns elicited different effects on high sensation seekers to low sensation seekers. Specifically the campaign significantly reduced the cannabis consumption of high sensation seekers - those individuals who usually seek out novel experiences and are usually willing to take risks - but not those who were less likely to take risks. Effects were evident even months after the conclusion of the campaign. This suggests that news media reporting on illicit drugs may be mediated by pre-existing attitudes to life and risk taking. This hypothesis has not been tested.

Research also suggests that users and non-users may react differently to media advertising messages. Cho and Boster (2008) used first and third person perception hypotheses to examine the role of group membership and how this contributed to effects of media messages about illicit drugs. They found that those who had never used drugs perceived the effects of anti-drug messages to be greater for people like them, compared to users in a different social group. Users concurred, believing that anti-drug messages would affect non-users more strongly than those already using. Finally, analogous to the research relating to media depictions of violence, it has been argued that the media content itself may affect the size/nature of the media effect. Using the example of media messages in anti-drug campaigns, Stephenson (2003, p. 234) argued that messages that are “arousing and stimulating” are more effective with a high-sensation seeking audience than campaign messages which are not sufficiently stimulating.

In summary, although research suggests that the media does have a powerful capacity to affect attitudes and behaviour, little is known about the effect of mainstream media portrayals on youth attitudes to illicit drug use. The major finding to date is that media can incite interest in some youth and that negative or positive portrayals *may* elicit different effects. Even then these findings are far from conclusive and leave many questions regarding the impacts of different types of news media

portrayals on populations (or sub-populations). Research concerning mainstream and non-mainstream media coverage of alcohol and tobacco has suggested media framing may elicit different effects: due to the framing of messages and individual characteristics.

Difficulty studying media effects

As Snyder and Nadorff (2010, p. 477) state, “it is notoriously difficult to prove media effects beyond a reasonable doubt.” Methodological problems frequently arise as effects accumulate over time and messages are mediated through different social and cultural frameworks (Glover, 1985). The temporal limitations of studies means that research sometimes “fails to explore the cumulative, delayed, long term and unintended effects including those which stabilize the status quo” (McLeod, et al., 1991, p. 237). Yet cultural effects theory suggests temporality is important, as media effects may not always be immediate. Rather changes of opinion occur through a “slow, cumulative build-up of beliefs and values through which we understand the world” (Glover, 1985, p. 380).

In modern society with the increasing amount and array of media, it is even harder to study or measure media effects. Media is not confined to particular regions or particular populations (thereby making it nearly impossible to establish treatment and control groups), and it is hard to control for background factors such as prior exposure or conflicting message effects. It is nevertheless measureable, with due caution.

Two main quantitative approaches have emerged: experimental or simulated studies (e.g. laboratory or field) and non-experimental studies (e.g. using cross-sectional and longitudinal techniques). As shown in the review of media effects concerning violence, the size of effect tends to be somewhat greater with the experimental studies but there was still considerable convergence between the results (Anderson, et al., 2003). The key challenge is in the interpretation of results. Studies based on natural populations afford greater external validity in terms of the generalisability of the study conclusions, yet the large number of potential confounders means distinguishing cause and effect is far more difficult. Experimental studies, especially laboratory studies, offer much greater control over the environment and hence increase the ability to measure the presence or absence of a causal relationship between the media and the adopted outcome(s). The downside is that the findings represent more short term contrived effects. As argued by authors of a comprehensive review of the role of media in promoting and reducing tobacco use “no single method or design is likely to produce the weight of evidence needed for causal inferences regarding the influence of media communications” (Davis, et al., 2008, p. 9). But for new areas of media communication research, experimental methods tend to be the preferred approach.

Qualitative research methods are also popular for media effects research. A qualitative approach, as suggested by Clegg Smith et al. (2002, p. 12), is appropriate “in situations where the researcher is less concerned with how social norms determine what is newsworthy, than with how newsmakers simultaneously invoke and define social norms to persuade their audience of a particular point of view.” In order to *measure* and determine the *nature* of the effect the optimum approach may be a mixed quantitative/qualitative study.

THE CURRENT STUDY

This study examines both issues of media production *and* media effects in relation to illicit drugs. Based on the theories and literature above we developed a number of hypotheses about the nature and impacts of media reporting in Australia.

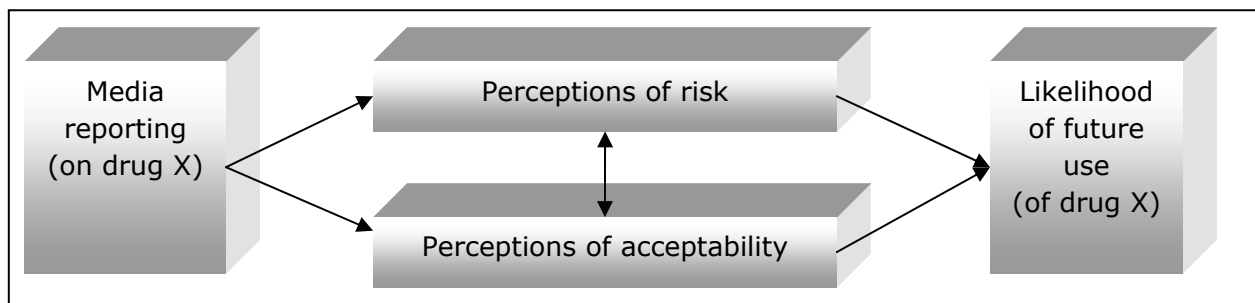
First, we predict that the dominant portrayals regarding media coverage on illicit drugs will be sensational, unbalanced and portray drugs as “bad” (Blood & McCallum, 2005). We hypothesise that media reporting will have changed over time in Australia as new issues hit the agenda. Second, regarding media effects, our stance mimics that of Clegg Smith et al. (2002, pp. 5-6) in regards to media and smoking:

It is not our hypothesis that (media) coverage will *directly influence* young people’s attitudes, beliefs and behaviours... Rather, we propose that press coverage both shapes and reflects local circumstances (thereby) feeding into a complex model of youth decision making.

We hypothesise that media portrayals will have the capacity to *influence* youth attitudes to illicit drug use and that the size and direction of impact will be dependent upon two factors: the type of portrayal denoted; and the specific sub-population under examination. Based on the aforementioned theories, we expect that certain portrayals will have greater influence than others. We further expect that sub-populations of youth, including users versus non-users, will differ in their receptivity to media influence and will respond differently to the media messages.

To test these hypotheses we firstly examined newspaper reporting on illicit drugs in Australia over the period 2003-2008. While many forms of media are used in Australia, newspapers are the only one for which there was sufficient freely available data to enable frequency and patterns of reporting to be examined over time. Newspapers are also deemed a useful proxy for all forms of news reporting as they are seen as frequently setting the agenda for what latter appears in other mediums such as radio and television (Wakefield, et al., 2003). We then used an online repeated measures survey and focus groups to examine the impact of different media portrayals on Australian youth attitudes to illicit drugs. Attitudes to illicit drugs were assessed in terms of three measures: perceptions of risk, acceptability and likelihood of future use, all of which are thought to be directly or indirectly affected by media reporting (see Figure 1).

Figure 1: Proposed model for impacts of media reporting on youth attitudes to illicit drug use



Source: Adapted from the Tobacco Control Monograph (Davis et al. 2008).

MEDIA REPORTING ON ILLICIT DRUGS IN AUSTRALIA

The focus of this study is on youth aged 16-24 years. Current Australian research identifies this as the group most likely to take up and/or use illicit drugs in a frequent manner. Almost one quarter of 14-19 year old Australians have used an illicit drug (23.8%) and over half of 20-29 year olds have used an illicit drug (54%). The National Drug Strategy Household Survey (NDSHS) reported that in 2007 the mean age of onset of illicit drug use in Australia was 19.1 years (Australian Institute of Health and Welfare, 2008a). The mean age of initiation was lower for cannabis (18.8 years) than ecstasy (22.6 years), but was younger again for early initiates (15.3 years for cannabis initiates) (Australian Institute of Health and Welfare, 2008a). Across all drug types a common feature is that those who commence drug use at an earlier age are more likely to end up using on a regular basis, and to be exposed to health and social harms including dependence, mental health problems, reduced educational attainment and regular contact with the criminal justice system (Chen, Storr, & Anthony, 2009; Martins, Mazzotti, & Chilcoat, 2006).

For the online survey of youth we confined the analysis to media portrayals of two drugs – cannabis and ecstasy. The focus on cannabis and ecstasy was deliberate since they reflect the drugs that were most commonly used by Australian youth (Australian Institute of Health and Welfare, 2008b). For example, 15% of 16-17 year olds and 19% of 18-19 years olds reporting having used cannabis in the last 12 months and 4.9% of 16-17 year olds and 9.1% of 18-19 year olds reporting having used ecstasy in the last 12 months (Australian Institute of Health and Welfare, 2008b).

METHODOLOGY

A three stage research design was utilised, including: a retrospective newspaper analysis of articles on illicit drugs published between 2003 and 2008; an online survey on the impacts of media portrayals on youth attitudes to illicit drug use; and focus groups with youth. The methodology for each component will be outlined respectively.

Part 1: Media analysis

Materials

A retrospective content analysis of Australian print media was carried out to examine national trends and patterns in print media reporting on illicit drugs. In line with Clegg Smith et al. (2002), the media trends analysis component of this study used newspapers as a proxy for the wider media. Using print media from one national newspaper, seven major metropolitan daily and weekend newspapers, and three regional/local newspapers, articles printed over the period from 2003 to 2008 that referred to illicit drugs were identified. Specifically, the following print media sources were selected for analysis: The Australian, The Sydney Morning Herald, The Sun Herald (Sydney), The Daily Telegraph (Sydney), The Sunday Telegraph (Sydney), The Age (Melbourne), The Sunday Age (Melbourne), The Herald Sun (Melbourne), The Sunday Herald Sun (Melbourne), The Courier Mail (Brisbane), The Sunday Mail (Brisbane), The West Australian (Perth), The Sunday Times (Perth), The Canberra Times, The Geelong Advertiser, The Newcastle Herald and mX (Sydney).

Details of the estimated circulation of each newspaper are listed in Table 2. The papers vary in their targeted region, population basis, and the days on which they are produced. Two tabloid papers, the Herald Sun/Sunday Herald Sun and the Daily Telegraph/Sunday Telegraph, dominate in terms of their overall circulation, with an estimate of 3.7 and 2.8 million papers respectively distributed per week (Audit Bureau of Circulations, 2008). It should be noted that circulation will tend to underestimate the total level of readership of each paper. Nevertheless, the circulation figures provide clear evidence that there is a large volume of print news produced and accessed on a daily basis.

MEDIA REPORTING ON ILLICIT DRUGS IN AUSTRALIA

Table 2: Estimated average daily and weekly newspaper circulation figures in Australia, by paper, region, and day of week (July-September 2008)

Newspaper	Region	Weekday	Saturday	Sunday	Total estimated circulation per week
STATE/NATIONWIDE PAPERS					
Herald Sun/Sunday Herald Sun	Victoria	518,000	503,500	615,000	3,708,500
Daily Telegraph/ Sunday Telegraph	NSW	375,000	316,000	650,000	2,841,000
The Courier Mail/Sunday Mail	Queensland	222,500	310,224	566,773	1,989,497
Sydney Morning Herald/Sun Herald	NSW	209,508	355,850	461,509	1,864,899
West Australian/Sunday Times	Western Australia	194,862	336,532	320,000	1,630,842
The Age/Sunday Age	Victoria	203,800	292,300	225,700	1,537,000
The Australian/Weekend Australian	National	140,000	307,000 ¹		1,007,000
The Canberra Times	ACT	34,687	58,978	35,116	267,529
REGIONAL PAPERS					
Newcastle Herald	Newcastle, NSW	49,880	49,880	-	299,280
Geelong Advertiser	Geelong, Victoria	26,015 ²	45,499 ²	-	175,574
STREET PRESS					
mX (Sydney)	Sydney, NSW	96,253 ²	-	-	481,265

Source: Audit Bureau of Circulations (2008).

¹Where weekend editions' circulation figures incorporate both Saturday and Sunday circulation, the combined circulation figure appears in the Saturday column. ²Source: The Newspaper Works (2008).

Media sample

Media articles were obtained electronically from the Factiva database. The following keyword search terms were utilised: cannabis; marijuana; amphetamine*; meth; methamphetamine*; (ice and drug*); (speed and drug*); ATS; (ecstasy and drug*); MDMA; cocaine; and heroin. The terms were searched in the full article (as opposed to the headline or first paragraph). Republished news, recurring pricing and market data, obituaries, sports, advertising and calendars were excluded. In total, 42,436 articles were identified as containing one or more of these search terms between 1 January 2003 and 31 December 2008.

A sub-sample of over 10% was selected for media content analysis by manually selecting in chronological order every tenth article commencing at article number 10, and every two hundredth article commencing at article number 201. In total, 4,397 articles were coded. The sample size was deliberate in order to enable analysis across time and within frames, and to maintain representativeness in the subsequent analyses. In particular, a small proportion of the articles would need to be excluded where the subject was not drug related but key search terms had been included (i.e. did not contain reference to at least one of the illicit drug types searched). Due to the nature of the Factiva database search, this would infrequently occur, for example when an article contained

the word ‘speed,’ ‘ice’ or ‘ecstasy’ in a context other than a drug name where the article also made mention of the word ‘drug’ (ultimately, 10% of the sample were coded as ‘other’ in focus and excluded on this basis).

The final sample of 3,959 articles makes this the largest known media content analysis sample of its kind to specifically analyse reporting of illicit drug issues in the news media. By way of comparison, recent studies of illicit drugs in the Australian news media have used sample sizes such as 155 articles (Miller, 2010), 231 articles (Lawrence, et al., 2000) and 865 articles (Teece & Makkai, 2000). That said, these studies have largely focused on a particular publication, episode or issue. A larger sample size was deemed necessary to examine trends over time across multiple publications. Studies in other fields have used larger samples to examine portrayals and trends over time in this way, for example a sample of 1,802 articles was selected to compare trends in the framing of biotechnology in Germany from 1992-1996 and 1997-1999 (Kohring & Matthes, 2002). By selecting such a large sample from across the six year period, we are confident that this sample can be considered “reasonably representative” (Hansen, et al., 1998, p. 102) of portrayals of illicit drug issues in the Australian news media.

Coding and double coding

After preliminary immersion in the media content, the coding schedule was drafted using the full article as the unit of analysis. The coding schedule was constructed so that the following information was recorded for each relevant article (see Appendix A for the full coding schedule and descriptors):

- Primary drug mentioned: cannabis, ecstasy, cocaine, heroin, amphetamines or mixed drug;
- Focus of the article: whether illicit drugs were the main focus or mentioned in passing;
- Descriptors e.g. date, newspaper, state and region, headline and page number;
- Value dimensions including overall tone of the article; framed as a ‘crisis’ or a ‘youth issue’;
- Type of article e.g. news, feature or editorial;
- Topic e.g. criminal justice, harms or policy commentary;
- Moral evaluation of illicit drugs e.g. drugs denoted as good, no risk/minimal risk or bad;
- Consequences portrayed e.g. unknown risk, social, health or pleasurable; and
- Sources/primary definers e.g. politicians, welfare, user or researcher.

The design of the coding schedule was based on the methods utilised by Kohring and Matthes (2002; Matthes & Kohring, 2008). Matthes and Kohring (2008, p. 263) argue that, “in order to measure a frame in a valid and reliable way, it is important to identify the single elements of a frame.” For this reason, rather than constructing predetermined media frames within the coding schedule, an exhaustive list of independent text elements was established in the topic, consequence, moral evaluation and source categories. This method allowed the researcher to separately code text elements, which accords with Entman’s (1993) conceptualisation of frames as groups of several variables working together. By separately coding the various elements which contribute to the way a particular story is framed, the frame can be examined in more detail and more subtle differences in the way issues are portrayed can be identified (for an example see Figure 2).

Figure 2: What is a frame?

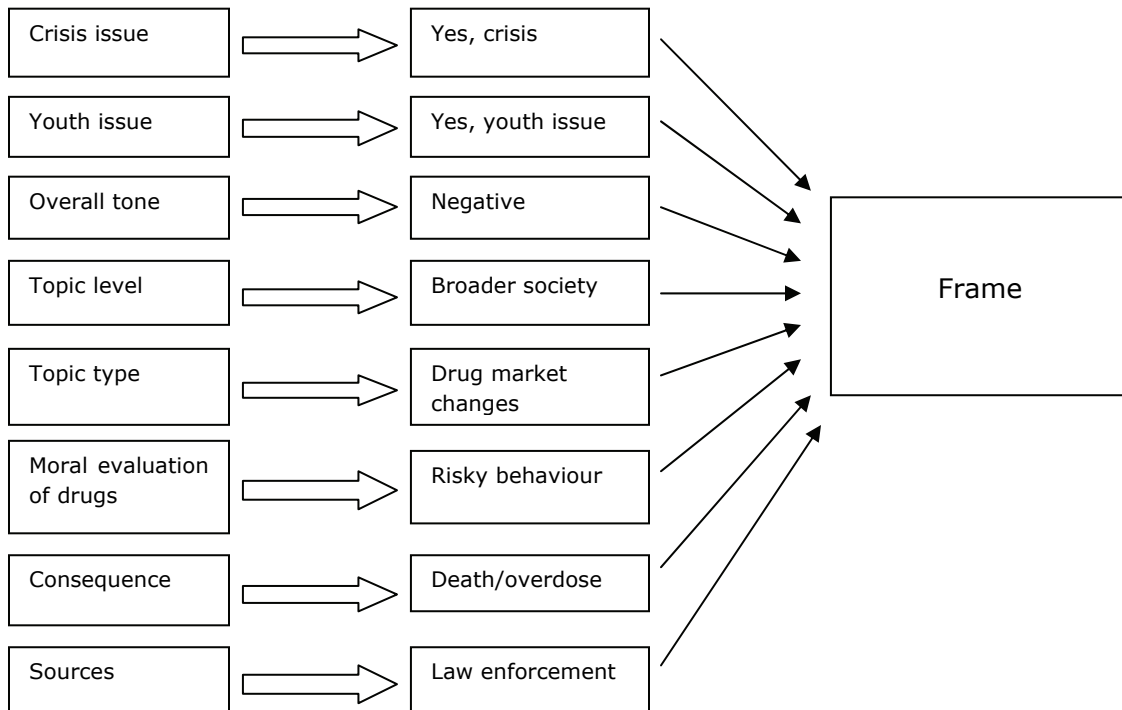
Frames can be understood as groups of several independent text elements working together to create a story (or portrayal). By separately coding the various elements which contribute to the way a particular story is framed, the frame can be examined in more detail and more subtle differences in the way issues are portrayed identified.

Sample article:

Pills spiked with killer drug

ILLICIT drug makers are cutting pills with a "death drug" because they can't obtain other illegal ingredients, police and medical experts warned yesterday. In a mayday call to young people, police said there has been a lift of para-methoxyamphetamine (PMA) being added to ecstasy tablets. "PMA is becoming more noticeable and there are more detections" a senior drug squad officer said.

Independent text elements:



See Appendix A for a comprehensive list of all coding variables and descriptors used in the content analysis.

By understanding media frames as groups of text elements and identifying these patterns systematically, reliability is increased as frames are not defined beforehand (Kohring & Matthes, 2002), thus reducing the influence of the researcher's preconceived perspective on the issue. This method arguably reduces coder bias which was important in this study as the coding was to be conducted by one coder.

In total, 35 topic, 7 moral evaluation, 21 consequence and 15 source text elements were established as independent and exhaustive variables from which to analyse frame elements (see Appendix A). Topics were also initially coded with an overarching 'level' category, depending upon whether the topic variable was being addressed on an individual, community or broader society level. These categories differ slightly from Entman's (1993) definitional categories, but the method can easily be applied to other frame elements in this way (Matthes & Kohring, 2008).

For ease of analysis, the many variables were then collapsed into broader categories after coding:

- 35 topics were collapsed into 7 categories. Topics denoting criminal justice and law enforcement relating to users and dealers were collapsed into "Criminal justice"; violence/drug related crime, organised crime and trafficking were grouped as "Drug related crime"; harms relating to death/overdose, mental health, physical harms, addiction and harms to a group/community were collapsed together as "Harms"; policy commentary regarding treatment, prevention, harm reduction and other policy issues as well as politics and new initiatives were defined as "Policy commentary – other", whilst policy commentary regarding law enforcement remained as "Policy commentary – law enforcement"; research, trends/patterns of use and drug market changes were grouped together as "Research"; and drug use by elites including music, sport, models, "icons" or politicians were collapsed together in the "Elites" category. Original coding categories relating to events, cost to society and those coded as "other" were excluded from analysis as the number of articles represented within these codes was negligible.
- 21 consequences were collapsed into 6 categories. Unknown risk/"Russian roulette", death/overdose, physical health problems, mental health problems and addiction were grouped together as "Health problems"; cost to society consequences relating to public amenity, government spending, drug related crime and industry were grouped as "Cost to Society"; consequences including leads to loss of control, leads to marginalisation, reduces employment/education prospects, contributes to tragedy/family breakdown and damage to reputation were collapsed as "Social problems"; arrest and incarceration were defined as "Legal problems"; health benefits, social benefits and fun consequences were collapsed broadly as "Benefits"; and, articles denoting drug use as not a barrier to success or those with neutral consequences were grouped together as "Neutral". Two articles which had been coded as "other" were excluded.
- 7 moral evaluations were collapsed into 5 categories. "Good" encompassed moral evaluations which suggested that illicit drugs are a rite of passage, have no or minimal risk or are fun or beneficial, and risky behaviour, bad, mixed and neutral moral evaluation categories remained separate.

Excluding those articles coded as 'other' in focus, all articles were coded for one of six drug types: cannabis, heroin, cocaine, ecstasy, amphetamines or mixed drug (where more than one of these drug types was present). If the illicit drug was mentioned incidentally or briefly in the context of another issue and not focused upon or discussed, the article was coded as 'illicit drugs are only mentioned in

passing' and was excluded from the rest of the coding. Therefore, for an article to be coded for all items in the coding schedule, it needed to mention at least one of the five illicit drug types, and also have illicit drugs as the main focus (specifically related to illicit drug issues or consequences) or the secondary focus (where the article discussed another issue but referenced illicit drugs as an important contributory factor). The criteria allowed for a variety of article types, including news articles, feature articles, editorials, opinion pieces and columns.

The coding instrument was piloted by multiple researchers on a substantial sub-sample of the articles. Each of these articles was rigorously discussed to achieve minimal inconsistencies and refine the coding schedule. Comprehensive descriptors were constructed for each of the categories in the coding schedule (see Appendix A). Once the coding schedule and descriptors were finalised, no subsequent changes were made after formal coding had commenced ensuring *a priori* design in the media content analysis coding system (Macnamara, 2006).

Reliability and consistency were tested at several points in the coding process. Both inter-coder reliability and intra-coder reliability tests were conducted to ensure that the coding descriptors were clear and that divergence did not occur over time. The inter-coder reliability tests were conducted as "blind coding" to reduce "demand characteristic" (Macnamara, 2006, pp. 11-12). Similarly, the intra-coder reliability test by the original coder was conducted over a month after the coder had originally read the sample, simulating a "blind coding" situation. In all, 150 articles were tested for reliability which accords with Neuendorf's (2002, p. 159) general statement that the tested subsample "should probably never be smaller than 50 and should rarely need to be larger than about 300." Cohen's kappa scores of 0.72 for inter-coder reliability and 0.95 for intra-coder reliability were achieved, suggesting substantial to almost perfect agreement. Three key coding categories (topic type, moral evaluation of drugs and consequence) were also tested individually for reliability achieving Cohen's kappa scores of 0.84, 0.61 and 0.75 for inter-coder reliability and 0.87, 0.85 and 0.90 for intra-coder reliability respectively. These scores again demonstrated substantial to almost perfect agreement within these individual coding categories.

The statistical analysis software SPSS was used to analyse the print media data. Frequency distributions were used to examine the descriptive data to analyse dominant portrayals and trends over time.

Part 2: Online survey

The second component of the research examined the impact of different media portrayals on youth attitudes toward illicit drug use. This used a purposely designed web-based survey – called the drug media survey – that was administered to a self-selected sample of youth aged 16-24 years who lived in Australia.

Online survey design

The internet survey used a repeated measures design, whereby youth were shown a randomly ordered set of eight articles, each of which represented a different media portrayal. Participants were

asked a series of questions (outlined below) in response to each article. This design was similar to that employed by Wakefield and colleagues (2008) in their examination of the impact of tobacco packaging on attitudes to smoking.

The survey also included a number of instruments designed to measure demographics, prior drug use history and pre-existing attitudes to drug use and life (see section below). The survey was developed using Survey Gizmo, an online survey development program, and accessed through a specifically purchased url: www.drugmediasurvey.com. The survey design was informed by the review of the literature as well as the aims of the study. Wherever possible the questions were based on previously used questions or instruments. The survey involved a maximum of 37 questions, which was dependent upon individual responses regarding their educational qualifications and lifetime drug use, and was designed to take participants 15 to 25 minutes to complete. Fixed Likert type answers were used for the attitudinal measures.

Design of newspaper clips

The eight media articles included in the survey were taken from the Factiva database for the period covered by the retrospective media analysis in Part 1 of this study, that is, from 2003 to 2008. Only articles referring to ecstasy and cannabis were included in the survey with four articles selected for each drug type (see Table 3).

Table 3: Articles used in the Drug Media Survey, with source details, journalist, drug and indicated portrayal

Article title	Source	Journalist	Drug	Portrayal
Ecstasy crack down ¹	The Daily Telegraph 29/09/2008	Not listed	Ecstasy	Crime and arrest
Hundreds farewell a smiling dancer ²	The Sydney Morning Herald 24/02/2007	Jano Gibson	Ecstasy	Death of a user
Pills spiked with killer drug ¹	The Daily Telegraph 08/04/2008	Not listed	Ecstasy	Risk warning
Ecstasy safe says top cop ¹	The Daily Telegraph 03/01/2008	Not listed	Ecstasy	Endorsement of low risk
Arrests at Mardi Grass ¹	The Daily Telegraph 08/05/2007	Not listed	Cannabis	Crime and arrest
Cannabis users are prone to failure ³	The West Australian 28/04/2007	Debbie Guest	Cannabis	Social harm (reduced education/employment prospects)
Cannabis is worst drug for psychosis ⁴	The Australian 21/05/2005	Simon Kearney	Cannabis	Mental health harm
Branson's Byron drug daze admission ¹	The Daily Telegraph 31/07/2007	Fiona Hudson	Cannabis	Endorsement of acceptability

¹© News Limited, ²Courtesy of The Sydney Morning Herald, ³© The Western Australian, ⁴© The Australian

Other illicit drugs could have equally been included in the survey however these two were purposely selected because they are the most commonly used illicit drugs by Australian youth in this age group (Australian Institute of Health and Welfare, 2008a). For each drug type, the four articles presented a different portrayal of illicit drug use. Selection of articles was not random. Instead selection was intended to be representative of a cross-section of portrayals used in Australian media reporting. Media portrayals of ecstasy and cannabis are often quite different. For this reason, the ecstasy and cannabis articles were not compared. The articles themselves are listed in Appendix B. In Appendix C we have also included a media content analysis that identifies the key features of each of the survey articles.

From the eight newspaper articles, only the headline and first three to four paragraphs were included in the survey. The rationale for cropping each article was to allow for faster reading and to mimic normal reading behaviour. To minimise visual differences between articles, which has been found to impact on reader behaviour (see for example Detenber & Winch, 2001), all articles were entered using the same font and format without any photographs or details of the source or journalist. Copyright approval was sought for the eight article sections used in the survey.

Survey questions

The first eight questions of the survey collected basic demographic information about the participants including; gender, current age, state or territory of residence, residence in a metropolitan or non-metropolitan area, highest year of school completed and other educational qualifications. The questions were based on those asked in the 2007 National Drug Strategy Household Survey (Australian Institute of Health and Welfare, 2008a), which enabled us to subsequently compare our sample with the 16-24 year olds included in the 2007 NDSHS (see section on survey analysis below).

The survey also asked participants about their media consumption. Specifically, participants were asked how often they used each of the following news media sources in the past 12 months: television news, radio news, print newspapers, free newspapers (e.g. mX), and online news and current affairs (e.g. NineMSN). Participants were required to respond on a six point Likert type scale which included the responses: every day or almost every day; once a week or more; about once a month; every few months; once a year or more; or never. They were also asked which newspaper type they had read more often in the previous 12 months: daily newspapers; weekend newspapers; equal numbers of daily and weekend newspapers; whether they didn't read print newspapers but read online news; or whether they didn't read any newspapers.

The specific scale used to measure media consumption was adapted from the 2007 NDSHS (Australian Institute of Health and Welfare, 2008a) question regarding the frequency of illicit drug use. We had wanted to follow an existing measure of media consumption, however we found that most measurements assumed very high frequency of contact, for example 6-7 days of contact a week, or were aimed at quantifying the *intensity* of contact, for example the number of papers read or number of hours devoted per day (Australian Communications and Media Authority, 2009; Roy Morgan, 2007). Given what we know about youth media consumption patterns we hypothesised

that such measures would be too constrained to discern different levels of consumption by medium. Interestingly, the adapted 6 point scale, including every day or almost every day, once a week or more etc., was similar to that later used by Essential Research (2010): daily, several times a week, about once a week, less often, and never.

The next section of the survey featured a 15-item screening tool designed by Blue Moon Research (Carroll, 2000; Clark, Scott, & Cook, 2003) to distinguish between youth on the basis of their attitudes to life, drugs and drug use. The Blue Moon Research (Carroll, 2000) study was conducted as a precursor to the development of the National Drugs Campaign that aimed to investigate the positive and negative perceptions of drug use amongst a spectrum of young people in terms of their attitudes, knowledge, and behaviour concerning illicit drugs. Of importance for the current work was the development of a set of six archetypes into which all youth could be classified. The archetypes were devised through a two part methodology (see Appendix D for specific details), involving qualitative interviews with youth aged 12-24 years and a quantitative survey of youth aged 15-24 years. Each archetype described attitudes to illicit drug use and life such as propensity to engage in risk behaviours. This is the only known tool that has sought to distinguish between sub-populations of youth on this basis.

The six archetypal groups include Considered Rejectors, Cocooned Rejectors, Ambivalent Neutrals, Risk Controllers, Thrill Seekers and Reality Swappers. To summarise, youth belonging to each archetype were typified by the following characteristics: Considered Rejectors are not interested in drugs and have little exposure since their peers have similar views on drugs; Cocooned Rejectors have little peer exposure to drugs but would rather avoid so as not to upset their parents or the authorities (i.e. they don't use drugs due to external pressures); Ambivalent Neutrals have peers that use so are exposed to drugs however have limited interest in them, some use and some don't; Risk Controllers may use drugs if or when they are exposed to them but only in certain circumstances (e.g. will take 'safe' or familiar drugs); Thrill Seekers enjoy the excitement of drugs, the 'buzz' and the sense of risk, they have many peers that also use; and Reality Swappers also have many peers that use, but believe that the reality they experience while on drugs is better than the 'straight' world, they feel that they lack control over their lives.

The Blue Moon Research screening instrument was used in the current study to assign participants to one of the six aforementioned archetypes. Participants were required to indicate how much they agreed or disagreed with 15 statements using a 5-point Likert scale. The original Blue Moon Research (Carroll, 2000) questionnaire comprised of 34 attitudinal items and was found to have an average reliability and validity of 91.8% and 88.7% respectively across the six archetypal groups. Through discriminant analysis, Blue Moon Research reduced the questionnaire to the 10 and 15 most discriminating items and assessed these for reliability and validity. The average reliability and validity for the 10-item screen across the six archetypal groups was found to be 65.6% and 64.9% respectively, whilst the average reliability and validity for the 15-item screen was found to be 76.2% and 75.2% respectively. Based on this outcome, the 15-item screen was selected for use in the current study due to both its brevity and strong reliability and validity.

In the next section of the survey, respondents were asked questions about their lifetime and recent use (within the last 12 months) of a range of substances including: alcohol, tobacco, ecstasy, cannabis, heroin, meth/amphetamine, cocaine and any other illicit substance (such as GHB, LSD, PCP, ketamine). These questions were adapted from the 2007 NDSHS (Australian Institute of Health and Welfare, 2008a). This permitted comparisons between the 16-24 year olds sampled in the 2007 NDSHS and the current sample on drug use behaviours to again determine whether the drug use behaviours of our sample were similar to that detected in the 2007 NDSHS. Accordingly, any differences between the two samples in respect to drug use history could be clearly identified.

The following two sections of the survey included questions taken from the European Monitoring Centre for Drugs and Drug Addiction (EMCDDA) and asked participants about their perceptions of the risks and consequences of taking drugs. These instruments are freely available online through the EMCDDA Evaluation Instrument Bank and have been evaluated as valid and reliable tools. In the first set of questions, adapted from the 'Perception of Risks Associated with Drug Use' instrument (European Monitoring Centre for Drugs and Drug Addiction, 2004b), the participants were asked how much they thought people risked harming themselves, physically or in other ways, if they tried marijuana or ecstasy once or twice, or if they used marijuana or ecstasy regularly. These questions were used to inform the research of the participants' pre-existing perceptions of the risks associated with using the two drug types, cannabis and ecstasy, prior to being presented with the eight newspaper clippings. A fixed-response Likert-type scale was used for these questions where participants could choose from the following responses: no risk, slight risk, moderate risk, great risk, or don't know (which was identical to the scale used by the EMCDDA).

The second set of questions included 10 items derived from the 14-item 'Beliefs about Consequences' instrument (European Monitoring Centre for Drugs and Drug Addiction, 2004a). Specifically, participants were asked how likely or unlikely it was that various outcomes would occur were they to take drugs in the next month, such as 'Get into trouble with the police' or 'Have problems in school/ work.'

Next, participants were shown the eight media clippings. For each participant, the presentation order of the eight articles was randomised. The researchers felt that this was necessary to control for any order effects, for example, should participants get bored and/or react in a more adverse manner to the first type of portrayal observed. Randomisation was therefore used to reduce the likelihood of spurious effects resulting from article presentation order.

Following each article section, respondents were asked their likelihood of reading the article and how the article affected their perceptions of the risk of illicit drug use and the acceptability of illicit drug use. Participants were asked to indicate how much they agreed to each statement using a 7-point Likert scale with responses ranging from 1 'Strongly disagree' to 7 'Strongly agree' (where 4, the midpoint, read 'Neither agree nor disagree'). Participants were then asked to rate how likely the article was to make them consider using illicit drugs in the future, using a 7-point Likert scale with

responses ranging from 1 'Much less likely' to 7 'Much more likely' (where 4, the midpoint, read 'Neither more or less likely').

In the final section of the survey, respondents were asked to indicate how much they agreed or disagreed with six statements about the media using a 7-point Likert Scale ranging from 1 'Strongly disagree' to 7 'Strongly agree' (again, the midpoint read 'Neither agree nor disagree'). At the completion of the survey, participants were encouraged to leave any feedback on the survey or topic. Ten music vouchers were randomly allocated to ten participants at the end of the survey period.

Advertising and promotional campaign

Promotion of the online survey involved widespread coverage across Australia with the aim of recruiting as broad a sample of youth as possible. This included extensive advertising and publicity to enhance public awareness of the study and increase participation in the survey. Specifically, the survey was promoted through: university careers noticeboard websites including (but not limited to) the University of New South Wales, Macquarie University, University of Sydney, University of Melbourne, Deakin University, University of Western Australia, University of Queensland and Charles Darwin University; TAFE careers noticeboard websites including Sydney Institute, North Coast Institute, Riverina Institute and New England Institute; online chat forums and blogs including Inthemix, Same Same and Bluelight; social networking sites including Facebook; a large number of government and youth oriented websites who were willing to publish the link on their sites such as Youth Central, Youth InterAct and YAPA; and email explodes such as YouthGas. In addition, the survey was advertised in street press including Drum Media Sydney, Drug Media Perth, Time Off, In Press and mX (Sydney). The launch of the survey was also promoted as a news story through national and local radio stations including Triple J and i98 FM, respectively.

Media releases were issued to Australian media outlets nationally on 22 February 2010 under the heading "Media reporting on illicit drugs under the spotlight: NDARC launches first national youth drug media survey." This sparked a series of 37 newspaper articles in national and regional press, and 11 radio interviews including with Fox FM, Perth Sunshine FM and Community Radio 3CR.

On completion of the survey, participants were requested to forward the link on to friends through either Facebook or Twitter or by entering in their friends' email addresses. They were also encouraged to tell any relevant friends. Finally, an ad campaign and fan-page for the survey was set up through Facebook which targeted 16-24 year olds living in Australia.

Procedure

Individuals aged younger than 16 years or older than 24 years were immediately directed out of the survey. Respondents who indicated that they did not currently reside in Australia were also directed out of the survey. Once a participant was screened out they were unable to go back into the survey since it was designed without a 'back' option. Participants were also unable to alter their responses once they had progressed onto a new section because they could not return to previous pages of the survey. This was a strategic decision to prevent ineligible people, such as those aged over 24 years,

from pressing a back button and proceeding to enter their responses (indeed the data below indicates that at least 221 people were excluded from the pool in this manner).

In theory, respondents could only complete the survey once. This is because the survey design utilised cookies, that is, small files that identify whether a certain computer has already visited a website. This is a more sophisticated technique than previous online surveys, such as the Australian Drug Foundation Drug and Driving Survey, which did not utilise cookies. This method decreases the likelihood that the same respondent will enter more than one completed survey (Mallick, Johnston, Goren, & Kennedy, 2007) or else re-enter the survey after having been screened out. Participants were not however prevented from completing the survey more than once if they accessed the site from a different computer or web browser.

Given this was a newly devised survey, we ran a pilot using 20 participants. This involved temporarily putting the survey online until the pilot sample had completed the survey. Feedback was sought from participants about the design of the survey and a pilot analysis was carried out on the data. This enabled us to receive comments regarding the operation of the survey and identify any technical difficulties. On completion of the pilot, final amendments were made and the survey was officially launched to the public on the 4th January, 2010.

Once all data was collected and the survey taken offline, we found that a small number of participants (n=12) dropped out of the survey post viewing and responding to all of the articles. Given there was only one final set of questions remaining (on overall perceptions of the media influence), and one that was not critical to our core research questions, we resolved to include these 12 in the final sample.

Sample

A power analysis ($\alpha = 0.05$, $\beta = 0.20$) determined that 393 participants per archetype would be required. This was based on the assumption that the effect sizes would be small. The total sample size was therefore set at approximately 2,400 participants (N=2,358) across the six archetypal groups. A total of 3,187 respondents accessed the online survey between 4 January 2010 and 20 April 2010 (i.e. 15 weeks). Of those people who logged onto the survey, 13 did not agree to participate and 221 fell outside of the required age range and were therefore directed out of the survey. The final sample included 2,296 respondents: which comprised of 2,284 people that completed the entire survey and an additional 12 who completed the survey with the exception of the final set of questions on perceptions of media influence. This meant that 72% of respondents completed the survey.

Survey analysis

We sought to determine the extent to which the survey was representative of the general Australian 16-24 year old population, by comparing the demographic and drug use characteristics of the current sample with the sample of 16-24 year olds involved in the 2007 NDSHS. Data were obtained from

the Australian Institute of Health and Welfare for the specific 2007 NDSHS sample of 16-24 year olds ($n=2,410$) and then compared on education, and lifetime and last 12 month drug use.

SPSS was used to analyse the survey data. Frequency distributions were used to examine the demographics and responses to each outcome measure. For each of the outcome measures - perceptions of risk, acceptability and likelihood of future use - we calculated the mean score and standard error of the mean. This was repeated for each of the articles, and represented, for example, the mean perception of risk attributable to each article.

For each drug type (i.e. ecstasy and cannabis), statistical comparisons were made between portrayals. Given the nature of the repeated measures design we did not need to control for group differences such as gender or prior drug use experience. The mean responses for risk, acceptability and likelihood of future use for the typical portrayal (crime and arrest) were compared to those for the three atypical portrayals to test whether the atypical portrayals had more or less of an effect on perceptions of risk, acceptability and likelihood of future use. This was again conducted for each drug type. In addition, the mean difference was calculated to compare the typical (crime and arrest) portrayal and the three atypical portrayals (for both the cannabis and ecstasy articles) and the effect size of this difference computed.

One of the critical questions that needed to be addressed was how to interpret the size of any observable effects. In this study the correlation coefficient - Pearson r - was used as the effect size estimate. Pearson r was chosen for ease of interpretation and because it provides a more conservative estimate of effect than Cohen's d (Anderson, et al., 2003). Pearson r correlation coefficients are interpreted as follows: $r=0.1$ is a small effect; $r=0.3$ is a medium effect; and $r=0.5$ is a large effect (Cohen, 1988).

For each article effect sizes were also computed in terms of the difference from the null effect. This was conducted for one outcome measure only, likelihood of future use, which constitutes the indicator of greatest importance from a public health perspective. The aim in doing so was to assess the potential impact of different media portrayals on attitudes to drugs, as has been done in related media violence studies (Anderson, et al., 2003). Effect sizes were calculated for each sub-group (i.e. according to sex, drug use history and Blue Moon archetype).

Part 3: Focus groups

The final component of the research involved focus groups with 52 youth aged 16-24 years who lived in Sydney, Australia. The focus groups lasted 60-90 minutes and were designed to complement the web-based survey.

Procedure

The focus groups were run by the researchers at a hired venue in inner city Sydney. Recruitment employed many of the same strategies that were used for the online survey. The only difference was that this time youth from New South Wales were targeted. Similar to the survey, anyone aged 16-24

years who lived in Australia was invited to participate in the focus groups, regardless of prior drug use experience. The advertisements specified that interested youth must be able to attend a focus group at the specified location. Due to the age of participants, focus groups were scheduled outside of school hours.

To facilitate discussion and reduce intimidation participants were divided into different focus groups according to age and gender. Specifically, there were two groups of 16-17 year olds (1 male and 1 female) and 3 groups of 18-24 year olds (1 male and 2 female). The final sample included 33 females and 19 males. The lower number of males resulted from less initial expression of interest and a higher non-attendance rate. The mean age of the females was 20.5 years and the mean age of the males was 19.7 years.

At the commencement of each focus group, youth were asked to individually write down the first word that came to mind when considering news media reporting on illicit drugs. Words were collected anonymously and used to stimulate group discussion. Participants were then invited to discuss the meaning of the different words, for example 'biased,' and to give an example of how it related to media reporting on drugs. They were then asked to comment on what the collection of words indicated about their perceptions of *how* the media reports on illicit drugs, for example whether the words gave an overall positive or negative impression of the nature of media reporting.

Youth were then shown a series of three different articles including *Ecstasy 'safer' than binge drinking*, *Ecstasy death a 'painful lesson'*, and *Tough new laws on cannabis use* (see Appendix C for details on the articles). Participants were shown each article separately and asked to comment on the following: their immediate impressions; what guided their interpretation of the articles; and the potential impacts of the article on young people's perceptions of illicit drugs and drug use behaviour. Some discussion questions included: 'What do you think about this article?'; 'Is there anything in particular that makes you feel this way?'; 'How do you think this might affect people's drug use?' Participants were asked to specifically consider impacts on different sub-groups of people such as people who have never used illicit drugs compared to people who were current ecstasy/ cannabis users. After discussion of each article separately, youth were asked whether or not they perceived the set of articles to be typical or atypical of media reporting on illicit drugs and to identify what they saw as the dominant portrayals of drugs presented by the media. Focus groups finished by asking youth to suggest ways that media reporting on illicit drugs could be improved.

As was done with the survey, all articles were presented in the same font and format and without information on the source or journalist. This eliminated potential confounding influences on participants' interpretations. All focus groups were recorded for transcription purposes but the participants' anonymity was maintained. Participants were reimbursed \$70 for their time and travel expenses.

Focus group analysis

Thematic analysis was used to identify the messages derived from each of the articles and any common factors that affected media interpretation. In particular, four factors were identified as being critical to media interpretation including pre-existing beliefs on illicit drugs and the framing of articles e.g. ordering of message content. Particular emphasis was placed on identifying the factors that were most likely to encourage or discourage perceptions of risk and likelihood of future use.

Limitations

There were a number of limitations with the methodologies employed in the current study. Here we outline those of greatest importance. In regards to the media analysis of Australian print newspaper reporting, the full coding of articles for which drugs were a primary or secondary focus meant that many of the more peripheral messages were ignored. Consequently, our sample may be more generalisable to “news” stories and not to coverage of drugs as part of entertainment, travel, or sports sections in newspapers.

In the second component of the study, the use of an online survey brings a unique set of limitations. The most critical of these is that the sample was limited to people who are computer literate and have access to a computer and the internet. Participation moreover relied on self selection. While we used a variety of methods to recruit participants, those who participated may still have had more strident views on the issue of media reporting on illicit drugs. It should be noted that the small number of respondents from the Northern Territory was assumed to reflect the greater difficulty experienced with recruitment methods. Further, the survey relied on self-report which like all surveys is open to bias (Mallick, et al., 2007). There was no way of ensuring that participants’ responses were honest or accurate. A particular risk with all self-report surveys is that demand characteristics may inflate results.

Another limitation was our inability to identify what in particular the youth were responding to or influenced by in our chosen set of articles. As shown in the appendix (see Appendix D), multiple components contribute to the articles which could inadvertently affect youth interpretation of the articles. Thus while we categorised each as denoting a particular media portrayal, this may or may not be how the youth saw these. A media article screening study, as utilised by Pechmann and Reibling (2006), is one method that could have been used to ascertain whether youth perceived the selected articles (at least in the main) to represent the intended portrayals.

Finally, for reasons of feasibility, we focused on reported perceptions of risk associated with drug use and intention to use, as opposed to actual use. It should be noted however that prospective studies have found both pro-drug attitudes and expressed intention to use drugs are good predictors of illicit drug consumption (Korf, van den Brink, Vervaeke, & Benschop, 2008; von Sydow, Lieb, Pfister, Höfler, & Wittchen, 2002).

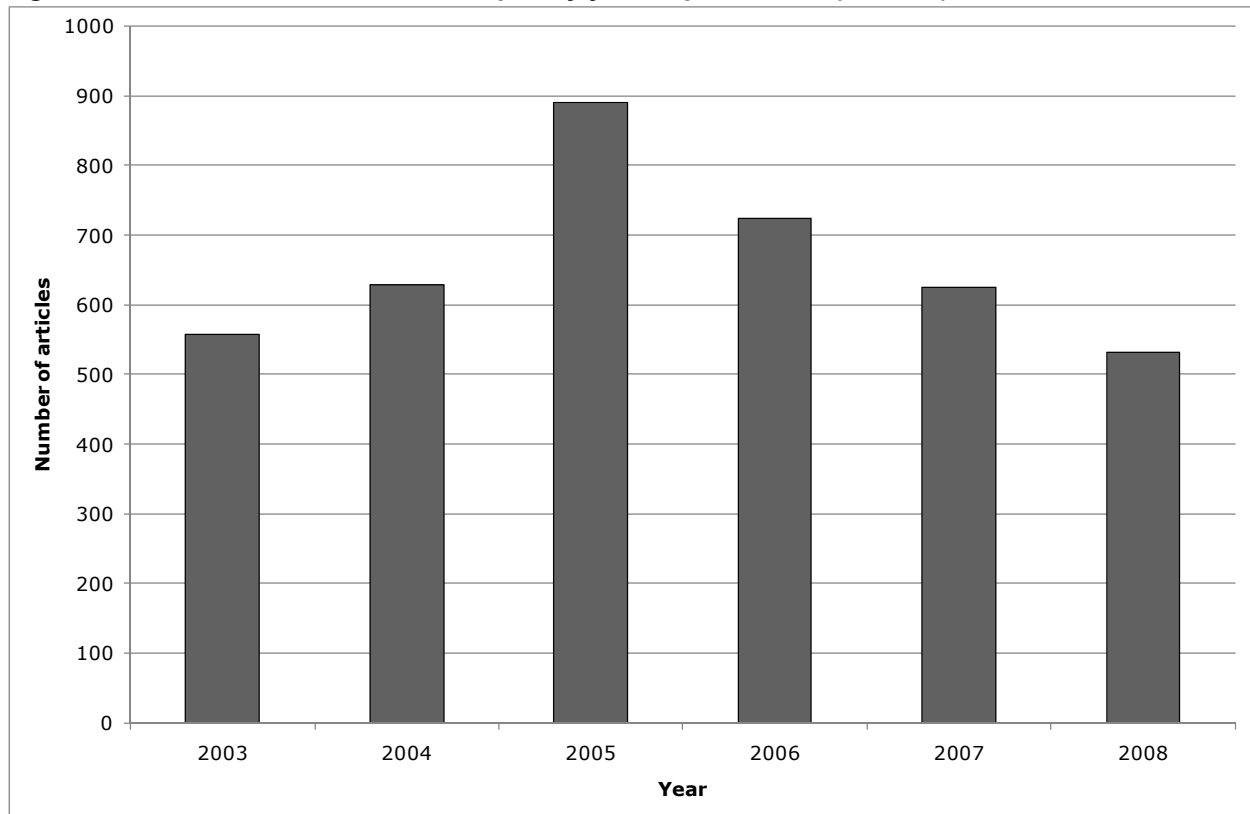
MEDIA ANALYSIS RESULTS

Part 1: Sample characteristics

Number of articles in final sample

The media content analysis sample was drawn from a total sample of 42,436 articles from 2003-2008. The number of articles reporting illicit drug issues was not constant over the six year period, with the largest proportion from 2005. From 42,436 articles, 4,397 articles were coded in the selected media content analysis sample. Excluding those coded as “other” in focus (defined as articles where the subject was not drug related but key search words had been included), there were 3,959 articles where illicit drugs were the main or secondary focus, or where illicit drugs were mentioned in passing (see Figure 3).

Figure 3: Number of articles in the sample, by year of publication (n=3,959)

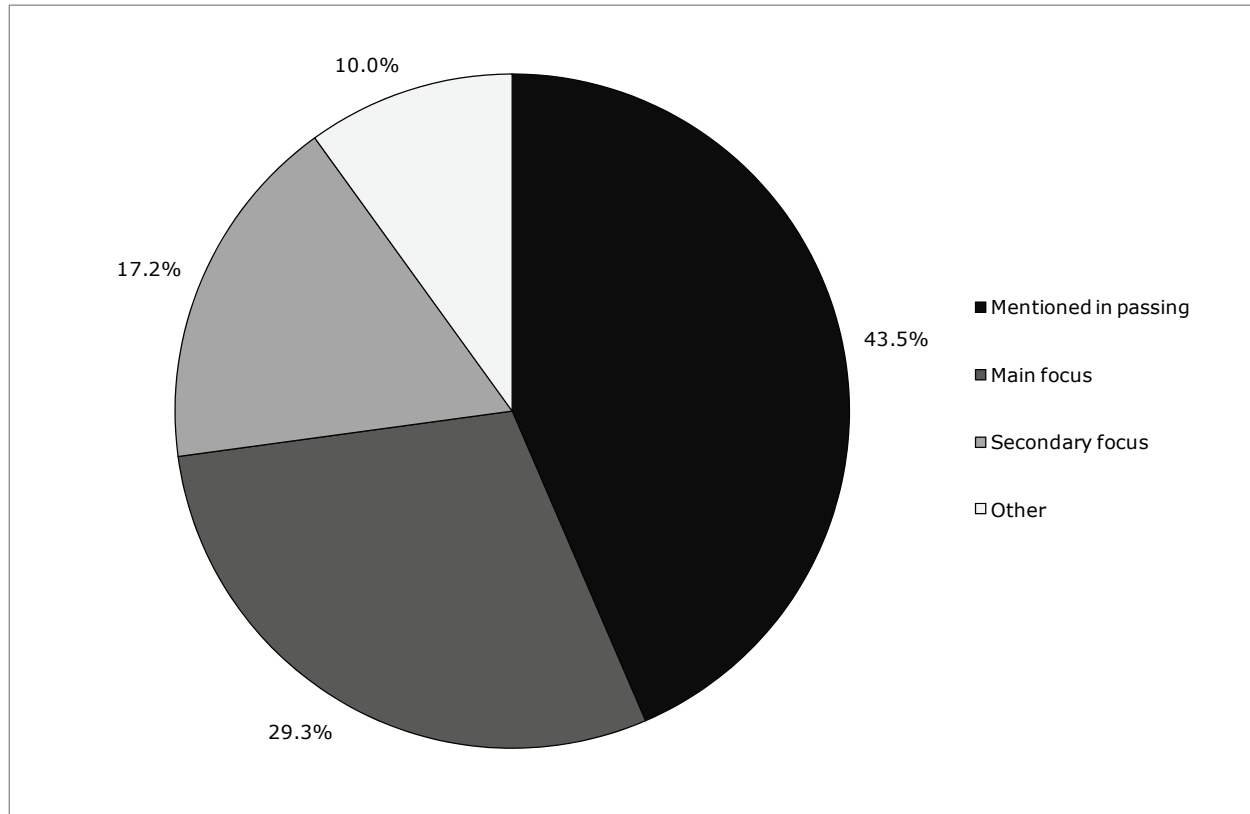


Proportion of our sample that had drugs as a primary, secondary and tertiary focus

Somewhat surprisingly this study demonstrates that illicit drugs will often be mentioned in a peripheral manner in the news media. Articles where illicit drugs were only mentioned in passing (illicit drugs were mentioned incidentally or briefly in the context of another issue and not focused upon or discussed) made up 43.5% of the sample and were coded only for focus and drug type then

excluded from the rest of the analysis. Articles where illicit drugs were “the focus” accounted for only 46.5% of cases (n=2,045), with drugs being the main focus in 29.3% of these articles (see Figure 4). The subsequent media content analysis coded in full all articles with a primary or secondary focus (see Appendix A for full coding schedule).

Figure 4: Proportion of articles where illicit drugs were the main focus, secondary focus, mentioned in passing or other (n=4,397)



At a number of points in the analysis below the sample size varied slightly. This is because the coding categories for topic and consequence were collapsed for ease of analysis. As previously described in the methods, the 35 topic codes were grouped into 7 categories and the 21 consequence codes were grouped into 6 categories. In doing so, a number of codes with a negligible number of articles were excluded from the collapsed categories (i.e. topics including events, cost to society and those coded as ‘other,’ and consequences coded as ‘other’). For this reason the sample sizes varied when analysing topic and consequence elements, with the sample size for analysis of topics being 2,002 articles and the sample size for analysis of consequences being 2,043 articles.

Despite the filtering out of articles within the sample depending upon the focus, topic and consequence, the sample sizes for analysis were all over 2,000 articles which was deemed a large and representative sample.

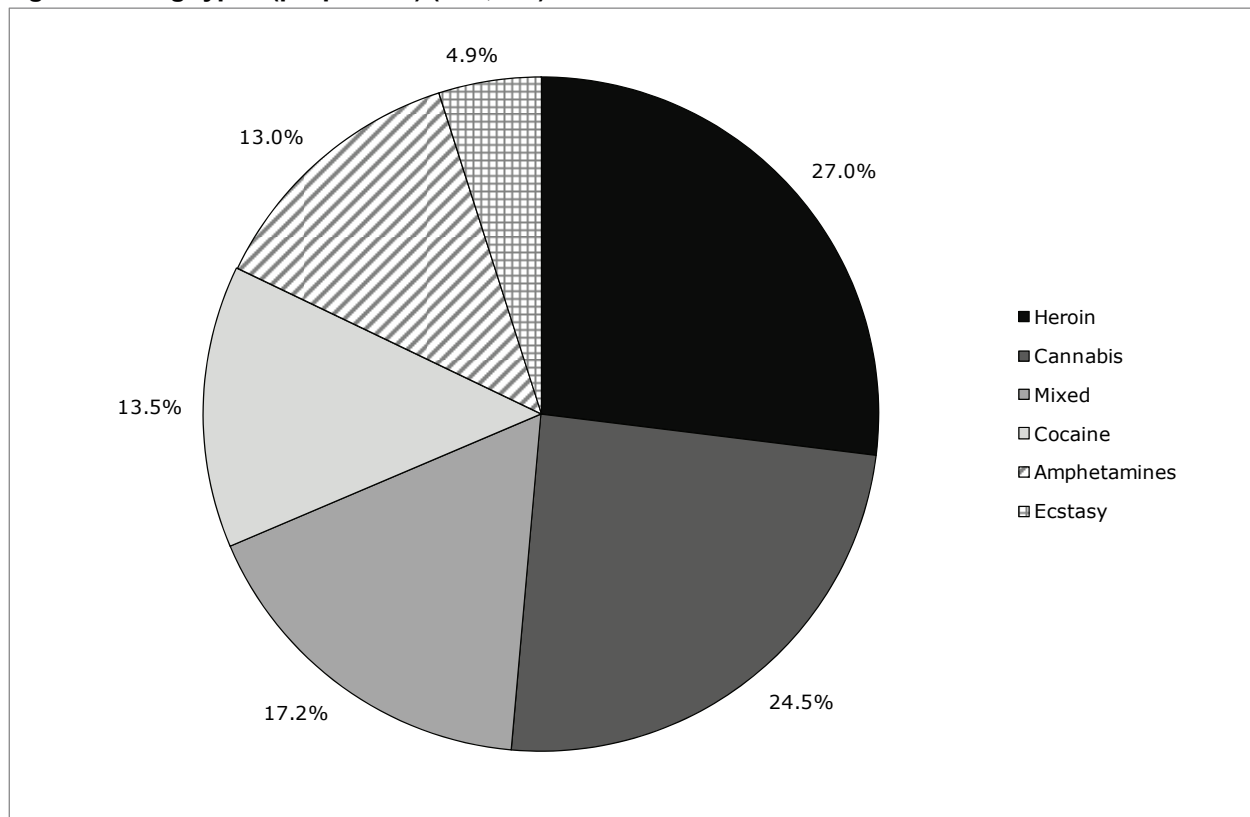
Part 2: Dominant portrayals regarding illicit drugs

In order to analyse the multiple text elements that contribute to the overall framing of drug issues, we looked at a number of different aspects of the portrayals. Here we examine each of these elements separately as they were represented across the sample.

Drug types (proportion)

Of all coded articles where drugs were the main or secondary focus, or where drugs were mentioned in passing (n=3,959), over half of the sample discussed heroin (27.0%) or cannabis (24.5%). Ecstasy was by far the least reported drug type (4.9%) (see Figure 5).

Figure 5: Drug types (proportion) (n=3,959)



The proportion of drug types varied depending upon whether the drug was the main focus, secondary focus or mentioned in passing. While most of this analysis focused on articles where drugs were the main or secondary focus (i.e. the central issue), the literature review identified that the peripheral presence of drugs in the media can still impact upon perceptions, especially norms. We therefore identified and compared drug types for both cases where drugs were framed as the central issue, and where drugs were framed as a peripheral issue. In doing so we found an imbalance in reporting. Namely, some drug types were much more likely to be mentioned and discussed as the main issue while, conversely, other drug types were more often mentioned in a peripheral manner. In particular, cocaine was more prominent in articles that mentioned drugs in passing (17.4%) and

mentioned less often in articles where drugs were the main issue (9.9%). For amphetamines the opposite was true, with amphetamines representing 11.2% of articles where drugs were mentioned in passing, but 16.1% of articles which had drugs as the main focus. This means that some drug types (such as amphetamines) are more likely to be focused on and discussed in news stories while other drug types (such as cocaine) are presented in a peripheral manner.

Proportion that depicted a drug “crisis”

Despite common assumptions of “moral panic” and “sensationalism” regarding reporting of illicit drugs in the media, only 7.0% (144 articles) of the sample (n=2,045) portrayed drugs as a crisis issue (defined as requiring immediate or urgent government attention or community awareness; a “worsening” problem; a sense of urgency due to severity of consequences). Amphetamines represented the largest proportion (36.8%) by drug type of those articles depicted as a crisis.

Proportion that depicted drugs as a youth issue

If drugs are framed as a youth issue this may impact more in youth perceptions of illicit drugs, but it was rare that illicit drugs were depicted as a youth issue (defined as being discussed in the context of a youth demographic or as a youth problem distinct from the wider community). Only 6.6% (135 articles) of the sample (n=2,045) depicted illicit drugs as a youth issue. When drugs were depicted as a youth issue, cannabis or ecstasy were mentioned in almost half (48.2%) of these articles. By contrast, of those articles which were not depicted as a youth issue ecstasy represented only 5.9%.

Proportion that were from front page

Whether an article appears on the front page is an indication of the newsworthiness of an issue and the agenda setting function of news production processes. A small proportion of the sample (5.4%, 108 articles) appeared as front page news, with 94.6% appearing elsewhere within the publication. Heroin was the drug most likely to appear on the front page (29.9% of all front page articles), followed by mixed drug types (29.6%) and cannabis (20.4%). Ecstasy was the drug type least likely to be front page news, representing only 4.6% of front page articles. The highest proportion of front page news items were published in 2005, with 8.8% of articles in the sample in that year appearing as front page news (higher than in any other individual year).

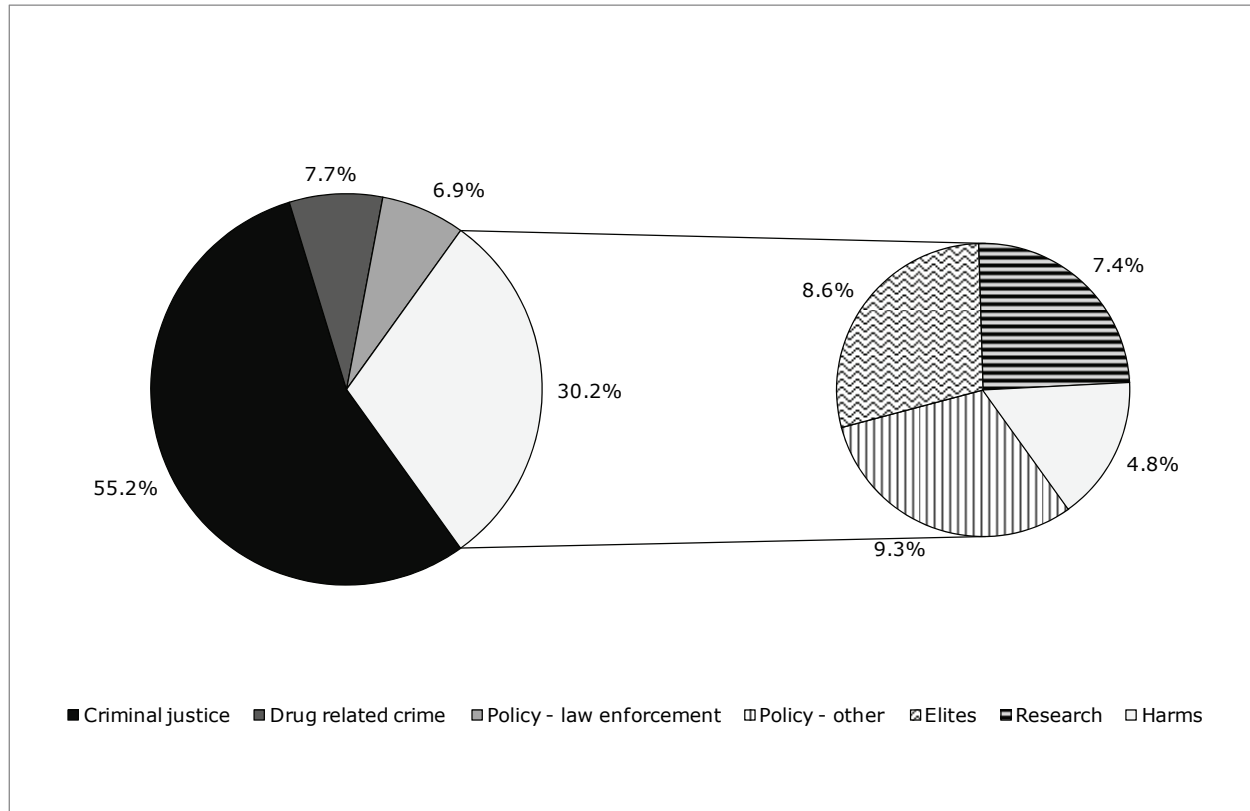
Proportion that were from each article type

The type of article can affect how readers perceive the credibility of reporting, and also demonstrates editorial interest in the issue from a news production perspective. Opinion pieces and editorials were rare accounting for only 1.2% and 0.7% of the sample respectively (n=2,045). By far the largest proportion of articles (91.6%) appeared as straight news items, followed by feature items (3.8%) and column items (2.7%). Opinion pieces focused mostly on cannabis (33.3%) and mixed drug types (37.5%), whereas two thirds (64.2%) of editorials were equally shared between ecstasy, heroin and mixed drug types.

Frequency distribution of topics

The topic was established by asking the question, “what makes this news today?” This was important in terms of understanding the perceived newsworthiness of drug issues and the dominant framing of those issues. In all, there were 35 different topics which could be coded (see Appendix A for descriptions). As described in the methods, for ease of analysis these 35 topics were collapsed into 7 categories: criminal justice, drug related crime, harms, policy commentary – other, policy commentary – law enforcement, research and elites.

Figure 6: Criminal justice/law enforcement topics vs. other topic types (proportion) (n=2,002)



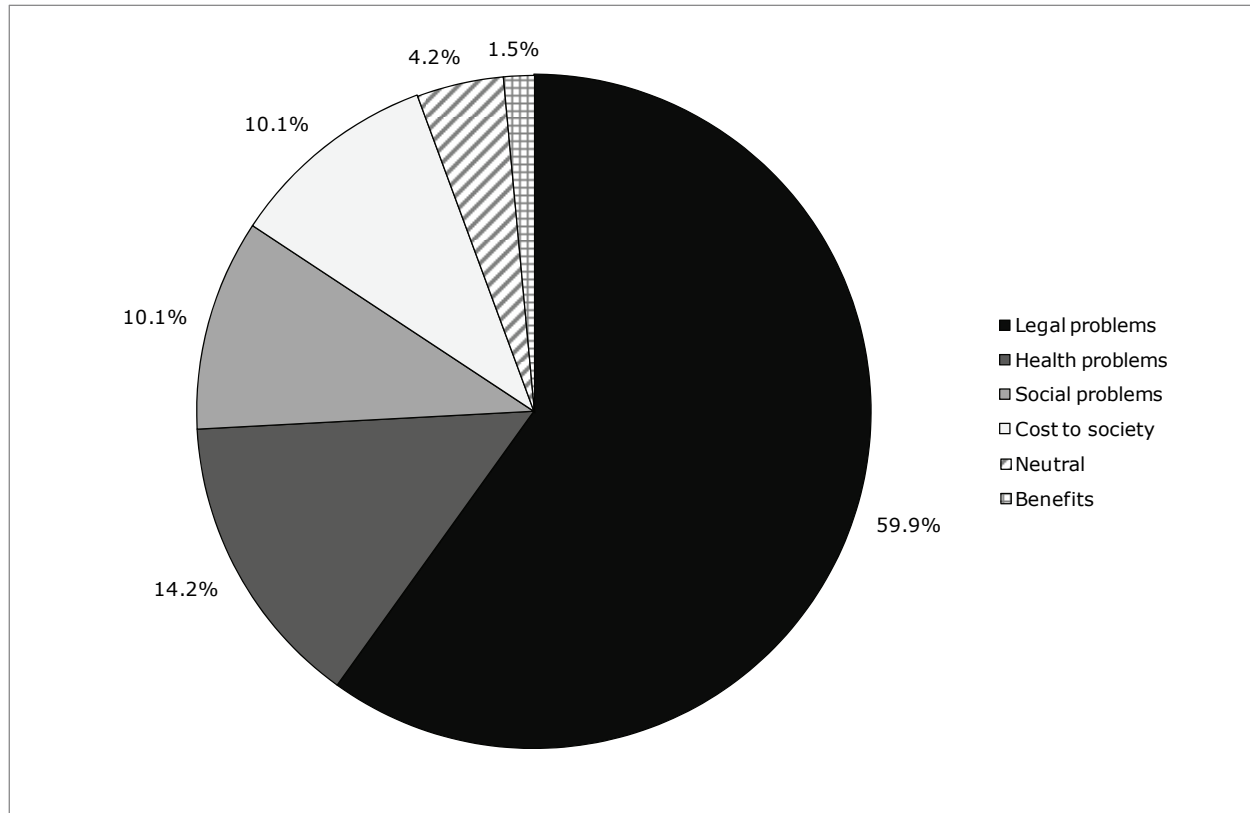
As depicted in Figure 6, criminal justice and law enforcement topics overwhelmingly dominated media reporting on illicit drugs. Criminal justice action regarding users, dealers or traffickers (55.2%) was the topic with the largest proportion of articles within the sample (n=2,002). The second largest collapsed category was policy commentary (16.2%), yet policy commentary regarding law enforcement still accounted for 6.9% with all other policy commentary topics (including treatment, prevention, harm reduction and other policy issues) together representing only 9.3% comparatively. Therefore, as pictorially emphasised in Figure 6, when all criminal justice and law enforcement topics were grouped together (including criminal justice, drug related crime and law enforcement policy commentary), they accounted for almost 70% of the sample (69.8%). This demonstrates that drug issues are not depicted in a heterogeneous manner. Articles related to drug use by elites

accounted for 8.6% of the sample, the third largest proportion of any topic in the sample. Only 4.8% of articles denoted harms and 7.4% research.

Frequency distribution of portrayed consequences

The consequences portrayed are also of great interest for understanding the nature of media reporting on illicit drugs. It again demonstrates the various elements involved in the framing of drug issues, in this case, how the article denotes the *consequences* of illicit drugs/use. This framing element differs from the topic as it examines the depicted outcome of illicit drugs/use, and not the overarching newsworthiness. The coding instrument included 21 possible consequences for coding (see Appendix A for descriptions), but as per the topic categories, for ease of analysis these codes were collapsed into 6 categories: health problems, cost to society, social problems, legal problems, benefits and neutral.

Figure 7: Portrayed consequences (proportion) (n=2,043)



As expected, given the dominance of criminal justice and law enforcement topics, the most commonly denoted consequence of illicit drugs/use in the sample was legal problems (59.9%). But, as compared to the distribution of topics discussed above, there were relatively more health and social consequences portrayed within the articles themselves (see Figure 7). For example, harms constituted 4.8% of topics but health and social problems were portrayed as consequences in 14.2% and 10.1% of articles respectively. Notably, benefits were only mentioned in 1.5% of articles. Where an article did not specify consequences of illicit drugs/use, the article had a neutral consequence

which represented 4.2% of the sample. This analysis indicates that compared to the representation of topic types, consequences provided a more heterogeneous message about illicit drugs.

Proportion by overall tone of the article

From the extant literature on media effects we know that tone can be important to the framing of an issue. As discussed in the methodology, we coded two aspects of tone – the tone of the framing of the article as a whole, and attitudes towards illicit drugs. For ease of interpretation we call the former “overall tone” and the latter “moral evaluation of drugs”. The overall tone of the articles was found to be predominantly neutral (i.e. did not overtly express an opinion; a factual report of events with little analysis or interpretation). Within the sample (n=2,045) neutral articles accounted for 83.5%. In contrast, only 14.2% were negative articles (a “bad” news story; failure, increasing pessimism, growing problems or fear). Positive articles (a “good” news story; positive evaluation of policy, a new discovery, a lower cost solution or an uplifting personal story) made up only 1.0% of the sample. Similarly, articles with a mixed tone (defined as giving equal weight to both sides of the discussion) accounted for 1.2%. From this we can note that very rarely are drug issues portrayed positively in the media, with 97.7% of articles being either neutral or negative in tone.

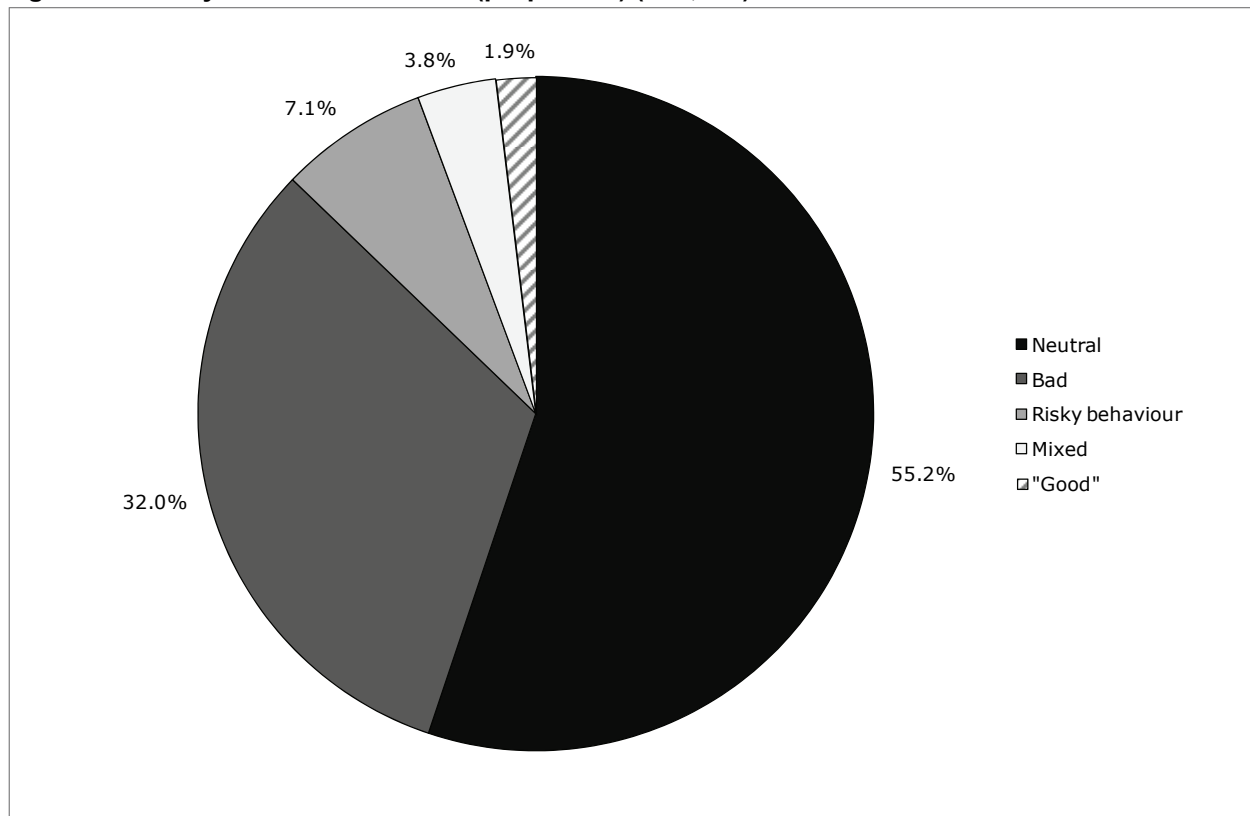
Frequency distribution of moral evaluation

Turning specifically to the moral evaluation regarding drugs, we found that despite fears that positive portrayals of drugs in the media may encourage or peak interest in drug use, the sample showed that articles with a “good” moral evaluation of drugs were extremely rare and accounted for only 1.9% of the sample (see Figure 8). For ease of analysis we collapsed some of the coding categories together, so “good” encompassed moral evaluations which suggest that illicit drugs are a rite of passage, have no or minimal risk or are fun or beneficial.

Over half (55.2%) of the sample had a neutral moral evaluation of drugs (where an opinion was not overtly expressed), with the second largest proportion (32.0%) representing a bad moral evaluation of drugs (unacceptable in all circumstances; zero tolerance). Risky behaviour (7.1%) and mixed (3.8%) moral evaluations accounted for comparatively small proportions.

Differences were evident depending upon the focus of the article. Where illicit drugs were the main focus (n=1,289), the moral evaluation was more likely to be bad (36.5% compared to 32.0% of the overall sample). Conversely, where illicit drugs were the secondary focus (n=756), drugs were much more likely to be portrayed in a neutral fashion (66.5% compared to 55.2% of the overall sample). This indicates that a more explicit moral evaluation of drugs was expressed where drugs were the main focus, rather than where another issue was the focus and drugs played only a contributory role in the discussion.

Figure 8: Portrayed moral evaluation (proportion) (n=2,045)

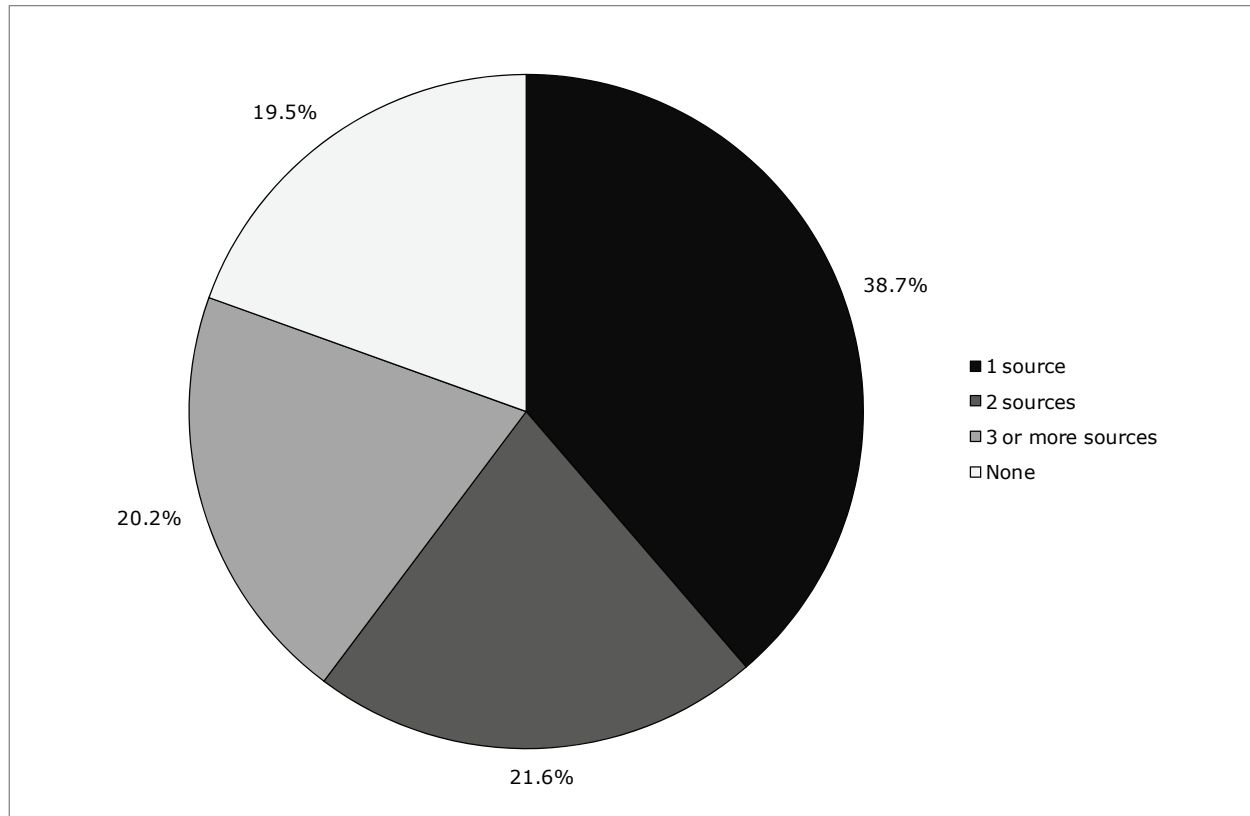


Frequency distribution of use of sources

The vast majority of articles in the sample cited sources, with 80.5% of the articles using at least one source (see Figure 9). Only 19.5% of articles did not use a source. The largest proportion of articles cited one source (38.5%), followed by two sources (21.6%) and three or more sources (20.2%).

In 47.4% of articles where sources were used one or more of the sources cited was from law enforcement, police, the legal profession or judiciary. This again demonstrates the disproportionate emphasis on criminal justice and law enforcement themes throughout the sample with law enforcement figures the predominant “voices” defining the story. The second largest proportion was another official type source with 17.1% of articles citing politicians. Users or accused persons accounted for 11.5%. On the whole researchers (8.5%), health workers/doctors (4.9%) and NGO/service delivery (4.1%) sources were underrepresented, as was the general community (2.8%). Youth voices were marginalised, accounting for only 0.7%.

Figure 9: Number of sources used (proportion) (n=2,045)



These results demonstrate that the dominant media portrayals regarding illicit drug issues tend to focus on heroin or cannabis, to depict law enforcement or criminal justice action and to emphasise the legal problems associated with drugs/use. They are reported in a predominantly neutral or bad tone (both overall and specifically in their moral evaluation of illicit drugs), and are rarely framed as a crisis issue.

Part 3: Sub portrayals regarding illicit drugs

For the purposes of understanding the nature of media reporting on drugs in Australia it is important to identify not only the dominant portrayals but also portrayals that differ. One of the biggest questions is the extent to which portrayals differ by drug type – cannabis, amphetamines, cocaine, heroin and ecstasy. For example, to what extent do portrayals of cannabis differ from portrayals of ecstasy? Here we explicitly identify differences between the five illicit drugs, focusing on topic, consequence and moral evaluation. We then compare how the media frames different topics: particularly elites, policy commentary other and harms. These three have been chosen since they specifically exemplify more unusual frames of reference within the sample. We conclude by examining the age old question of differences in relation to coverage by broadsheet and tabloid publications. We will start by unpacking specific differences in framing by drug type.

Drug type

The dominance of the criminal justice and law enforcement portrayals across the sample meant there were few major differences in portrayals by drug type. For example, across each drug type criminal justice was the dominant topic and featured in 44.9% to 64.0% of articles (see drug type by topic below), while legal problems were portrayed as the consequence in 51.8% to 73.3% of articles in each drug type (see drug type by consequence below). Although law enforcement portrayals dominated across the sample, there were subtle but significant differences in the way the media chose to contextualise and report on each illicit drug.

The proportion of articles depicting a crisis varied by drug type. Whereas, across all drug types only 7.0% of articles were depicted as a crisis, 17.7% of articles discussing amphetamines portrayed a crisis issue. This shows that amphetamines are more often depicted by the media as an increasing problem. This is markedly different to cannabis and cocaine, for example, with only 2.9% of cannabis and 1.5% of cocaine articles framed as a crisis. The proportion of articles depicting illicit drugs as a youth issue varied by drug type also. Ecstasy articles were framed as a youth issue in 15.8% of cases (compared to 6.6% of articles across the whole sample). Heroin (2.2%) and cocaine (1.5%) were the drugs least likely to be framed in this way. This shows that the media are more likely to associate ecstasy than other drugs with a youth demographic.

Although the overall tone of the article was predominantly neutral across all drug types (83.5%), this varied between drugs from 76.7% for mixed drug type articles to 90.4% for cannabis articles. Some drug types were more likely to be portrayed as negative than others. Only 8.8% of cannabis articles and 8.4% of cocaine articles had an overall negative tone. Conversely, 18.0% of mixed drug, 17.3% of heroin, 16.1% of amphetamines and 15.0% of ecstasy articles used an overall negative tone.

The majority of articles across the sample cited sources and there were only small differences by drug type. Between 73.8% and 84.4% of articles within each drug type cited at least one source. Although only 19.5% of articles within the sample did not use sources, 26.2% of cocaine articles did not cite a source, compared to 15.5% of heroin articles.

The greatest differences by drug type emerged in relation to three key coding variables: topic type, consequence and moral evaluation of drugs. Here we examine each element separately. Given the complexity of the subsequent figures, absolute and proportional data is available in Appendix E.

Topic by drug type

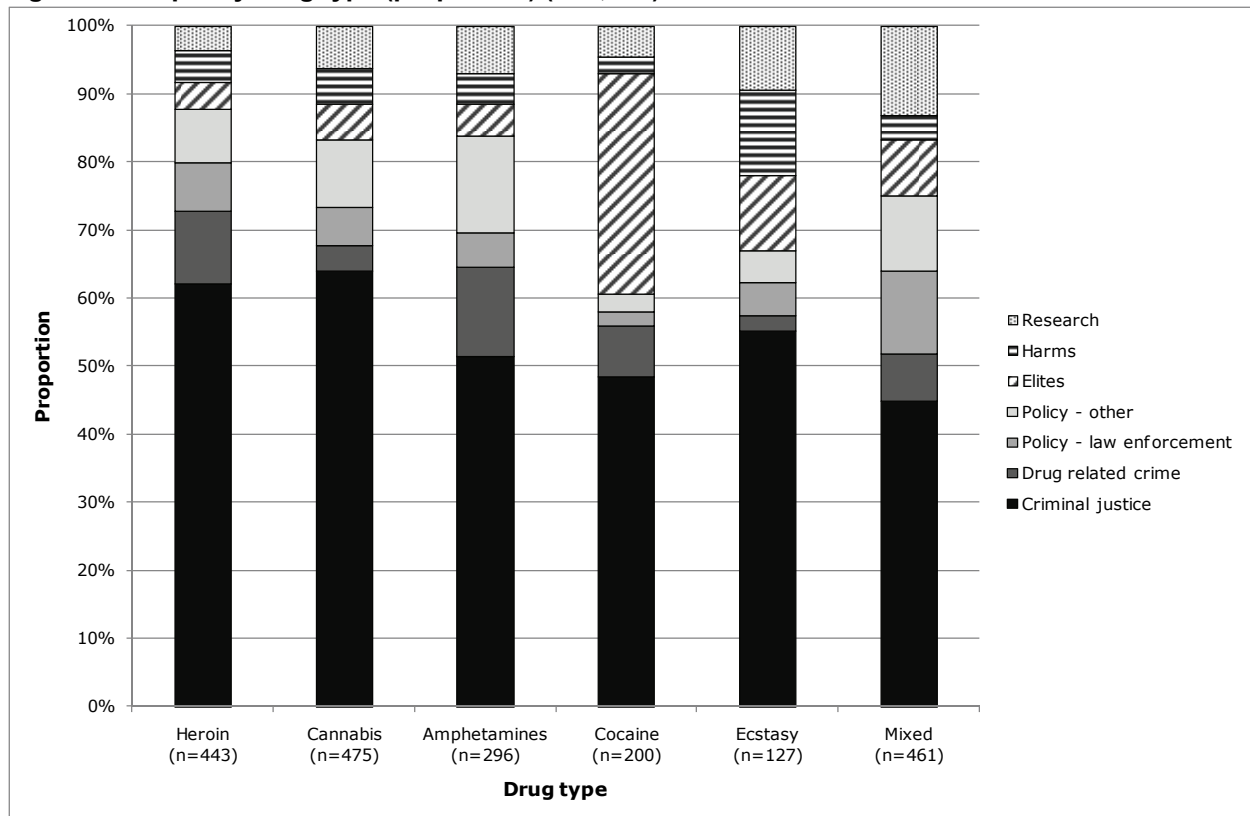
Within each drug type, the frequency distribution of topic types was varied (see Figure 10). Although criminal justice was significantly represented across all drug types (55.2%), a larger proportion of reporting on criminal justice topics can be seen in both heroin (62.1%) and cannabis (64.0%) articles. This appears to reflect the volume of media reporting on two high profile trafficking cases involving young Australians in Indonesia: the so called Bali Nine and Schapelle Corby cases. Criminal justice topics were least reported in relation to mixed drug types (44.9%). Drug related crime appeared more frequently as a topic associated with amphetamines (13.2%) and heroin

MEDIA REPORTING ON ILLICIT DRUGS IN AUSTRALIA

(10.6%), compared to 7.7% across all drug types. Ecstasy and cannabis articles were least likely to report drug related crime (2.4% and 3.8% respectively).

There was a far greater proportion of reporting of drug use by elites within cocaine articles (32.5%) than within any other drug type (average of 8.6% across all drug types). The second highest proportion of reporting of drug use by elites was in relation to ecstasy (11.0%). There were more articles portraying harms related topics in relation to ecstasy than any other drug type (12.6% of ecstasy articles reported harms, compared to 4.8% across all drug types). While research and law enforcement policy commentary topics amounted to only 7.4% and 7.7% across all drug types, they represented larger proportions within mixed drug type articles (13.2% and 12.1% respectively) perhaps indicating that these topics are often discussed in a general sense, rather than by reference to a particular drug type.

Figure 10: Topic by drug type (proportion) (n=2,002)

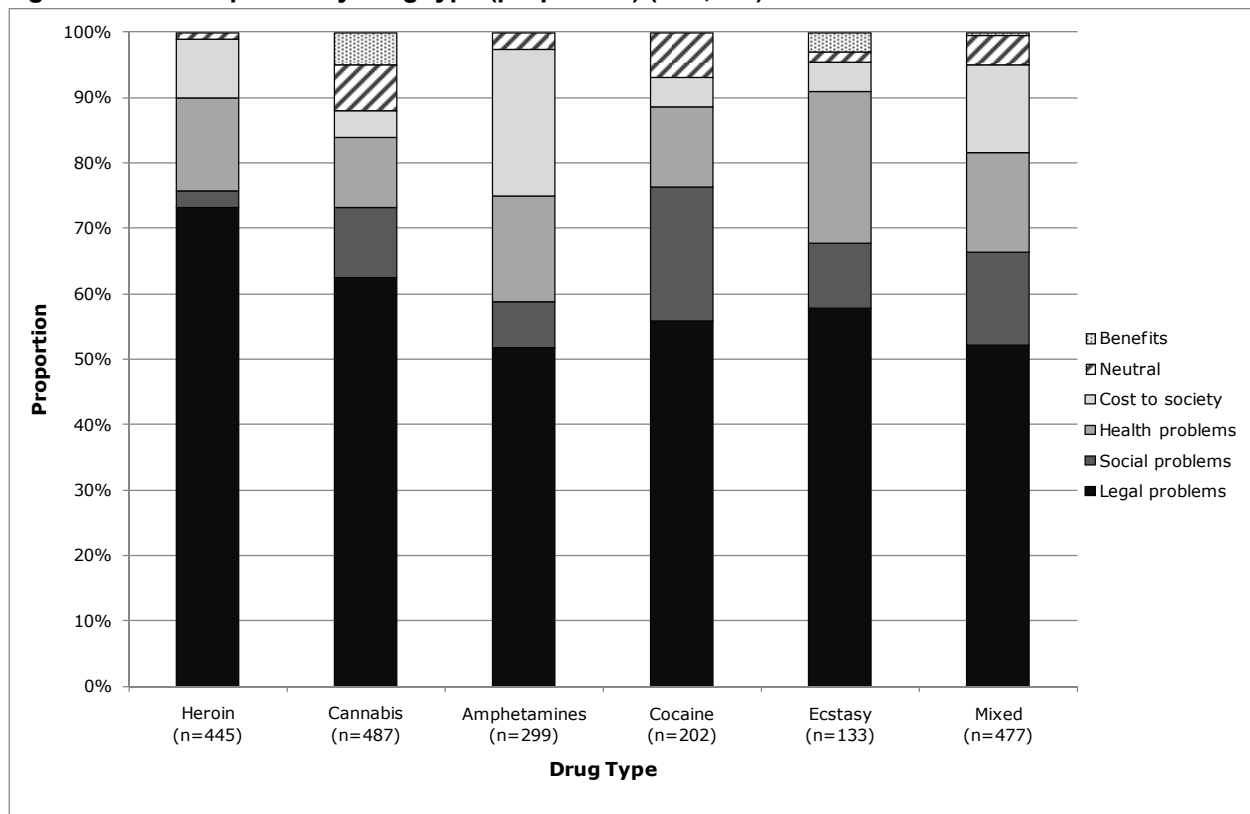


Topics were also coded in relation to whether the article focused on issues at the societal, community or individual level. Variations by drug type were evident here as well. Cocaine articles (84.2%) and heroin articles (81.6%) were much more frequently reported on an individual level (compared to 69.8% across the whole sample). By contrast, amphetamines were most likely to be reported on a broader society level (20.1%, compared to 15.7% across all drug types). This suggests that amphetamines are more often considered in the context of implications for society at large, whereas heroin and cocaine stories are more often linked to the plight of a particular person.

Consequence by drug type

While as expected there was a high level of reporting of legal problems in association with heroin (73.3%) and cannabis (62.4%), it is interesting to compare the more varied consequences denoted for amphetamines, cocaine and ecstasy. These three drug types were less likely than articles related to heroin or cannabis to portray legal problems and more likely to emphasise alternate non-legal consequences (see Figure 11). Amphetamines articles more often portrayed cost to society as a consequence (22.4%, compared to 10.1% across all drug types). Social problems were mentioned in association with cocaine (20.3%, compared to 10.1% across all drug types). Health problems were portrayed in almost a quarter of ecstasy articles, whereas this consequence represented only 14.2% across all drug types. This suggests that these three drug types are framed in fundamentally different ways and are associated with different consequences and outcomes. Mixed drugs were portrayed with the most heterogeneous range of consequences, with fairly even proportions of health problems (15.1%), social problems (14.3%) and cost to society (13.4%) consequences represented. Cannabis and ecstasy were the only two individual drug types associated with beneficial consequences of illicit drug use, but for both drugs the proportion of articles citing benefits was very small (only 4.9% of cannabis and 3.0% of ecstasy articles, compared to 1.5% across all drug types).

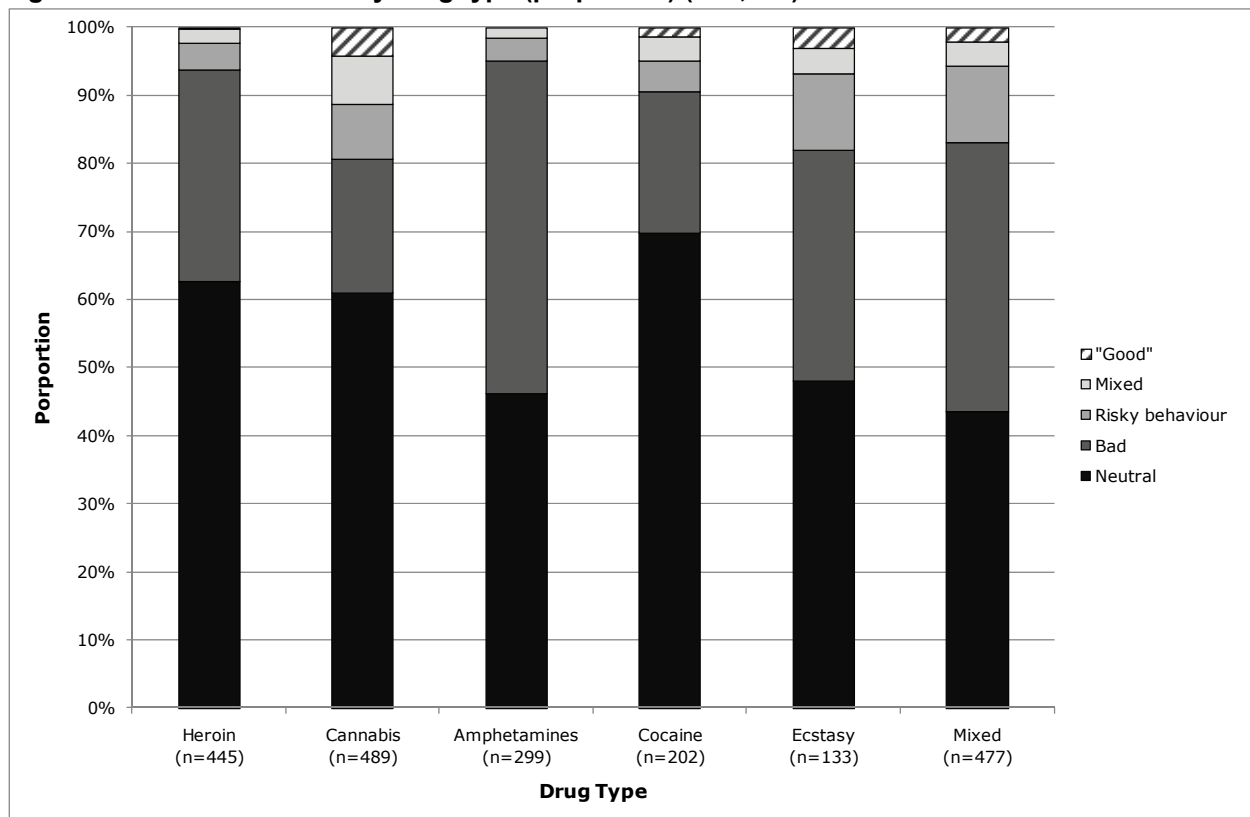
Figure 11: Consequence by drug type (proportion) (n=2,043)



Moral evaluation by drug type

The most marked differences by drug type can be seen in relation to moral evaluation of drugs. While illicit drugs were framed with a neutral moral evaluation in 55.2% of articles across the whole sample (see Figure 8), Figure 12 demonstrates that the framing of cocaine articles was much more neutral with a neutral moral evaluation of drugs being portrayed in 69.8% of cases. Conversely, amphetamine and ecstasy articles were far less likely to offer a neutral moral evaluation of drugs, with 46.2% and 48.1% respectively. Moral evaluation of some drug types was much more likely to be negative. Indeed, 48.8% of amphetamines articles portrayed drugs as bad, compared to only 19.6% of cannabis and 20.8% of cocaine articles. Excluding mixed drugs, of the articles reporting individual drug types it was articles related to ecstasy that were most likely to portray drug use as risky behaviour (11.3%, compared to 7.1% across all drug types). We have already noted that “good” moral evaluation of drugs was extremely rare and accounted for only 1.9% of the whole sample, but Figure 12 shows that this moral evaluation was somewhat more likely to be portrayed in relation to cannabis (4.3%) or ecstasy (3.0%) articles.

Figure 12: Moral evaluation by drug type (proportion) (n=2,045)



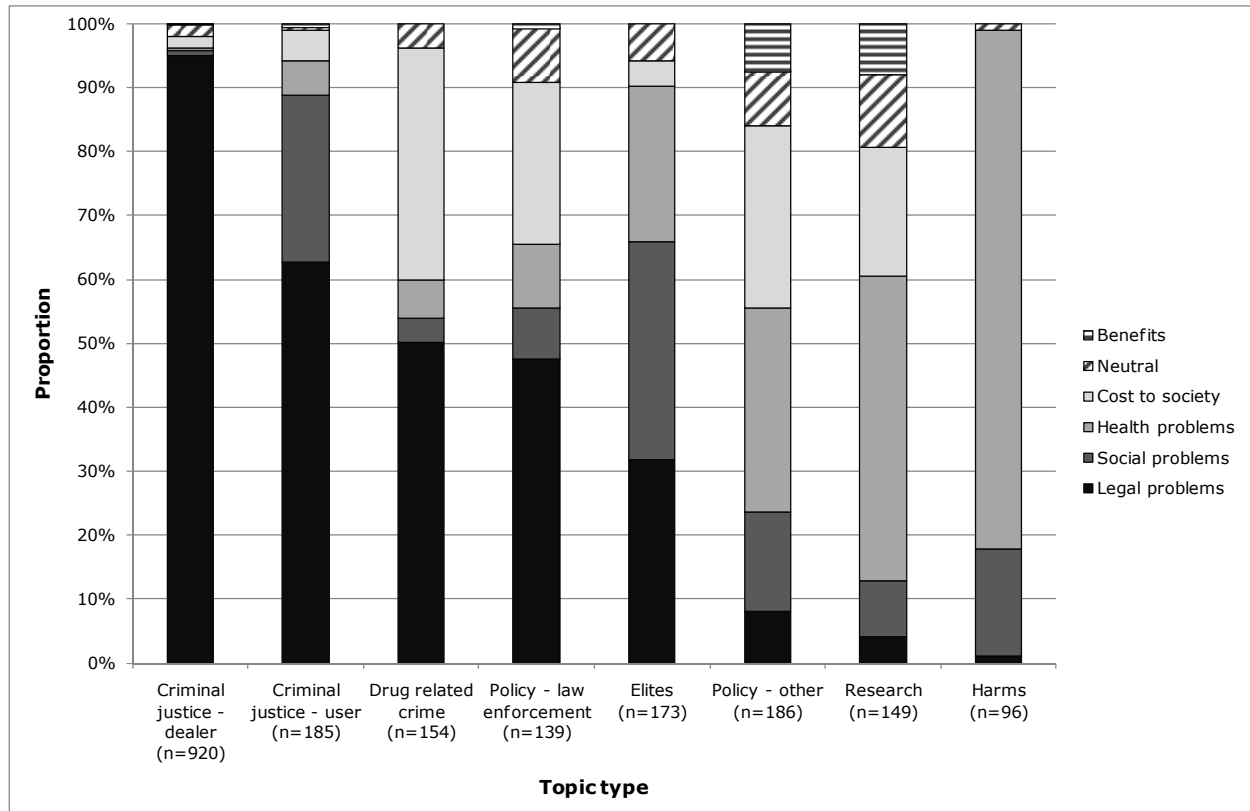
Overall, this analysis reaffirms that the dominant portrayal across all drug types was that of a criminal justice or law enforcement portrayal with a neutral tone. That said, we have noted a number of particular differences in the framing of various drug types. Heroin was the drug framed most narrowly, often discussed as a criminal justice issue and was the least likely to identify social

problems associated with drug use. Amphetamines articles were more likely to be framed as a crisis and portray a bad moral evaluation of drugs, but a broader range indicated consequences including legal, social and health problems. Cocaine articles predominantly had a neutral moral evaluation of drugs and were more likely to depict drug use by elites and social problems. Ecstasy was the drug type most often framed as a youth issue and was associated more often with risky behaviour and health problem consequences. Finally, cannabis articles were sometimes framed as a youth issue and were more likely to cite beneficial consequences or a “good” moral evaluation, but generally cannabis articles were portrayed in terms of criminal justice frames.

Atypical portrayals – consequence by topic type

In this section we discuss the complexity of drug media portrayals by examining the relationship between topic type and consequence depicted (see Figure 13). In many cases, a particular consequence was related to a certain topic and correspondingly did not appear in relation to another. For example, perhaps unsurprisingly legal problems often appeared in conjunction with criminal justice topics. By way of illustrating more complex framing of drug issues, here we briefly examine three atypical portrayals in the media sample: harms, drug use by elites and other policy commentary.

Figure 13: Consequence by topic type (proportion) (n=2,002)



Harms accounted for only 4.8% of the overall sample. A linked relationship was seen between harms topics and health problems, where health problems accounted for 81.3% of consequences within the topic category. In 16.7% of cases, harms related articles discussed social problems. This

portrayal is interesting because it differed so markedly from the dominant framing of drug issues - it all but rejected the criminal justice framing of drug issues, with only one harms related article citing legal problems as a consequence. It also differed in that 22.9% of all harms related articles depicted a crisis, 26.0% of these articles portrayed a youth issue and 38.5% of all harms related articles had a negative overall tone (i.e. articles denoting harms were more likely to be portrayed as a crisis or a youth issue, with a negative overall tone).

Drugs use by elites represented the third largest topic category, accounting for 8.6% of the total sample. Issues were discussed on an individual level in 90.8% of these articles (compared to 69.8% across the whole sample). The largest proportions of consequence types within the drug use by elite topic were social problems (34.1%), legal problems (31.8%) and health problems (24.3%). Despite concern about glamorous portrayals of celebrity drug use in the media, not one article in the sample cited beneficial consequences in association with drug use by elites. That said, drug use by elites accounted for 17.1% of the small number of articles with a “good” moral evaluation of drugs. In addition, drug use by elites was never depicted as a crisis and had a neutral overall tone in 78.6% of cases. This suggests that drug use by elites is far from a negative portrayal in the way that it is framed.

Other policy commentary was the topic with the most evenly distributed range of consequences covered. The range of consequences contemplated within other policy commentary articles was broader/more varied than the law enforcement policy commentary articles. While law enforcement policy commentary highlighted legal problem consequences in almost half (47.5%) of cases, other policy commentary topics tended to engage with a broader range of consequences including health topics (31.7%), cost to society (28.5%) and social problems (15.6%). Neutral consequences (8.6%) and benefits (7.5%) represented larger proportions than within most other topic types also, again perhaps highlighting the breadth of discussion in this kind of policy commentary relative to the other topics. That 48.4% of other policy commentary articles discussed the topic on a broader society level (compared to 16.0% across the whole sample) and that 78.5% of these articles had a neutral overall tone could perhaps indicate that a broad and balanced discussion of these various policy issues is taking place.

These three examples highlight the multifarious ways that drug issues can be framed in the media. Despite what the sample has shown regarding the dominance of criminal justice and law enforcement frames, this examination of the relationships between different framing elements shows that there were subtle differences in the ways that various aspects of drug issues were framed.

Tabloid and broadsheet

It is commonly assumed that tabloid and broadsheet reporting differs markedly due to different editorial priorities and publication styles. In this section we compare the way tabloid and broadsheet articles dealt with illicit drug portrayals to examine the role that elements of media production may play in the framing of illicit drugs.

There was a slight difference between tabloid and broadsheet reporting of topic types. The main difference was that tabloids were more likely to cover criminal justice issues (71.1% of tabloid articles reported on criminal justice, drug related crime or law enforcement policy commentary topics, whereas these topics represented 66.4% of broadsheet reporting). Conversely, broadsheets had higher proportions of reporting on harms, other policy commentary and research, these topics together accounting for 27.9% of articles compared 19.2% of tabloid articles. Reporting of consequence types was similar across tabloid and broadsheet publications, with the emphasis on legal problems clear across both publication types. Tabloids placed a slightly greater emphasis on legal problem consequences, accounting for 62.4% of all tabloid articles in the sample but 53.2% of all broadsheet articles. Broadsheets had slightly higher levels of reporting on cost to society consequences (13.4% of broadsheet articles as compared to 8.8% of tabloid articles), while proportions for all other categories were similar between the publication types.

There were also subtle differences between the way tabloid and broadsheet publications expressed moral evaluation of drugs, however not perhaps in line with stereotypical assumptions. Tabloid publications were more likely to portray a neutral moral evaluation (57.2%, compared to 49.6% of the broadsheet articles). Broadsheets were more likely to report risky behaviour (10.6%) with tabloids proportionally less likely to use this moral evaluation (5.9%). There was no difference in the proportion of articles reporting a bad moral evaluation (tabloids with 32.0% and broadsheets with 32.1%). Broadsheet publications in the sample used more sources than tabloids with 29.6% of broadsheet articles using three or more sources and 25.1% using two sources (compared to 16.7% and 20.2% of tabloid articles respectively). As a consequence, tabloids were more likely to not use a source at all (22.0% compared to 12.9% of broadsheets). The differences between publication styles were less marked than what is commonly assumed and more apparent in relation to the use of sources than any other aspect of framing.

By more deeply examining portrayals by drug type, publication type and by unpacking the more atypical representations of illicit drugs in the media, we have demonstrated that drug types are framed differently and that text elements including topic, moral evaluation and consequence work together to contribute to the subtle variations in these portrayals. These results show that although criminal justice frames tend to dominate media reporting on illicit drugs, there are subtle differences in the way the news media choose to frame various aspects of illicit drug issues meaning that news media representations of illicit drugs are by no mean homogenous.

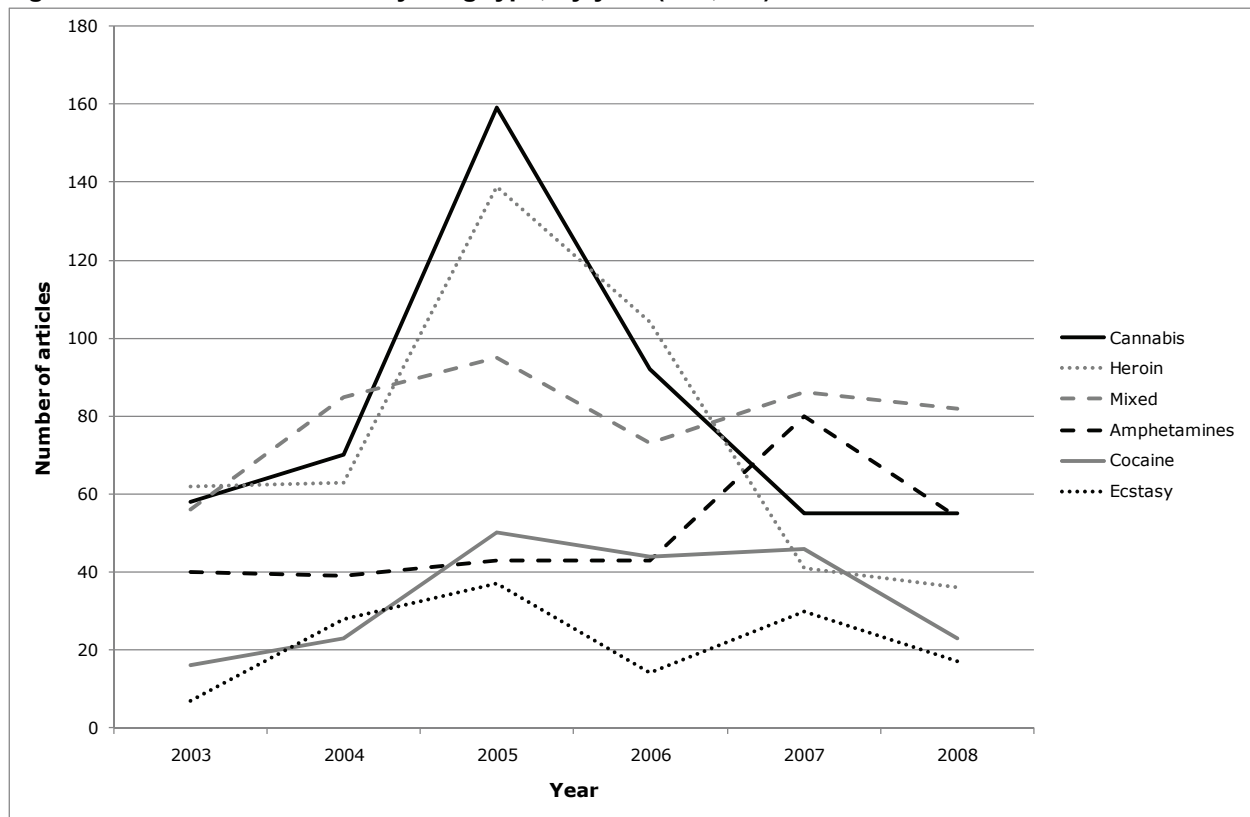
Part 4: Trends in media reporting

In the following section we examine trends in media reporting of illicit drugs over time. By looking at the number of articles by drug type, topic, consequence and moral evaluation we found that although reporting of particular drug types has not been constant, there have been no consistent trends or shifts in reporting of dominant portrayals. In this section we examine trends by both the number of articles (frequency of reporting) and by proportion (patterns of reporting). For the purposes of this examination, we have used the sample that had illicit drugs as the main or secondary focus of the article (n=2,045), and have excluded articles where drugs were only mentioned in passing.

Trends in overall number of reports by drug type and year

The number of articles reporting on each drug type was not constant over the sampled six year period. As can be seen in Figure 14, there were two spikes in coverage of illicit drug issues in the sample during 2005 and, to a lesser extent, in 2007.

Figure 14: Number of articles by drug type, by year (n=2,045)



The spike in coverage of heroin and cannabis in 2005 was due largely to the reporting of two high profile trafficking cases involving Australians in Indonesia: the so called Bali Nine (arrested for heroin trafficking in April 2005; sentenced February 2006) and Schapelle Corby (arrested for cannabis trafficking October 2004; sentenced May 2005).

The second less major spike in coverage can be seen in 2007. This spike is marked by a significant increase in levels of reporting of amphetamines and a smaller increase in reporting of ecstasy. The sudden increase in levels of reporting of amphetamines in 2007 cannot be linked to a particular episode, unlike the Schapelle Corby and Bali Nine story in 2005, but appears to be associated with drug trends and increased government concern. The rise in amphetamines reporting in 2007 coincided with the culmination of governmental responses around the country relating to methamphetamine. As shown in the Australian (illicit) drug policy timeline - 1985-2010 (Hughes, 2010), December 2006 had seen the holding of a national leadership forum on 'ice.' 2007 then saw the release of Commonwealth inquiries into the manufacture, importation and use of amphetamines (February), release of a consultation paper on the first National Amphetamine Type Stimulants (ATS) Strategy (March) plus the third wave of the national media campaigns targeting amongst other things ice and speed (February). Amphetamine strategies were also under development in NSW, Victoria and Queensland.

Looking only at the 2007 media sample we find that amphetamines represented 45.5% of all articles reporting drug related crime, 47.5% of other policy commentary articles and 28.6% of research articles in that year. Even though across the whole sample bad moral evaluation of drugs was evident in only 32.0% of articles, in 2007 53.5% of amphetamines articles had a bad moral evaluation of drugs. Cost to society was also more frequently portrayed as the consequence (27.5%). The highest number of articles depicting illicit drugs as a crisis was also in 2007, with 10.1% of all articles in the sample published in 2007 being depicted as a crisis (compared to 7.0% across the whole sample). Given these reporting trends in 2007, we can suggest that a perceived "amphetamines crisis" was portrayed in that year. In 2007, we can also see a continued decline in the coverage of cannabis and heroin particularly. This is most probably due to waning interest in the Indonesian trafficking cases, and an increased interest in amphetamine issues.

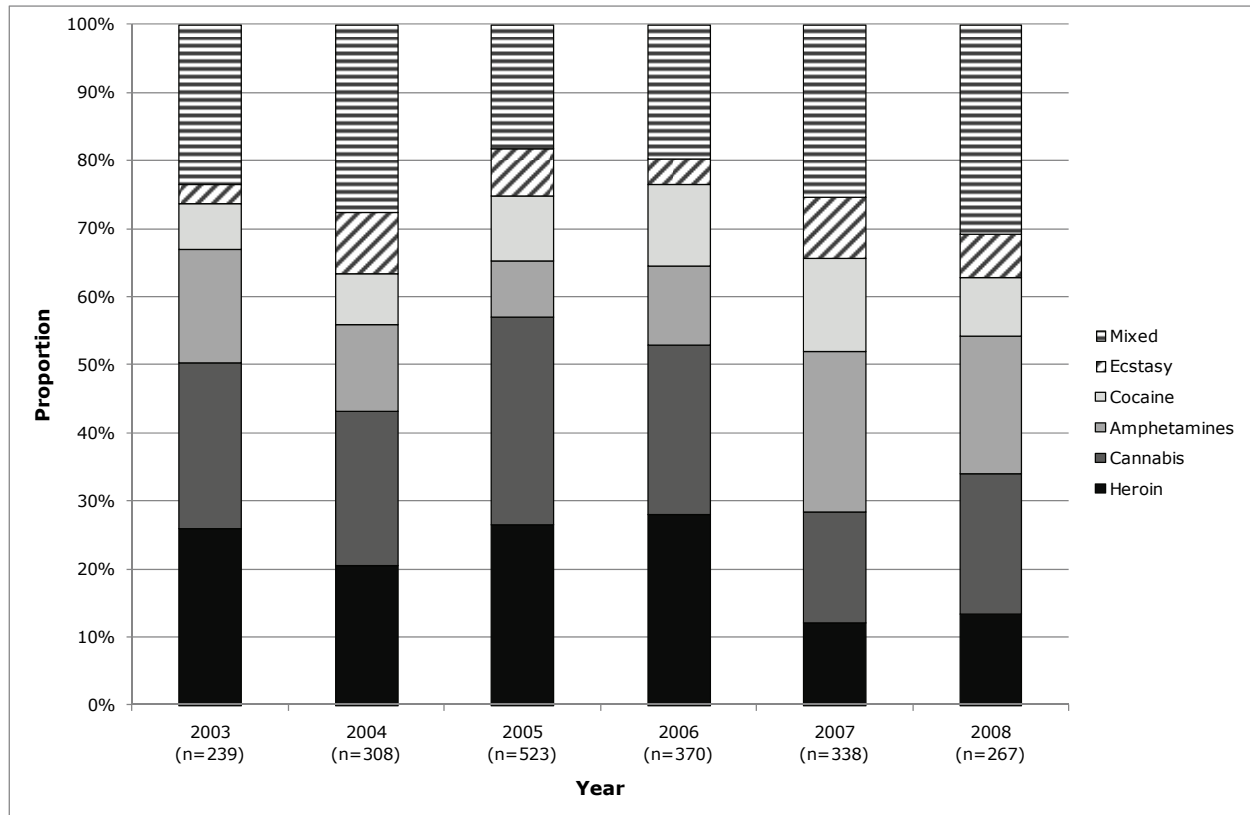
There is some indication that any increase in the reporting of a drug issue is associated with increased reporting about other drug types more generally, as can be seen by the increase in reporting across all drug types in 2005 (see Figure 3). This can especially be seen in the increased levels of reporting in 2005 of two less frequently reported drug types, ecstasy and cocaine. A lesser increase can also be seen in 2007 in relation to ecstasy and mixed drug types. Also of note is that National Anti-Drug Media Campaigns occurred during 2005 and 2007 which may have contributed to increased media interest by putting illicit drugs on the public agenda (Department of Health and Ageing, 2009). A key finding therefore is that some drug types are more likely to get media attention but that the media's attention can switch over time between drug types, depending on topical issues and events.

Looking specifically at the pattern of reporting over time, Figure 15 shows there is evidence that media reporting of drugs types may proportionally shift from year to year. This suggests that in certain years there has been an agenda setting effect regarding reporting of drug issues. Two small trends are of note in Figure 15. Firstly, there was an increase in reporting of mixed drug types from 2005-2008. Secondly, by comparing the periods from 2006-2008 we can see a decline in reporting of

MEDIA REPORTING ON ILLICIT DRUGS IN AUSTRALIA

heroin and an increase in the level of reporting of amphetamines. From this, we can also clearly see that ecstasy tends to get the least amount of media coverage of any illicit drug type.

Figure 15: Articles by drug type, by year (proportion) (n=2,045)

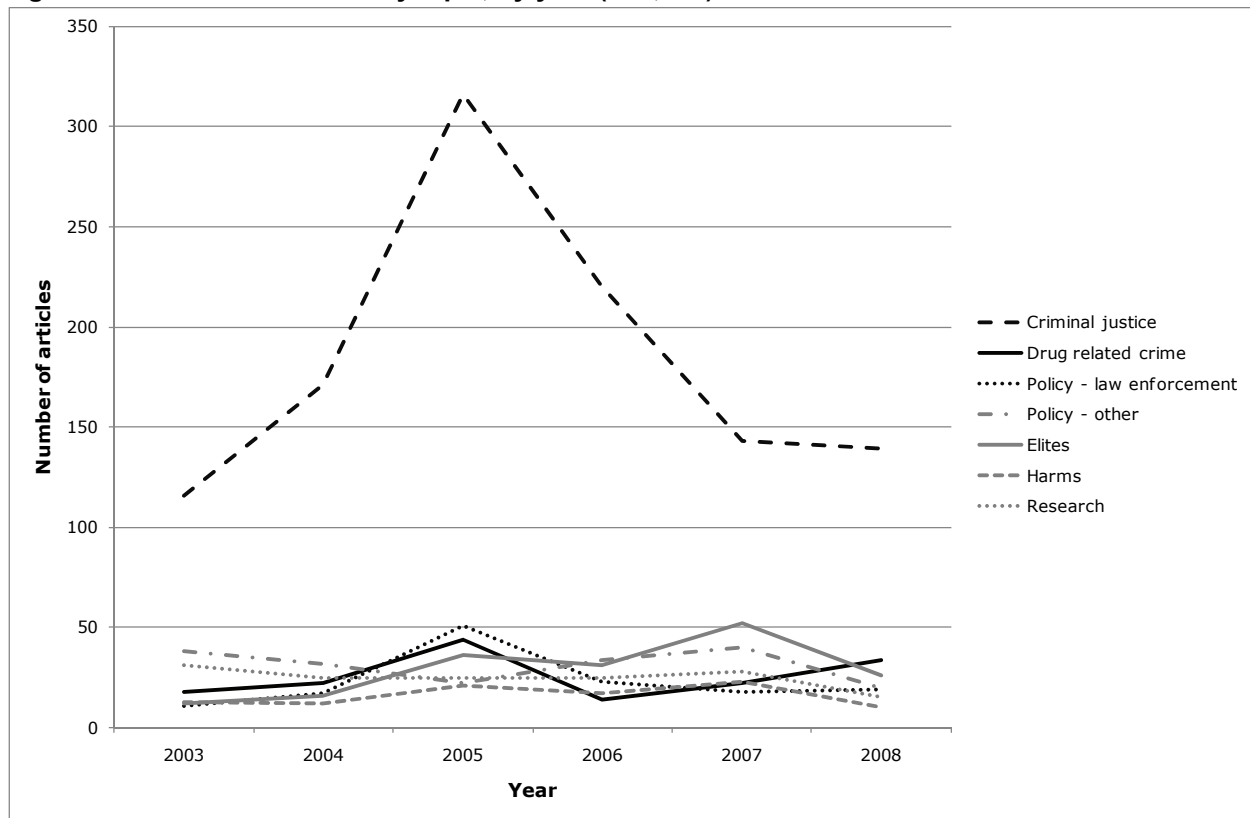


Trends by topic and year

There were no consistent trends in the sample regarding reporting of topic types over time. Figure 16 reinforces the dominance of reporting of criminal justice topics (by number of articles) over the whole sample period. The spike in reporting of criminal justice topics in 2005 is consistent with assumptions made regarding reporting of cannabis and heroin trafficking cases, as previously discussed with reference to Figure 14. Reporting of harms and research remained relatively stable over the six year period. Looking at the pattern of reporting, there were two gradual increases in reporting of drug related crime from 2003-2005, then again from 2006-2008. At its peak, drug related crime accounted for 12.9% of articles in 2008. An increased interest in drug use by elites is evident from 2003-2008, peaking as the second most reported topic in 2007 accounting for 16.0% of all articles in that year (over 6.0% higher than in any other). Of all articles portraying drug use by elites, 30.1% fell within 2007 which highlights the small proportional shift towards this topic and away from criminal justice in that year. Despite these smaller changes, criminal justice was consistently the dominant topic type.

MEDIA REPORTING ON ILLICIT DRUGS IN AUSTRALIA

Figure 16: Number of articles by topic, by year (n=2,002)



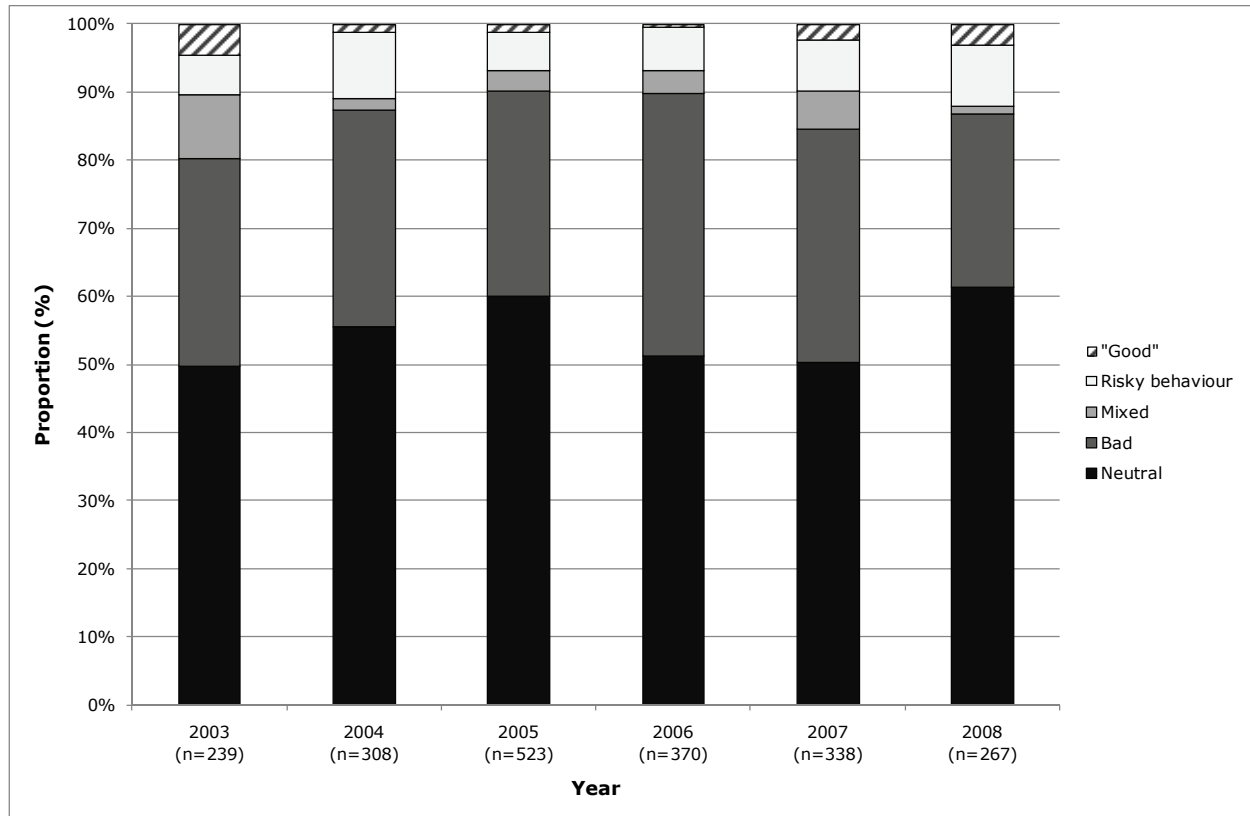
Trends by moral evaluation portrayed and year

There were no consistent shifts in moral evaluations depicted over the six year sample period. The spike in reporting in 2005 had an effect on the absolute number of articles with a neutral or bad moral evaluation of drugs. However, the 2005 peak in reporting did not significantly affect absolute levels of reporting of “good,” risky behaviour or mixed moral evaluations which remained relatively constant throughout the sample period (see Table 23 in Appendix E for absolute figures).

Focusing on the pattern of reporting, the proportion of articles with a “good” or risky behaviour moral evaluation was relatively constant throughout the sample period (see Figure 17). The most pronounced change was in relation to bad moral evaluation of drugs. While across the whole sample this constituted 32.0%, this ranged from 25.5% in 2008 to 38.4% in 2006. This was particularly noticeable in the large proportional change from 2006/7 before a significant proportional drop in 2008. There was a corresponding proportional increase in articles denoting a neutral moral evaluation of drugs, from 50.3% in 2007 to 61.4% in 2008. The proportional shifts largely did not affect any other categories, maintaining the overall dominance of the “bad” and neutral moral evaluations of drugs within most portrayals.

MEDIA REPORTING ON ILLICIT DRUGS IN AUSTRALIA

Figure 17: Moral evaluation, by year (proportion) (n=2,045)



Trends by indicated consequence of drugs/use and year

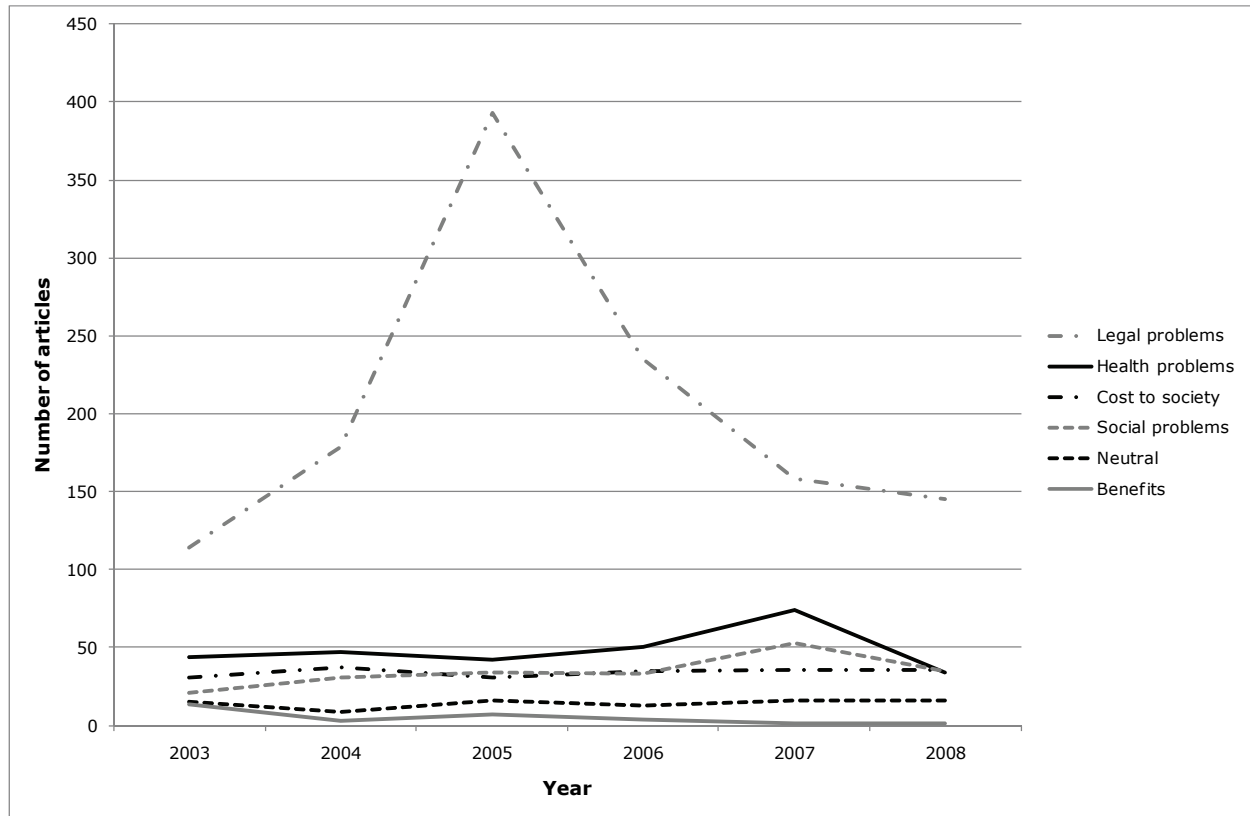
There were no major shifts in the indicated consequences of illicit drugs/use over the sample period. The number of articles reporting benefits, neutral and cost to society consequences remained relatively constant over the six years. There was a significant increase in the number of articles citing legal problems as a consequence in 2005, again due to the overall increase in articles reporting the high profile trafficking cases as discussed above. Comparing the criminal justice topic and legal problem consequence trends in Figure 16 and Figure 18, it is clear they are virtually identical. There was a small increase in the number of articles reporting health problems and social problems as consequences in 2007.

Examining the pattern of reporting, this increase is reflected proportionally as well, with 25.4% of all health problems articles falling in 2007 (representing 21.9% of articles in 2007, the largest proportion of this consequence within any one year). Similarly, 25.6% of all social problems consequence articles fell within 2007, representing a proportion of 15.7% of articles in 2007, and the largest proportion of this consequence type published in any year. Following the assumptions made regarding reporting of an “amphetamines crisis” in 2007 (an increase seen in Figure 14), we found that the increased levels of reporting of amphetamines in 2007 was related also to the increase in the number of articles reporting health consequences. This can be analysed more clearly by breaking down the collapsed health problems categories. For example, in 2007 the consequence coding

MEDIA REPORTING ON ILLICIT DRUGS IN AUSTRALIA

category of addiction (collapsed for ease of analysis within health problems) was reported in relation to amphetamines in 48.3% of cases, representing 17.5% of all reports on amphetamines in that year. Similarly, the second highest level of reporting of mental health problems was in relation to amphetamines, accounting for 27.3% of this consequence category.

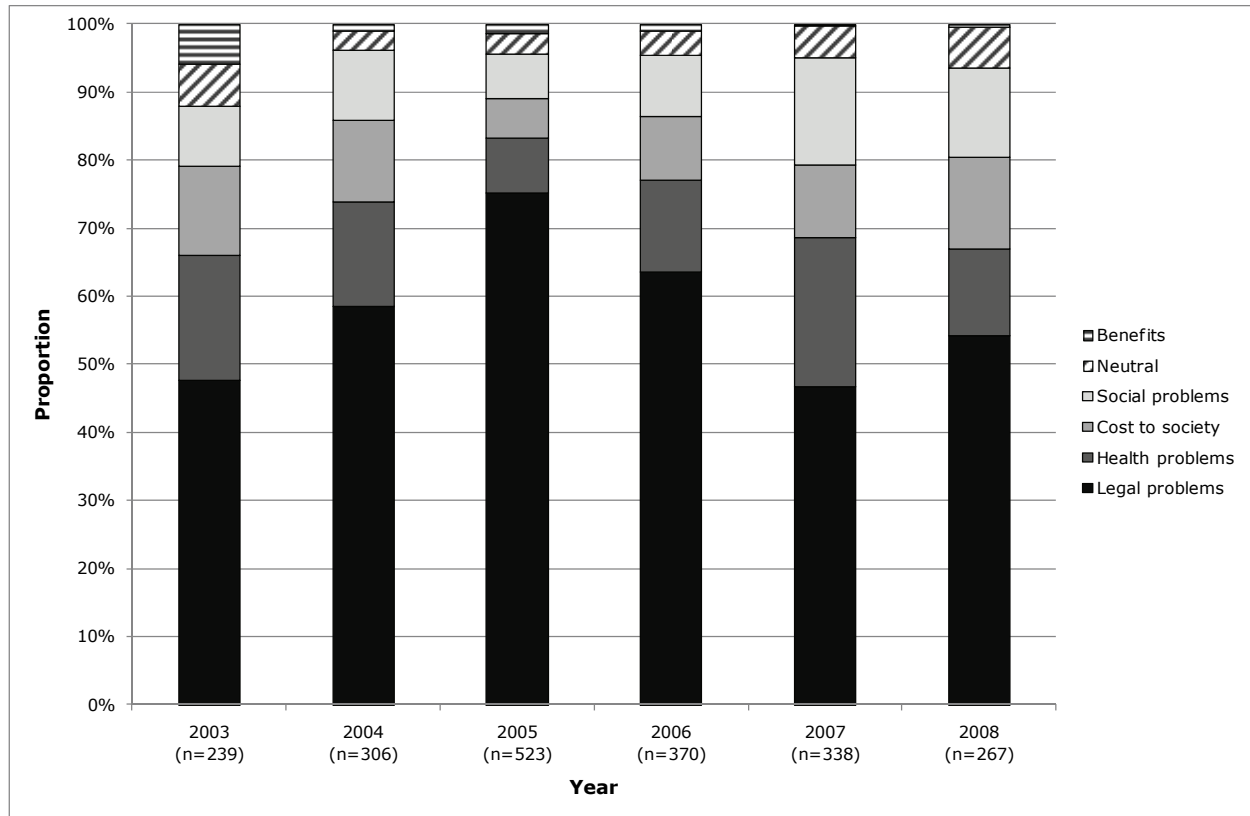
Figure 18: Number of articles by consequence, by year (n=2,043)



Although we have identified no major shifts in the reporting of consequences of illicit drugs/use over the sample period, some smaller shifts are evident when looking at the data proportionally year by year. The dominance of legal problems as a consequence can be seen not only in the absolute number of articles, but also proportionally across the six years and particularly in 2005 (see Figure 19). Legal problems were cited as consequences in 75.1% of articles in 2005, a significantly higher proportion than in 2003 (47.7%) and 2007 (46.7%). Although levels of reporting of legal consequences were similar in 2003 and 2007, reporting of other consequences varied for these years. In 2003 there was more of an emphasis placed on health problems (18.4% of articles) and cost to society (13.0%) whereas in 2007 although health problems remained prominent with 21.9%, it was social problems (15.7%) which represented the third largest proportion indicating an increased emphasis on personal social outcomes.

MEDIA REPORTING ON ILLICIT DRUGS IN AUSTRALIA

Figure 19: Consequence, by year (proportion) (n=2,043)



Between 2005 and 2007 there has been an increase in reporting of social problems (from 6.5% to 15.7%). While this decreased somewhat in 2008, the reporting of social problems is still much greater in 2008 than in 2003 (13.1% compared to 8.8%). Although benefits represent only a very small proportion across the sample, there was a proportional reduction in reporting of benefits from 5.9% in 2003 to 0.4% in 2008 (a reduction in absolute numbers from 14 articles to just one article).

The trends analysis by drug, topic, moral evaluation and consequence of illicit drugs/use demonstrates that there will be some shifts over time with changing events, either in the frequency of media reports or the patterns of media reports. Nevertheless, the dominant portrayals used by media stay relatively constant. This creates a particular onus on understanding what these portrayals are and their impacts on media consumers and society. In the next section we turn from examining media production and framing to examining media effects on youth.

SURVEY RESULTS

Part 1: Sample characteristics

Demographics

The final sample from the online survey comprised of 2,296 young people who had a mean age of 20.0 years (SD=2.6 years). When looking at age, the sample was very evenly spread across the target population (16-24 years): between 9.6% and 12.9% of the sample fell into each of the nine age groups.

The sample was however dominated by females (67.4%) and people who lived in metropolitan areas (67.3%). Just over 80% of the sample were from NSW, Victoria and Queensland, (see Table 4) with the next most populous states being Western Australia (7.1%) and South Australia (6.1%). As depicted in Table 4, this is roughly representative of the population distribution of 15-24 year olds by state and territory in Australia, as estimated by the Australian Bureau of Statistics (ABS) (2009).

Table 4: Survey participants by state and territory compared to the 2009 ABS population estimates for 15-24 year olds

State or Territory	Survey sample (16-24 year olds)		ABS Estimates (15-24 year olds)
	No. of respondents	Proportion (%)	Proportion (%)
New South Wales	710	30.9	32.0
Victoria	643	28.0	25.1
Queensland	486	21.2	20.3
Western Australia	163	7.1	10.4
South Australia	140	6.1	7.1
Tasmania	102	4.4	2.1
ACT	41	1.8	1.8
Northern Territory	11	0.5	1.1
Total	2296	100.0	100.0

On the whole the sample was highly educated. The majority of the sample (77.8%) had completed year 12 or equivalent and an additional 10.8% had completed year 11 or equivalent. Many survey participants had also obtained further educational qualifications (35.6%). The major qualifications reported by survey participants were bachelor's degree (18.3%), non-trade certificate (6.1%) and trade certificate (4.5%). It was assumed that many other respondents may have been in the process of attaining a qualification (since participants were requested not to include current studies toward a qualification).

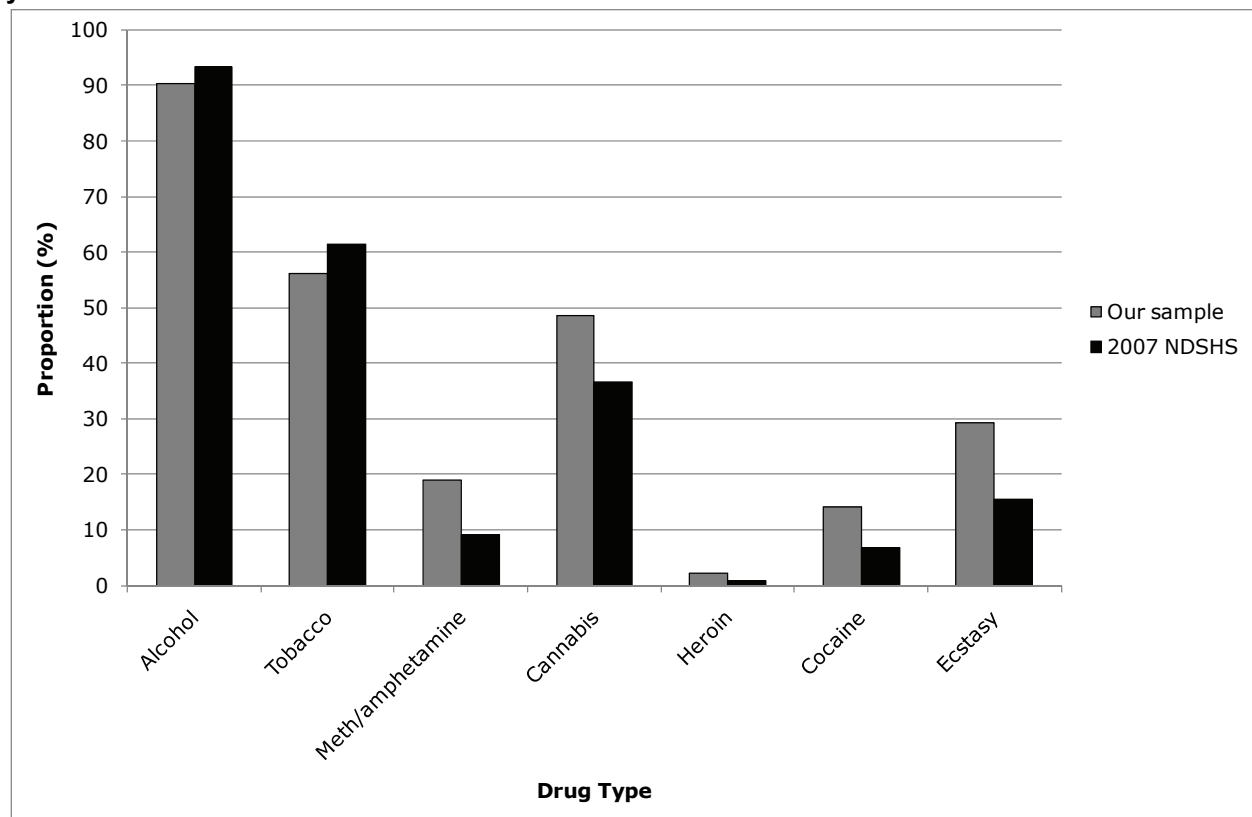
These figures were similar to the educational attainment of the 2007 National Drug Strategy Household Survey (NDSHS) sample of 16-24 year olds albeit there were some minor differences. In particular, our sample was more likely, relative to the 2007 NDSHS sample, to have completed year 12 or equivalent (77.8% versus 66.1%), but slightly less likely to have attained further qualifications (35.6% versus 39.2%).

Drug use history

Lifetime use of alcohol and tobacco was reported by 90.4% and 56.2% of survey participants respectively. A substantial minority of our sample reported lifetime use of an illicit drug. Of the illicit drugs, lifetime use was most frequently reported for cannabis and ecstasy, with 48.5% and 29.2% respectively.

As can be seen in Figure 20, in terms of reported lifetime drug use our sample differed to the 2007 NDSHS sample of 16-24 year olds. Our sample reported lower lifetime use of alcohol and tobacco than the 2007 NDSHS (93.3% and 61.3% respectively) but higher lifetime use of all illicit drugs. For example, the reported lifetime use of cannabis amongst 16-24 year olds in the 2007 NDSHS was 36.7% (compared to 48.5% in our sample) and the reported lifetime use of ecstasy was almost half that found in the current sample (15.5% compared to 29.2%)

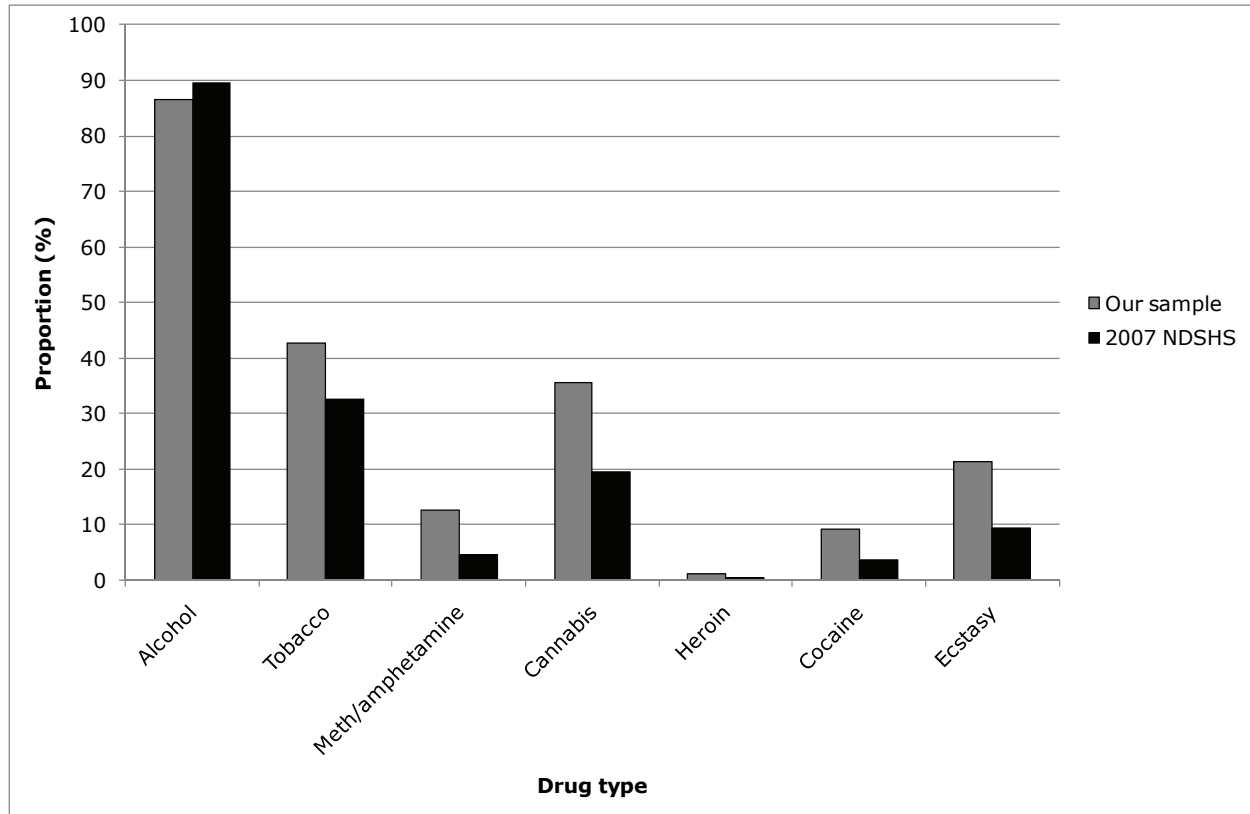
Figure 20: Lifetime drug use of survey participants compared to the 2007 NDSHS data for 16-24 year olds



In terms of use over the last 12 months, that is 'recent use,' 86.5% of survey participants reported use of alcohol, 42.8% reported use of tobacco, 35.6% reported use of cannabis and 21.4% reported use of ecstasy. As depicted in Figure 21, recent use of alcohol was similar to the 2007 NDSHS data (89.5%), but recent use of tobacco, cannabis and ecstasy was consistently higher than the 2007 NDSHS data (32.6%, 19.6% and 9.5% respectively). Thus, almost half of the participants sampled in this study reported that they had used at least one illicit drug in their life and at least a third reported

that they had used an illicit drug in the last 12 months. Overall, when comparing the current sample to the 2007 NDSHS of 16-24 year olds, it appears that lifetime and recent use of *illicit* drugs is higher in our sample than NDSHS estimates. Conversely, lifetime and recent use of *licit* drugs, that is, alcohol and tobacco, was similar if not slightly less in our sample.

Figure 21: Recent drug use of survey participants compared to the 2007 NDSHS data for 16-24 year olds



The disparity in reported lifetime and recent drug use may reflect a number of factors including differences in the methodologies used, the year of data collection, and the recruitment techniques. Of particular relevance, the NDSHS uses two methods of data collection, drop and collect surveys and computer assisted telephone interviews (CATI), which target residential addresses at random. This potentially excludes many Australian youth from the sample. In regards to the 2007 NDSHS, any young person who was itinerant, resided in a university hall of residence or did not have a fixed home telephone would have been ineligible (Australian Institute of Health and Welfare, 2008b). The response rate for the NDSHS has also been declining (to 49.3% in the 2007 survey) which has led to increased questions about the extent to which the NDSHS data can be deemed reliable or generalisable to the general Australian population (Siggins Miller, 2009).

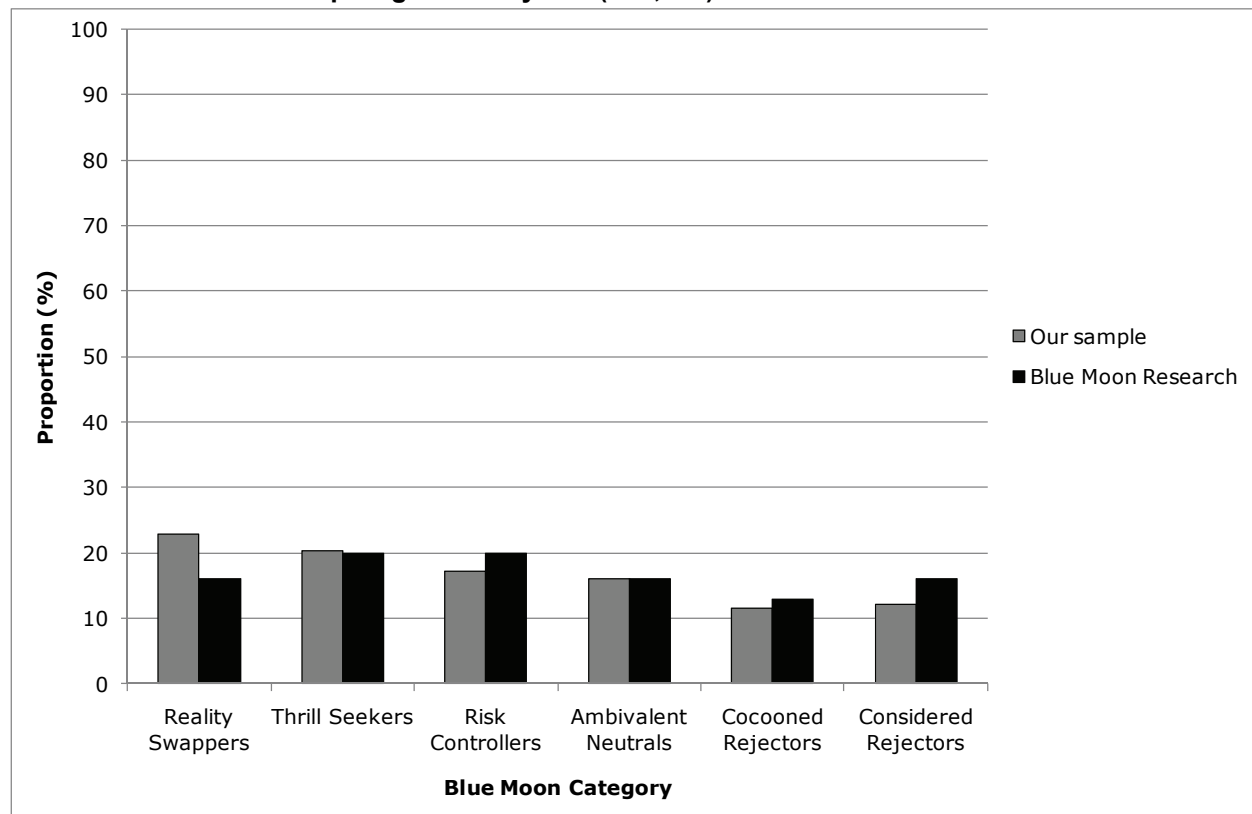
In contrast, our adopted approach using an online survey is arguably much more relevant and accessible to youth populations. Online surveys have been found to be advantageous for accessing hard to reach populations, such as young smokers (Ramo, Hall, & Prochaska, 2010) and illicit drug

users (Duncan, White, & Nicholson, 2003). It has also been suggested that participants may feel more comfortable disclosing illicit drug use via this method due to the greater anonymity afforded (Ramo, et al., 2010). The obvious disadvantage with online surveys is their capacity to exclude those without access to the internet, however this appears less problematic for Australian youth audiences, amongst whom only 6-10% do not have access to internet (Pink, 2009).

Blue Moon archetypes

Based on the responses to the Blue Moon Research (Carroll, 2000) screening instrument, the current sample comprised of: 12.1% Considered Rejectors, 11.5% Cocooned Rejectors, 16.1% Ambivalent Neutrals, 17.2% Risk Controllers, 20.3% Thrill Seekers and 22.9% Reality Swappers. When comparing these results to the Blue Moon Research quantitative study of 15-24 year olds (n=2,306) (see Figure 22), the current sample included a somewhat greater proportion of Reality Swappers (22.9%) and slightly less Considered Rejectors (12.1%) than the Blue Moon sample (which included 16% in both archetypes respectively). Overall however the two samples had similar proportions of youth in each archetype.

Figure 22: Blue Moon archetypes comparing survey participants aged 16-24 years (n=2,296) to the Blue Moon Research sample aged 15-24 years (n=2,306)

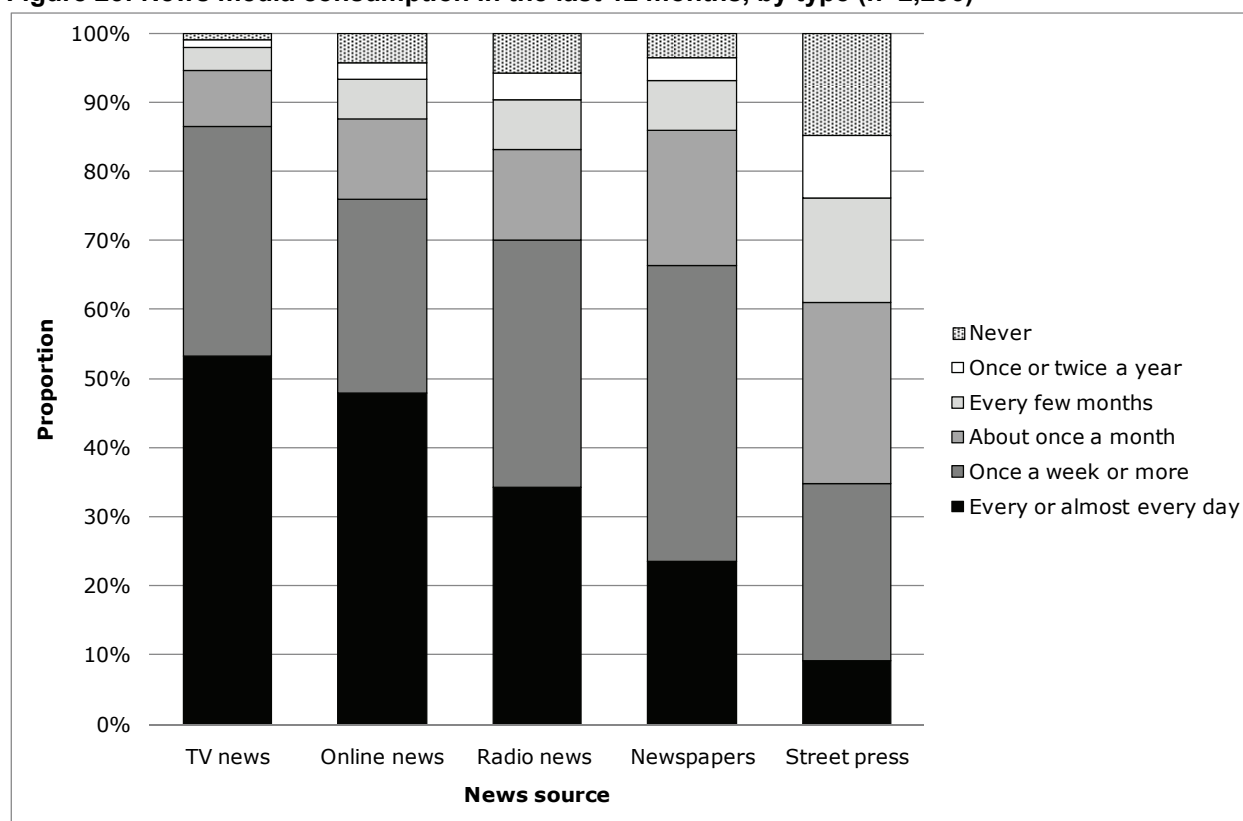


Part 2: Youth media consumption and perceptions of media

Youth media consumption

Survey participants reported a high level of consumption of news media in the last 12 months. Between 66.4% and 86.5% of participants reported that they had weekly or more frequent contact with television news, online news, radio news and/or print newspapers (see Figure 23). Less than 5.7% said they never had contact with such news mediums. The most common news media used was television news followed by online news. These rates are higher than those reported in previous small and/or paid samples and suggest that 16-24 year old Australians have a high level of contact with multiple forms of news media. Consumption of free newspapers was smaller than for any other news media with only 34.8% of participants reporting once a week or more contact. This is presumably due to the limited availability of free newspapers (for example the mX is currently only available in Sydney, Melbourne and Brisbane).

Figure 23: News media consumption in the last 12 months, by type (n=2,296)



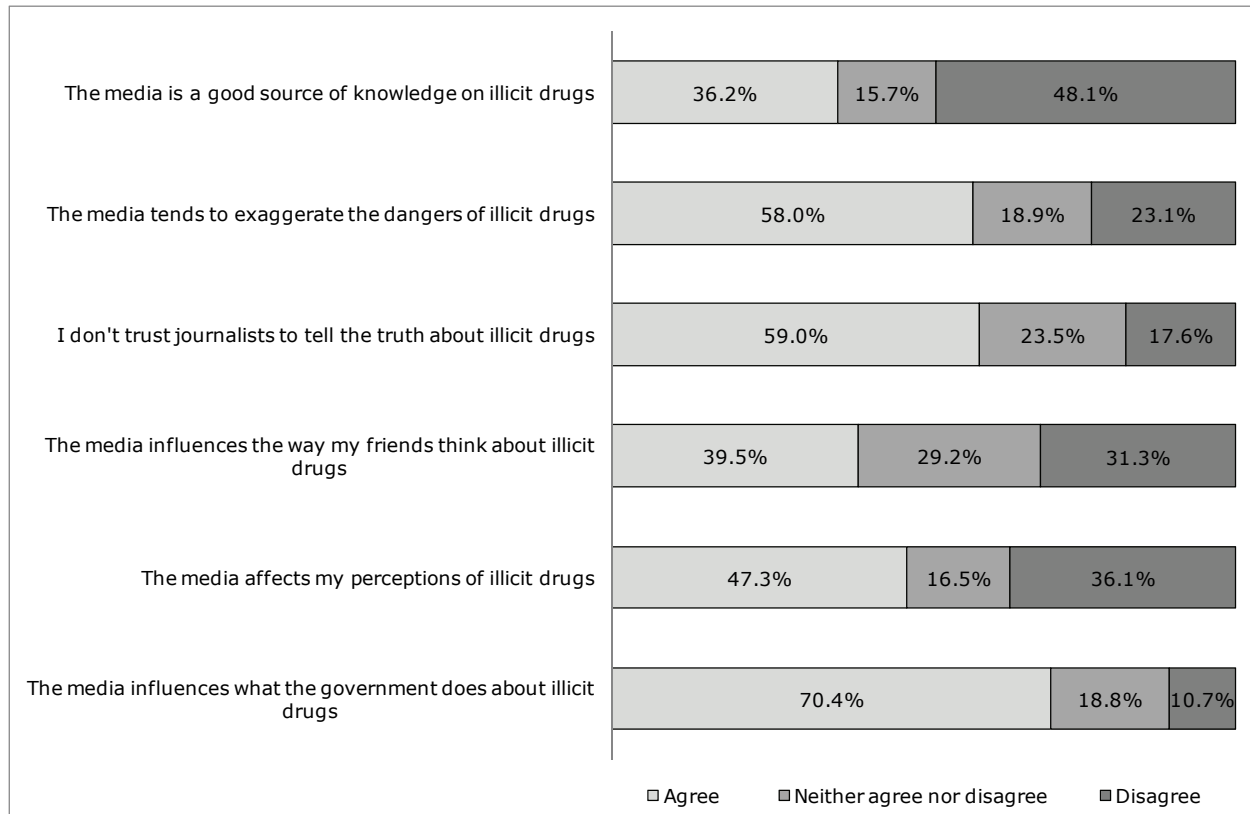
Our results further indicated that those participants who accessed print newspapers were slightly more likely to report greater use of weekend newspapers. Indeed 28.9% accessed both daily and weekend newspapers, 26.8% only weekend newspapers and 21.1% only daily newspapers (18.8% did not read print but did read online newspapers and 4.4% did not read print or online newspapers). The slight preference towards weekend newspapers could reflect patterns of wider newspaper

circulation (for example see Table 2). Overall the data on media usage suggests that Generation Y youth have a high level of contact with a variety of mainstream news media sources.

Youth perceptions of the media and its influence

By canvassing youth perceptions of the media we found that only 36.2% of the sample saw media as a good source of information on illicit drugs (see Figure 24). Conversely, 59.0% said they couldn't trust journalists to tell the truth about illicit drugs. Interestingly, almost half of the youth reported that the media affects their perceptions of illicit drugs (47.3%) and to a lesser extent their peers (39.5%), while 70.4% of the sample saw media as influencing government policy on illicit drugs. Based on this set of questions we were unable to determine the directions of any effects and more importantly, whether media influence was deemed beneficial or not. Regardless, these results indicate that despite their belief that the media is not necessarily an accurate source of information on illicit drugs, the sample of 16-24 year olds perceived the media to be capable of influencing themselves, their peers and government actions.

Figure 24: Perceptions of media coverage on illicit drugs (n=2,284)



Part 3: Impact of media portrayals on youth as a whole

In this section we examine the impacts of media portrayals on the overall sample of youth respondents (n=2,296) across the three outcome measures: perception of risk, perception of acceptability and likelihood of future drug use. It is important to reiterate that while the portrayals used in the survey were taken from print newspapers, they were intended to be indicative of media portrayals or messages that appear in other news media forms, such as online news or radio.

This study measured the impacts in relation to two illicit drugs: cannabis and ecstasy. The selection of portrayals on two drugs, as opposed to multiple drugs, was deliberate to control for any pre-existing differences related to attitudes to the drugs themselves, and as such in the subsequent analyses we examine the effects of each drug type separately. The ultimate aim was however to identify *common* effects across the two drugs (i.e. effects that appear attributable to the media, not the drug itself).

A total of eight articles were presented to each participant. Every article represented a different portrayal used to denote cannabis and ecstasy in mainstream Australian news media. As summarised in Table 5 below, the articles *Ecstasy crack down* and *Arrests at Mardi Grass* were both selected as examples of the crime and arrest portrayal. This portrayal was deemed the ‘dominant’ portrayal since, as identified in the content analysis in Part 1 of the study, it was the most prevalent depiction of illicit drugs in the news media. By default the other selected portrayals were deemed ‘atypical’ since they appeared less frequently in the media.

Table 5: Articles used in the Drug Media Survey, with drug, indicated portrayal and frequency of portrayal

Article title	Drug	Portrayal	Frequency
Ecstasy crack down	Ecstasy	Crime and arrest	Dominant
Hundreds farewell a smiling dancer	Ecstasy	Death of a user	Atypical
Pills spiked with killer drug	Ecstasy	Risk warning	Atypical
Ecstasy safe says top cop	Ecstasy	Endorsement of low risk	Atypical
Arrests at Mardi Grass	Cannabis	Crime and arrest	Dominant
Cannabis users are prone to failure	Cannabis	Social harm (reduced education/employment prospects)	Atypical
Cannabis is worst drug for psychosis	Cannabis	Mental health harm	Atypical
Branson’s Byron drug daze admission	Cannabis	Endorsement of acceptability	Atypical

The three ecstasy articles that were chosen as representing more atypical portrayals on ecstasy included: *Hundreds farewell a smiling dancer*, which represented the death of an ecstasy user; *Pills spiked with killer drug*, which depicted a risk warning about new dangers of ecstasy consumption; and *Ecstasy safe says top cop*, which portrayed an endorsement of low risk of ecstasy use. The three cannabis articles chosen to represent different atypical portrayals on cannabis included: *Cannabis users are prone to failure*, which represented social harm of cannabis use (specifically that cannabis use would lead to a reduction in education and employment prospects); *Cannabis is worst drug for*

psychosis which represented mental health harms of cannabis use; and Branson's Byron daze admission which was classified as an endorsement of the acceptability of cannabis. The articles themselves can be found in Appendix B. This set of articles meant that, across both drugs, youth reactions could be assessed towards a crime and arrest portrayal, a health harm portrayal and a portrayal that endorsed acceptability or low risk of illicit drugs. The final portrayal differed between the two drug types (social harm vs. risk warning portrayal) which reflected the varied nature of reporting of the two drugs. For each outcome measure (risk, acceptability and future use), participants responded on a 7-point Likert scale where four was considered the null response, that is, where a respondent neither agreed nor disagreed that an article affected the particular outcome of interest. For ease of interpretation, we present the mean impact of each portrayal.

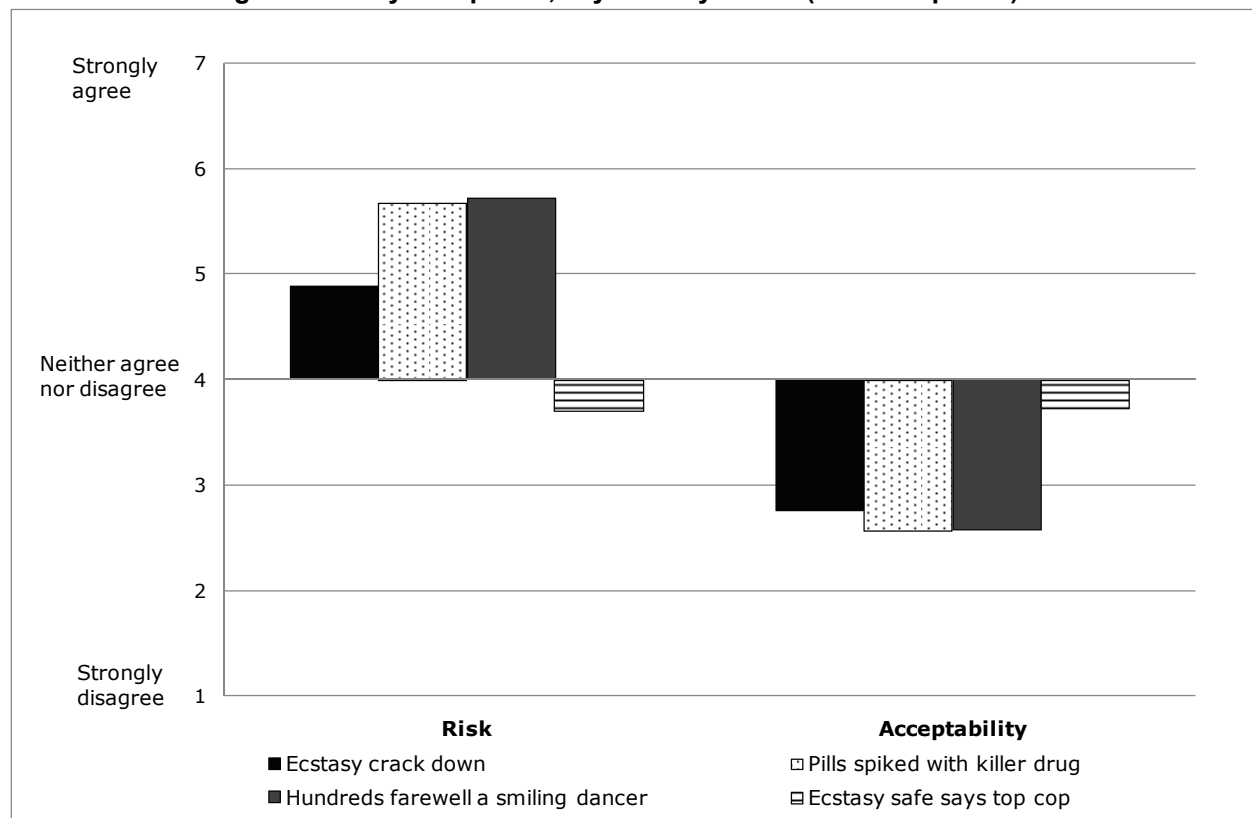
Overall impacts

For the first section we graphed the mean impact of each portrayal in terms of the difference from the null effect. In doing so we illustrate the extent and direction by which the set of portrayals elicited impacts on the three outcome measures.

Ecstasy

Recalling that we predicted impacts would be more observable amongst particular sub-groups of youth, interestingly, when looking at the sample as a whole we detected notable impacts on perceptions of risk, acceptability and likelihood of future drug use. Moreover, as shown in Figure 25, albeit with one exception, the ecstasy articles affected perceptions in a consistent direction for each measure: namely, they increased overall perceptions of risk and reduced perceptions of acceptability of illicit drug use.

Figure 25: Extent to which respondents agreed or disagreed with the statement “this article makes me think illicit drug use is risky/acceptable,” by ecstasy article (mean response)



Similarly, as shown in Figure 26, on average, the media portrayals on ecstasy reduced the reported likelihood of engaging in future illicit drug use. In this study the correlation coefficient - Pearson r - was used as the effect size estimate, that is, the means of assessing the extent to which observable effects on the reported likelihood of future drug use were meaningful (Anderson, et al., 2003). To

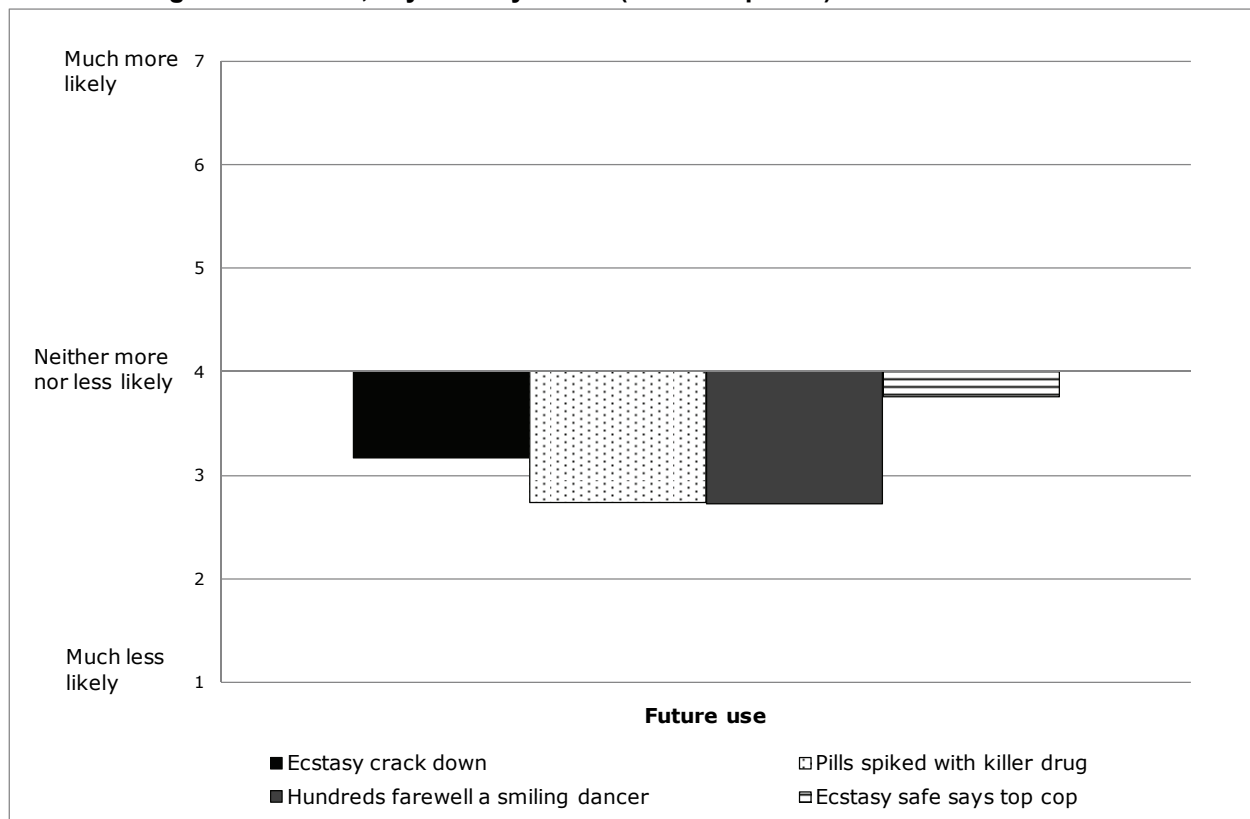
MEDIA REPORTING ON ILLICIT DRUGS IN AUSTRALIA

reiterate, Pearson r correlation coefficients are interpreted as follows: $r=0.1$ is a small effect; $r=0.3$ is a medium effect; and $r=0.5$ is a large effect (Cohen, 1988).

Indeed, the effect size (Pearson r) for the likelihood of future use, when calculated from the null effect (i.e. a score of 4) was large for all ecstasy articles denoting a negative consequence, that is, *Ecstasy crack down* ($r=0.51$), *Pills spiked with killer drug* ($r=0.66$) and *Hundreds farewell a smiling dancer* ($r=0.64$). The effect size for the article portraying an endorsement of low risk, *Ecstasy safe says top cop*, was small ($r=0.17$).

The size of these effects indicates that overall, the set of ecstasy articles elicited small to large reductions in the likelihood of future drug use. These results are quite remarkable given the different types of portrayals used, especially the explicit inclusion of an article that endorsed ecstasy as being low risk (*Ecstasy safe says top cop*). These three effects (increasing perceptions of risk, reducing perceptions of acceptability and reducing likelihood of future drug use) are highly in line with the objectives of preventative health campaigns around illicit drug use.

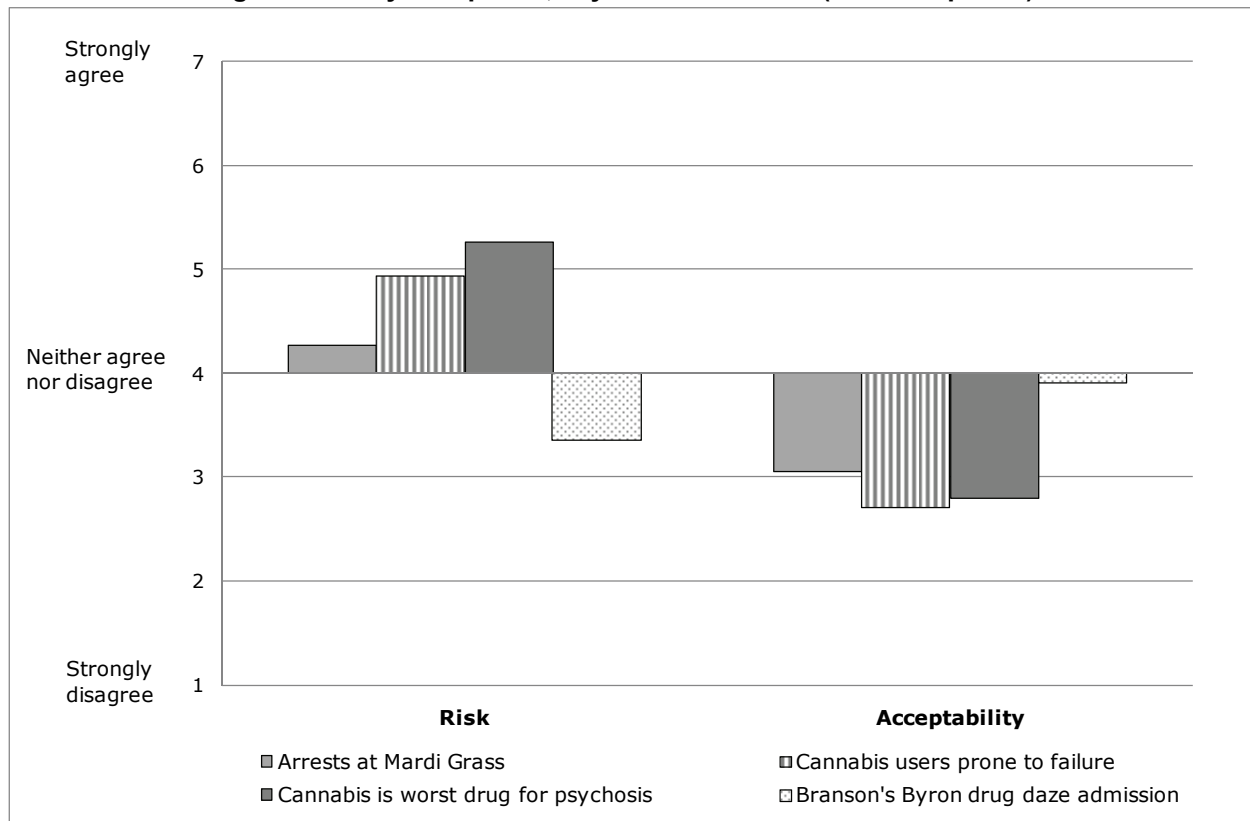
Figure 26: Extent to which respondents asserted “this article make(s) me more or less likely to use illicit drugs in the future,” by ecstasy article (mean response)



Cannabis

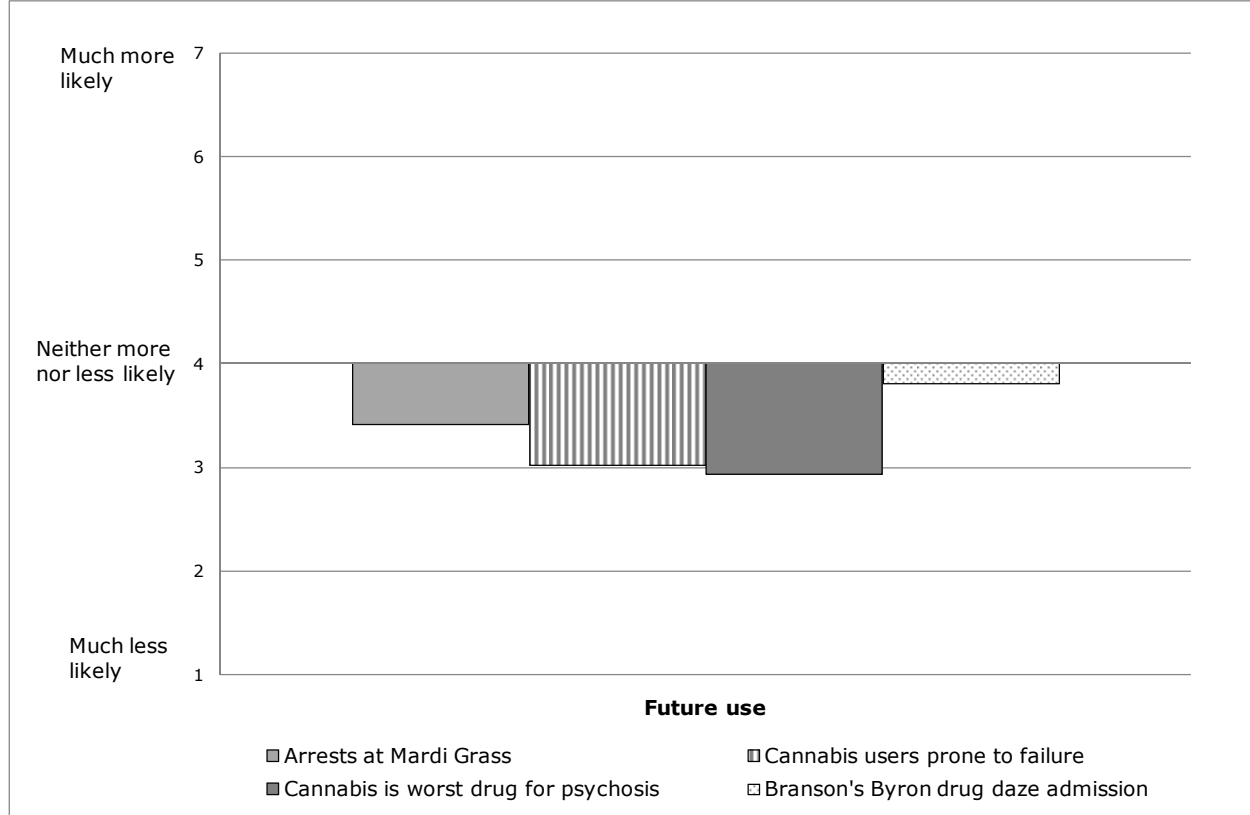
For the set of cannabis articles, the effects were somewhat less notable than for the ecstasy articles (see Figure 27 and Figure 28). However a common trend was again noticeable, namely that the articles increased perceptions of risk (albeit with one exception), and reduced perceptions of acceptability and reported likelihood of future use.

Figure 27: Extent to which respondents agreed or disagreed with the statement “this article makes me think illicit drug use is risky/acceptable,” by cannabis article (mean response)



Most cannabis articles again reduced the reported likelihood that participants would engage in future drug use. The effect size (Pearson r) for likelihood of future use, when calculated from the null effect (i.e. a score of 4) was moderate to large for all cannabis articles portraying a negative consequence, that is, *Arrests at Mardi Grass* ($r=0.39$), *Cannabis users prone to failure* ($r=0.55$), and *Cannabis is worst drug for psychosis* ($r=0.58$). The effect size for *Branson's Byron drug daze admission* in contrast was small ($r=0.14$).

Figure 28: Extent to which respondents asserted “this article make(s) me more or less likely to use illicit drugs in the future,” by cannabis article (mean response)



This first section clearly indicated that the media portrayals elicited similar effects across both drug types. In the main, these effects can be characterised as reducing “pro-drug” attitudes (Vogl, et al., 2009). “Pro-drug” attitudes will be used hereafter to refer to situations where media portrayals elicited increased perceptions of risk, decreased perceptions of acceptability and decreased stated likelihood of future use. It should be noted that we do not suggest that youth necessarily had pre-existing pro-drug attitudes, we merely use this for ease of interpreting the direction of effect.

These graphs demonstrate that the level of effect was not equivalent across all outcome measures. For example, while the articles tended to impact more on perceptions of risk or perceptions of acceptability than on the reported likelihood of future use, the specific impacts also varied from article to article. In addition, the specific media portrayals had differential effects on youth attitudes to illicit drugs. These results support the notion that the type of portrayal does matter: both in terms of the size and direction of effect.

In the following section we further examine the impacts of different media portrayals on the youth sample as a whole and subsequent to that, we compare the level and direction of effect for different sub-populations of youth. From here on in we present the results in table format so that the reader can identify the mean and standard error of the mean.

Impacts by article type

Having demonstrated that media portrayals on illicit drugs can, in the main, reduce pro-drug attitudes, the core questions become: what is the size of effect; what is the nature of the effect e.g. were all attitudinal domains (risk, acceptability or future use) equally affected or were some more affected than others; and what are the relative benefits or costs of the atypical portrayals (relative to the dominant portrayal). In this next section we group means for all outcome measures together so as to compare impacts across and between attitudinal domains.

Ecstasy

As was previously noted, the ecstasy articles varied in the extent to which they reduced pro-drug attitudes. The articles that were most effective at reducing pro-drug attitudes were *Hundreds farewell a smiling dancer* and *Pills spiked with killer drug*. The size of effects were virtually identical for the two articles, thereby indicating that both the overdose and risk warning portrayals elicited very similar effects (see Table 6).

It is also apparent that the articles varied in what particular attitudinal domain they affected (risk, acceptability or likelihood of future use). The articles *Pills spiked with killer drug* and *Hundreds farewell a smiling dancer* elicited a greater effect on perceptions of risk (than acceptability) whereas the *Ecstasy crackdown* article elicited a greater effect on perceptions of acceptability (than risk). This can also be observed visually in Figure 25. These results suggest that the *Ecstasy crackdown* portrayal sent a more normative message, whereas the risk warning and overdose type portrayals (*Pills spiked with killer drug* and *Hundreds farewell a smiling dancer* respectively) sent messages predominantly about risks.

Table 6: Ecstasy articles – mean (and standard error) for risk, acceptability and future use measures

Article	Mean (SE)
Risk	
Ecstasy crackdown	4.88 (0.04)
Pills spiked with killer drug	5.68 (0.03)
Hundreds farewell a smiling dancer	5.72 (0.03)
Ecstasy safe says top cop	3.70 (0.04)
Acceptability	
Ecstasy crackdown	2.76 (0.03)
Pills spiked with killer drug	2.57 (0.03)
Hundreds farewell a smiling dancer	2.58 (0.03)
Ecstasy safe says top cop	3.73 (0.04)
Future use	
Ecstasy crackdown	3.17 (0.03)
Pills spiked with killer drug	2.73 (0.03)
Hundreds farewell a smiling dancer	2.73 (0.03)
Ecstasy safe says top cop	3.75 (0.03)

Measured on a 7 point scale where 4 equals the midpoint. For risk and acceptability 1=strongly disagree and 7=strongly agree and for future use, 1=much less likely and 7=much more likely.

A final point of interest is the extent to which the atypical ecstasy portrayals influenced youth attitudes to illicit drugs as compared to the dominant crime and arrest portrayal. For this reason we compared the mean difference between the dominant crime and arrest portrayal (Ecstasy

crackdown) with each of the three atypical portrayals. As depicted in Table 7, compared to the Ecstasy crackdown article, Ecstasy safe says top cop significantly increased pro-drug attitudes. Effects on perceptions of risk were moderate ($r=0.31$) but small for the other outcome domains. Conversely, compared to the Ecstasy crackdown article, the Pills spiked with killer drug and Hundreds farewell a smiling dancer articles significantly reduced pro-drug attitudes. All effects were small. From a preventative health perspective, the above results suggest that the risk-related portrayals were more effective than the crime and arrest portrayal for reducing pro-drug attitudes. However, in spite of their rarity, portrayals denoting endorsement of low risk could be deemed deleterious in increasing pro-drug attitudes.

Table 7: Mean difference between the dominant ecstasy portrayal and the atypical ecstasy portrayals for risk, acceptability and future use measures

Ecstasy Article	Compared to <i>Ecstasy crack down</i> (mean difference)	Effect sizes (<i>r</i>)
Risk		
Ecstasy crack down	0	-
Pills spiked with killer drug	0.80	0.23
Hundreds farewell a smiling dancer	0.84	0.24
Ecstasy safe says top cop	-1.18	0.31
Acceptability		
Ecstasy crack down	0	-
Pills spiked with killer drug	-0.18	0.06
Hundreds farewell a smiling dancer	-0.19	0.06
Ecstasy safe says top cop	0.97	0.27
Future use		
Ecstasy crack down	0	-
Pills spiked with killer drug	-0.44	0.15
Hundreds farewell a smiling dancer	-0.44	0.15
Ecstasy safe says top cop	0.58	0.20

Cannabis

The cannabis article that most reduced pro-drug attitudes was the *Cannabis is worst drug for psychosis* article (see Table 8). *Branson's Byron drug daze admission* was the least effective. Indeed it reduced the overall sample's perception of risk (i.e. elicited more pro-drug attitudes), but had no discernable effect on the overall sample's perceptions of acceptability and likelihood of future use.

Comparing impacts across the attitudinal domains it is clear that, while the 'risk warning' ecstasy articles tended to affect perceptions of risk more than perceptions of acceptability, for cannabis, the articles tended to affect perceptions of acceptability the most. This is particularly notable with *Arrests at Mardi Grass*, but also to a lesser extent *Cannabis users prone to failure*, both of which elicited a greater effect on perceptions of acceptability than on perceptions of risk. This suggests that the cannabis articles elicited more normative messages.

Yet individual articles also differed. *Cannabis is worst drug for psychosis* had the greatest effect on participants' perceptions of risk and the *Cannabis users prone to failure* had the largest impact on acceptability. These results suggest that the mental health harm portrayal impacted more on perceptions of risk whereas the social harm portrayal impacted more on norms (i.e. acceptability).

Table 8: Cannabis articles – mean (and standard error) for risk, acceptability and future use measures

Article	Mean (SE)
Risk	
Arrests at Mardi Grass	4.27 (0.04)
Cannabis users prone to failure	4.94 (0.04)
Cannabis is worst drug for psychosis	5.26 (0.04)
Branson's Byron drug daze admission	3.35 (0.04)
Acceptability	
Arrests at Mardi Grass	3.05 (0.04)
Cannabis users prone to failure	2.70 (0.03)
Cannabis is worst drug for psychosis	2.80 (0.04)
Branson's Byron drug daze admission	3.90 (0.04)
Future use	
Arrests at Mardi Grass	3.42 (0.03)
Cannabis users prone to failure	3.02(0.03)
Cannabis is worst drug for psychosis	2.93 (0.03)
Branson's Byron drug daze admission	3.75 (0.03)

Measured on a 7 point scale where 4 equals the midpoint. For risk and acceptability 1=strongly disagree and 7=strongly agree and for future use, 1=much less likely and 7=much more likely.

As demonstrated in Table 9, compared to the use of the dominant portrayal (*Arrests at Mardi Grass*), the *Cannabis users prone to failure* and *Cannabis is worst drug for psychosis* articles decreased pro-drug attitudes while *Branson's Byron drug daze admission* increased pro-drug attitudes. In particular, compared to the *Arrests at Mardi Grass* article, *Branson's Byron drug daze admission* increased perceptions of acceptability and reduced perceptions of risk. This portrayal nevertheless produced a weak overall effect (compared to the null effect) on likelihood of future use

Table 9: Mean difference between the dominant cannabis portrayal and other atypical cannabis portrayals for risk, acceptability and future use measures

Cannabis Article	Compared to <i>Arrests at Mardi Grass</i> (mean difference)	Effect sizes (<i>r</i>)
Risk		
Arrests at Mardi Grass	0	-
Cannabis users prone to failure	0.67	0.18
Cannabis is worst drug for psychosis	0.99	0.26
Branson's Byron drug daze admission	-0.92	0.24
Acceptability		
Arrests at Mardi Grass	0	-
Cannabis users prone to failure	-0.35	0.11
Cannabis is worst drug for psychosis	-0.25	0.08
Branson's Byron drug daze admission	0.85	0.24
Future use		
Arrests at Mardi Grass	0	-
Cannabis users prone to failure	-0.40	0.14
Cannabis is worst drug for psychosis	-0.49	0.17
Branson's Byron drug daze admission	0.33	0.14

The results indicated that youth reactions differ according to the type of portrayal. One portrayal may increase perceptions of risk but have a negligible impact on perceptions of acceptability. Another portrayal may affect both risk and acceptability to similar degrees.

Overall our data indicated that, across both drugs (ecstasy and cannabis), the dominant crime and arrest portrayals tended to reduce perceptions of acceptability more than they increased perceptions of risk. Yet compared to the dominant crime and arrest portrayal, the risk warning, social harm and mental health harm portrayals elicited greater effects on perceptions of risk and acceptability: that is they were more likely than the dominant crime and arrest portrayal to increase perceptions of risk and reduce perceptions of acceptability. Conversely, the portrayals that endorsed the acceptability or low risk associated with drug use tended to decrease perceptions of risk and increase perceptions of acceptability. On average however such portrayals tended *not* to increase the likelihood of future use.

The results also demonstrated that the media portrayals significantly affected youth attitudes to illicit drug use. From a preventative health perspective, the portrayals tended to affect youth in a desirable way: increasing perceptions of risk, reducing perceptions of acceptability and reducing the likelihood of future use. While the pattern of effects was similar for the ecstasy and cannabis articles, overall the ecstasy portrayals tended to elicit greater effects than the cannabis ones.

Part 4: Impact of media portrayals on sub-groups of youth

In this next section we explore whether the effects observed above apply equally to different sub-populations of youth. As per the methodology, a range of demographic information was collected from participants, including age, sex, education, state of residence and drug use history, which means we could have examined the impacts of a number of different variables such as education, state of residence or age. For this report we specifically examined the effects of three factors: sex, drug use history and Blue Moon archetype. The extant literature has suggested that pre-existing knowledge and belief systems (tested here in terms of drug use history and Blue Moon archetype) are likely to influence the nature and size of media effects, as is sex.

Impacts by sex

Ecstasy

Examining firstly the impact of sex, Table 10 shows that the pattern of responses to the ecstasy articles differed markedly between males and females. Overall, when compared to males, the ecstasy articles elicited a greater effect on females. In terms of impacts on likelihood of future use, the negative articles (*Ecstasy crackdown*, *Hundreds farewell a smiling dancer* and *Pills spiked with killer drug*) in particular elicited much larger effects on females ($r=0.57-0.71$) than males ($r=0.37-0.52$). The sex of participants was thus an influencing factor in how youth responded to media portrayals on illicit drugs.

Table 10: Ecstasy articles – mean (and standard error) for risk, acceptability and future use measures by sex

Outcome measures by sub-group		Ecstasy crackdown	Pills spiked with killer drug	Hundreds farewell a smiling dancer	Ecstasy safe says top cop
Risk	M	4.46 (0.07)	5.31 (0.07)	5.13 (0.07)	3.42 (0.7)
	F	5.08 (0.04)	5.85 (0.04)	6.00 (0.04)	3.84 (0.05)
Acceptability	M	3.04 (0.06)	2.91 (0.06)	2.88 (0.06)	4.05 (0.07)
	F	2.63 (0.04)	2.40 (0.04)	2.44 (0.04)	3.57 (0.05)
Future use	M	3.46 (0.05)	3.13 (0.05)	3.19 (0.06)	3.99 (0.5)
	F	3.04 (0.04)	2.54 (0.04)	2.52 (0.04)	3.64 (0.04)

M=Males (n=748), F=Females (n=1548)

Measured on a 7 point scale where 4 equals the midpoint. For risk and acceptability 1=strongly disagree and 7=strongly agree and for future use, 1=much less likely and 7=much more likely.

Across the set of ecstasy articles, males and females tended to respond in a similar manner: with the *Hundreds farewell a smiling dancer* article being the most likely to reduce pro-drug attitudes and the *Ecstasy safe says top cop* article more likely to increase pro-drug attitudes. There was one exception to this rule. Males and females responded differently in terms of which article most elevated their perceptions of risk. For females the most effective article was *Hundreds farewell a smiling dancer* whereas for males the most effective article was *Pills spiked with killer drug*. The consequence was that in terms of perceptions of risk, the death of a user portrayal produced a smaller than expected effect for males. This may reflect the fact that the overdose victim was a female. No overall difference was observed in terms of impacts on likelihood of future use

Cannabis

Responses to the cannabis articles were also moderated by sex. Specifically, compared to males, the cannabis articles were more likely to reduce pro-drug attitudes in females (see Table 11). This is again demonstrated in terms of impacts on future use, where the negative articles had a greater effect on females ($r=0.46-0.65$) than males ($r=0.24-0.44$). One more counter-intuitive reaction was that *Arrests at Mardi Grass* article increased females perceptions of risk (i.e. reduced pro-drug attitudes), but slightly reduced perceptions of risk amongst males (i.e. increased pro-drug attitudes), albeit slightly.

Table 11: Cannabis articles – mean (and standard error) for risk, acceptability and future use measures by sex

Outcome measures by sub-group		Arrests at Mardi Grass	Cannabis users are prone to failure	Cannabis is worst drug for psychosis	Branson's Byron drug daze admission
Risk	M	3.83 (0.07)	4.38 (0.07)	4.64 (0.07)	3.04 (0.07)
	F	4.49 (0.04)	5.22 (0.04)	5.57 (0.04)	3.50 (0.05)
Acceptability	M	3.36 (0.06)	3.00 (0.06)	3.15 (0.06)	4.18 (0.07)
	F	2.90 (0.04)	2.56 (0.04)	2.63 (0.04)	3.77 (0.05)
Future use	M	3.68 (0.05)	3.38 (0.05)	3.31 (0.05)	4.08 (0.05)
	F	3.30 (0.03)	2.85 (0.04)	2.74 (0.04)	3.67 (0.03)

M=Males (n=748), F=Females (n=1548)

Measured on a 7 point scale where 4 equals the midpoint. For risk and acceptability 1=strongly disagree and 7=strongly agree and for future use, 1=much less likely and 7=much more likely.

When considering the patterns of responses to the four cannabis articles, there was one apparent difference between males and females. While females reported higher perceptions of risk in response to the “negative consequence” articles, that is, Arrests at Mardi Grass, Cannabis is worst drug for psychosis and Cannabis users prone to failure, they were relatively more affected by the latter two articles. Consequently, compared to their male counterparts, females reported much higher perceptions of risk to both articles. This finding suggests that the social and mental health harms portrayals had, on average, more of an effect on females than males.

Across both drugs, similar effects were observed whereby females were relatively more affected by the media portrayals than males. But females also appeared to be more responsive to particular types of portrayals, namely the health portrayals (for both drugs) and the social portrayal (for cannabis).

Impacts by drug use history

Based on previous literature we hypothesised that drug use history was likely to affect youth interpretations of media portrayals. We therefore compare in this section three types of youth: non-users, non-recent users and recent users. Non-users were defined as people who have never used the drug that is being depicted in the media portrayal (i.e. ecstasy or cannabis). Non-recent users have previously used the depicted drug but not within the last 12 months, and recent users are people who have used the depicted drug in the last 12 months.

Ecstasy

Examining the effect of prior ecstasy use (see Table 12), participants’ drug use experience elicited notable differences in response to the ecstasy articles. That is, recent, non-recent and non-users of ecstasy responded quite differently to each other on the three outcome measures. Compared to recent and non-recent users of ecstasy, youth with no prior experience of ecstasy use were much more likely to report that the set of ecstasy articles affected their attitudes to drugs, and in particular that it increased anti-drug attitudes.

Table 12: Ecstasy articles – mean (and standard error) for risk, acceptability and future use measures by drug use history

Outcome measures by sub-group		Ecstasy crackdown	Pills spiked with killer drug	Hundreds farewell a smiling dancer	Ecstasy safe says top cop
Risk	N	5.24 (0.04)	5.93 (0.03)	6.04 (0.03)	3.99 (0.05)
	E	4.15 (0.14)	5.32 (0.13)	5.34 (0.13)	3.09 (0.12)
	R	3.95 (0.08)	4.97 (0.08)	4.77 (0.08)	2.96 (0.07)
Acceptability	N	2.54 (0.04)	2.35 (0.04)	2.37 (0.04)	3.46 (0.05)
	E	3.13 (0.12)	3.00 (0.12)	2.85 (0.11)	4.03 (0.14)
	R	3.38 (0.07)	3.12 (0.07)	3.20 (0.07)	4.49 (0.08)
Future use	N	2.89 (0.04)	2.45 (0.04)	2.41 (0.04)	3.49 (0.04)
	E	3.50 (0.09)	2.88 (0.10)	3.06 (0.10)	4.24 (0.09)
	R	3.99 (0.05)	3.63 (0.05)	3.70 (0.05)	4.46 (0.05)

N=Never used ecstasy (n=1624), E=Ever used ecstasy but not in last 12 months (n=176), R=Recently used ecstasy (i.e. in last 12 months) (n=489). Measured on a 7 point scale where 4 equals the midpoint. For risk and acceptability 1=strongly disagree and 7=strongly agree and for future use, 1=much less likely and 7=much more likely.

Conversely, recent users of ecstasy were least likely to report that the articles affected their attitudes to drugs (see Table 12) as indicated by their overall lower mean perception of risk, and higher mean perception of acceptability and likelihood of future drug use. Based on the negative portrayals, non-users were much more inclined to report reduced intention to use ($r=0.37-0.73$), compared to non-recent users ($r=0.41-0.66$) and recent users ($r=0.01-0.32$).

There were some noticeable differences in terms of how each sub-population responded to the set of ecstasy articles. For non-users, their perception of risk was most affected by the *Hundreds farewell a smiling dancer* article. In contrast, for recent users *Pills spiked with killer drug* most affected their perceptions of risk. Non-recent users of ecstasy were different again as two articles (*Hundreds farewell a smiling dancer* and *Pills spiked with killer drug*) were equally effective at increasing their perceptions of risk. This suggests that portrayals denoting the death of a user elicit different effects according to drug use history. The portrayal was persuasive for non-users and non-recent users, but less so for recent users who appeared much more affected by stories denoting new risks or warnings related to ecstasy use. From a harm reduction perspective this makes intuitive sense.

The ecstasy articles also tended to elicit different perceptions of acceptability according to prior drug history. While non-users followed the general youth population trend, whereby *Hundreds farewell a smiling dancer* and *Pills spiked with killer drug* were equally effective at reducing perceptions of risk, this was not the case for the recent and non-recent users. For recent users, *Pills spiked with killer drugs* was the most effective at reducing perceptions of acceptability. Conversely, for non-recent users, *Hundreds farewell a smiling dancer* was the most effective article.

Finally, in terms of likelihood of future illicit drug use, both non-users and recent users responded in a similar way to the overall sample, whereby *Pills spiked with killer drug* and *Hundreds farewell a smiling dancer* were the most effective portrayals at reducing reported likelihood of future use. However for non-recent users of ecstasy, *Pills spiked with killer drug* most reduced likelihood of future drug use. Hence, for this group of youth the risk warning portrayal was deemed more effective at reducing reported likelihood of future use than the death of a user or crime and arrest portrayals.

This indicates that across the ecstasy articles, the risk warning portrayal tended to be much more effective at reducing pro-drug attitudes for those who have previously used ecstasy. In contrast, for participants who have never used ecstasy, both the risk warning and the death of a user portrayal were equally persuasive at reducing pro-drug attitudes.

Cannabis

Similar to the ecstasy articles, when compared to non-users and non-recent users, recent users of cannabis were the least affected by the media portrayals on cannabis (see Table 13). Conversely, non-users were the most affected by the cannabis articles, with non-recent users being affected more than recent users but less than non-users.

Table 13: Cannabis articles – mean (and standard error) for risk, acceptability and future use measures by drug use history

Outcome measures by sub-group		Arrests at Mardi Grass	Cannabis users are prone to failure	Cannabis is worst drug for psychosis	Branson's Byron drug daze admission
Risk	N	4.93 (0.05)	5.57 (0.05)	5.77 (0.05)	3.87 (0.06)
	E	4.17 (0.11)	4.93 (0.11)	5.53 (0.10)	3.16 (0.10)
	R	3.35 (0.06)	4.04 (0.07)	4.43 (0.07)	2.66 (0.06)
Acceptability	N	2.59 (0.05)	2.35 (0.04)	2.49 (0.05)	3.52 (0.06)
	E	3.13 (0.10)	2.56 (0.09)	2.62 (0.09)	3.87 (0.11)
	R	3.69 (0.06)	3.27 (0.05)	3.31 (0.05)	4.48 (0.06)
Future use	N	2.98 (0.04)	2.54 (0.04)	2.47 (0.04)	3.43 (0.04)
	E	3.40 (0.08)	2.95 (0.09)	2.76 (0.09)	3.81 (0.08)
	R	3.99 (0.05)	3.63 (0.05)	3.70 (0.05)	4.46 (0.05)

N=Never used cannabis (n=1178), E=Ever used cannabis but not in last 12 months (n=292), R=Recently used cannabis (i.e. in last 12 months) (n=813). Measured on a 7 point scale where 4 equals the midpoint. For risk and acceptability 1=strongly disagree and 7=strongly agree and for future use, 1=much less likely and 7=much more likely.

For example, while *Arrests at Mardi Grass* increased non-users' perceptions of risk, this article had no discernable effect on non-recent users and actually reduced recent users' perceptions of risk. In terms of impacts on future use, this meant that for the negative articles, again the non-users of cannabis were much more affected ($r=0.60-0.73$) than either the non-recent users ($r=0.41-0.64$) or recent users ($r=0.21-0.32$).

In spite of different drug use histories, non-users, non-recent users and recent users all tended to see the *Cannabis is worst drug for psychosis* as the article that most affected their attitudes to drugs, and in particular that most reduced pro-drug attitudes. Interestingly this article elicited a greater than expected impact on one sub-population, namely, non-recent users. Compared to non-users, non-recent users of cannabis tended to express greater overall perceptions of risk and were much more affected (than their peers) by the mental health harm portrayal, *Cannabis is worst drug for psychosis*. The consequence was that this article elicited similar reductions in pro-drug attitudes for both non-users and non-recent users.

The above results indicate that, across both drug types (ecstasy and cannabis), drug use history mediated the interpretation of media reporting on drugs. Non-users were the most affected by the sets of media portrayals and the recent users were the least affected. There were also a number of apparent anomalies in the pattern of responding to each article, according to drug use history, which meant there were some situations where a particular portrayal affected one specific population more (or less) than expected. While, for never users of ecstasy, the portrayals of risk warning and death of a user were equally effective at reducing pro-drug attitudes, the risk warning portrayal was the one that most impacted on non-recent users and recent users. In contrast, for cannabis, the mental health harms portrayal remained the most effective for reducing pro-drug attitudes across never users, non-recent users and recent users.

Impacts by Blue Moon archetype

In the study by Blue Moon Research (Carroll, 2000), the researchers devised six different archetypal groups to categorise youth based on their attitudes to drugs, drug use and life. As previously discussed, these groups include: Considered Rejectors (who are not interested in drugs), Cocooned Rejectors (who have little exposure to drugs; would rather not use due to external pressures), Ambivalent Neutrals (who have limited interest in drugs; some use and some don't), Risk Controllers (who use drugs if/when exposed to drugs but will only use under certain circumstances), Thrill Seekers (who believe drugs are potentially fun and enjoy the buzz), and Reality Swappers (who believe that the reality they experience while on drugs is better than the 'straight' world) (see Appendix D for further details). Here we examine whether youth responses to media portrayals are affected by their attitudes to drugs, drug use, and life, as measured in terms of the Blue Moon categories.

Ecstasy

As hypothesised, division of youth by Blue Moon archetype affected the general manner in which youth responded to media portrayals (see Table 14). Of particular note, youth in the Considered Rejector group were most likely to report that the set of articles affected their attitudes to drugs.

Table 14: Ecstasy articles – mean (and standard error) for risk, acceptability and future use measures by Blue Moon category

Outcome measures by archetype		Ecstasy crackdown	Pills spiked with killer drug	Hundreds farewell a smiling dancer	Ecstasy safe says top cop
Risk	Considered Rejectors	5.61 (0.09)	6.18 (0.07)	6.30 (0.07)	4.31 (0.12)
	Cocooned Rejectors	5.29 (0.10)	5.91 (0.09)	6.05 (0.09)	4.20 (0.11)
	Ambivalent Neutrals	5.64 (0.08)	6.22 (0.07)	6.34 (0.06)	4.24 (0.10)
	Risk Controllers	5.17 (0.08)	5.76 (0.07)	6.04 (0.07)	3.91 (0.08)
	Thrill Seekers	3.89 (0.08)	5.03 (0.08)	4.81 (0.09)	2.98 (0.08)
	Reality Swappers	4.42 (0.08)	5.41 (0.07)	5.36 (0.07)	3.24 (0.07)
Acceptability	Considered Rejectors	2.12 (0.09)	1.96 (0.08)	1.98 (0.09)	3.30 (0.12)
	Cocooned Rejectors	2.33 (0.09)	2.36 (0.10)	2.32 (0.10)	3.31 (0.11)
	Ambivalent Neutrals	2.29 (0.08)	2.01 (0.08)	2.10 (0.08)	3.06 (0.10)
	Risk Controllers	2.66 (0.08)	2.53 (0.08)	2.45 (0.08)	3.44 (0.09)
	Thrill Seekers	3.38 (0.07)	3.11 (0.07)	3.17 (0.07)	4.39 (0.08)
	Reality Swappers	3.17 (0.07)	2.92 (0.07)	2.96 (0.07)	4.26 (0.08)
Future use	Considered Rejectors	2.48 (0.08)	2.17 (0.08)	2.04 (0.08)	3.09 (0.09)
	Cocooned Rejectors	2.82 (0.09)	2.48 (0.10)	2.45 (0.10)	3.40 (0.10)
	Ambivalent Neutrals	2.69 (0.08)	2.14 (0.07)	2.17 (0.08)	3.27 (0.07)
	Risk Controllers	2.89 (0.07)	2.44 (0.07)	2.37 (0.07)	3.59 (0.07)
	Thrill Seekers	3.90 (0.05)	3.49 (0.06)	3.57 (0.06)	4.35 (0.06)
	Reality Swappers	3.63 (0.05)	3.11 (0.06)	3.18 (0.06)	4.21 (0.05)

Measured on a 7 point scale where 4 equals the midpoint. For risk and acceptability 1=strongly disagree and 7=strongly agree and for future use, 1=much less likely and 7=much more likely.

Conversely the Thrill Seeker group were least likely to report the set of articles affected their attitudes to drugs (in an anti-drug manner). They were also most likely to report that the articles elicited pro-drug attitudes. Youth from the other archetypes fell in between these two extreme

groups on the three outcome measures: perceptions of risk, perceptions of acceptability and likelihood of future use. These results suggest that attitudes to life, drugs and drug use influence how youth respond to different media portrayals.

The influence of archetype was most noticeable in regards to youth reactions to *Ecstasy crackdown* and the *Ecstasy safe says top cop*. For most youth (all except the Thrill Seekers), *Ecstasy crack down* increased perceptions of risk. But, for youth categorised as Thrill Seekers, the article reduced perceptions of risk. This reinforces that the crime and arrest portrayal can elicit pro-drug attitudes in some youth populations.

More notably, the *Ecstasy safe says top cop* article increased the reported likelihood of future use amongst some groups of youth: specifically, participants in the Thrill Seeker and Reality Swapper archetypes. The elicited effect sizes were significant but small for Reality Swappers ($r=0.17$), but bordered on moderate for Thrill Seekers ($r=0.28$). This article also reduced perceptions of risk for youth from three Blue Moon archetypes: Risk Controllers, Thrill Seekers and Reality Swappers.

There were several apparent anomalies in the responses to the ecstasy articles according to archetype. First, contrary to the dominant pattern in responding, *Pills spiked with killer drug* had a greater effect on Thrill Seekers' perceptions of risk than *Hundreds farewell a smiling dancer*. That is, the risk warning portrayal increased Thrill Seekers' perceptions of risk more than any other portrayal. This is arguably in line with expectations of how this category would respond (i.e. their desire to use drugs in a safe manner). Second, in contrast to the dominant pattern in responding, where *Pills spiked with killer drug* and *Hundreds farewell a smiling dancer* elicited comparable effects on likelihood of future use, for the Considered Rejectors *Pills spiked with killer drug* was less effective at reducing the likelihood of future use. In terms of the Blue Moon categorisation this can be attributed to their relative disinterest in drugs, particularly to a harm reduction type message. For this group, the death of a user portrayal was more persuasive in terms of reaffirming their desire to not use.

Cannabis

Consistent with the above results, across all cannabis articles, youth in the Thrill Seeker archetype reported the lowest perceptions of risk, the greatest perceptions of acceptability and the greatest reported likelihood of future use compared to any other group (see Table 15).

The opposite was true for youth in the Considered Rejector group, who on average expressed the greatest perceptions of risk, the lowest perceptions of acceptability and the lowest stated likelihood of future use. Again, youth in the remaining four archetypes (the Cocooned Rejectors, Ambivalent Neutrals, Risk Controllers and Reality Swappers) fell in between these two extreme groups on the three outcome measures. Unlike the ecstasy articles, there were no apparent anomalies in the patterns of responding to the set of cannabis articles. Overall, these results suggest that regardless of which drug type is being depicted, youths' attitudes to life, drugs and drug use, influence how they respond to different media portrayals.

Table 15: Cannabis articles – mean proportion (and standard error) for risk, acceptability and future use measures by Blue Moon category

Outcome measures by archetype		Arrests at Mardi Grass	Cannabis users are prone to failure	Cannabis is worst drug for psychosis	Branson's Byron drug daze admission
Risk	Considered Rejectors	5.25 (0.10)	5.71 (0.09)	5.87 (0.09)	4.06 (0.11)
	Cocooned Rejectors	4.89 (0.11)	5.55 (0.10)	5.65 (0.10)	3.95 (0.11)
	Ambivalent Neutrals	5.00 (0.09)	5.79 (0.08)	6.06 (0.08)	3.74 (0.10)
	Risk Controllers	4.61 (0.09)	5.23 (0.08)	5.54 (0.08)	3.52 (0.09)
	Thrill Seekers	3.14 (0.08)	3.81 (0.09)	4.28 (0.09)	2.62 (0.07)
	Reality Swappers	3.68 (0.08)	4.43 (0.08)	4.86 (0.08)	2.90 (0.07)
Acceptability	Considered Rejectors	2.32 (0.09)	2.05 (0.08)	2.21 (0.10)	3.21 (0.11)
	Cocooned Rejectors	2.60 (0.10)	2.37 (0.09)	2.42 (0.10)	3.56 (0.12)
	Ambivalent Neutrals	2.47 (0.08)	2.16 (0.08)	2.32 (0.09)	3.39 (0.10)
	Risk Controllers	2.96 (0.08)	2.54 (0.08)	2.67 (0.08)	3.77 (0.09)
	Thrill Seekers	3.75 (0.07)	3.40 (0.07)	3.43 (0.07)	4.51 (0.08)
	Reality Swappers	3.52 (0.07)	3.11 (0.07)	3.18 (0.07)	4.37 (0.07)
Future use	Considered Rejectors	2.75 (0.09)	2.36 (0.09)	2.28 (0.09)	3.18 (0.09)
	Cocooned Rejectors	3.09 (0.09)	2.69 (0.10)	2.57 (0.10)	3.50 (0.09)
	Ambivalent Neutrals	2.97 (0.07)	2.42 (0.08)	2.31 (0.07)	3.46 (0.08)
	Risk Controllers	3.20 (0.07)	2.74 (0.07)	2.62 (0.07)	3.64 (0.07)
	Thrill Seekers	4.14 (0.05)	3.84 (0.06)	3.71 (0.06)	4.35 (0.05)
	Reality Swappers	3.79 (0.04)	3.45 (0.05)	3.42 (0.05)	4.18 (0.05)

Measured on a 7 point scale where 4 equals the midpoint. For risk and acceptability 1= strongly disagree and 7=strongly agree and for future use, 1=much less likely and 7=much more likely.

The pattern of responses by archetype was consistent with the characteristics described for each group by Blue Moon Research. While the results of this study support the classification of youth into these six categories (based on attitudes to drug use and life), this method of dividing participants was not as informative from a prevention or harm-reduction perspective since most groups responded comparably to the different portrayals.

Drug use history in contrast was the most useful means for identifying the relative size of effects plus which portrayals were more and less effective on youth. This suggests that drug use history is the most important characteristic, at least in terms of the factors we have examined, for determining news media effects. This offers potential benefits for devising and targeting future news media strategies and campaigns.

The survey thus demonstrated that news media can impact on youth attitudes to illicit drugs, at least in short term experimental settings. Even across the general population most effects were moderate to large. The type of portrayal influenced the direction and size of impact, with negative health and social consequence portrayals producing the biggest reduction in pro-drug attitudes. As hypothesised particular sub-populations of youth were more affected by media, particularly females ($r=0.24-0.72$), non users ($r=0.33-0.73$) and those less susceptible to drug use ($r=0.50-0.82$). In the next section we explore what guides youth interpretation of illicit drug portrayals in the news media.

FOCUS GROUP RESULTS

The focus groups were conducted with 52 youth at an inner city location of Sydney. The rationale for the focus groups was to provide detailed insight into the processes by which youth interpret news media portrayals on illicit drugs, and to identify the key characteristics that guide youth media interpretation, such as pre-existing knowledge and belief systems. Core to the focus groups was the use of three media articles that reflected a cross-section of news media reports on illicit drugs. To minimise confounders, whereby potential participants were involved in both the survey and the focus groups, different articles were utilised in each component. Unlike the survey, which presented only the first three paragraphs, we presented to participants the whole article (again with source, journalist and page number removed) in uniform font and layout.

The three articles in question were:

- *Ecstasy 'safer' than binge drinking* (ecstasy)
- *Ecstasy death a 'painful lesson'* (ecstasy)
- *Tough new laws on cannabis use* (cannabis)

The first two articles denoted different ecstasy portrayals. *Ecstasy 'safer' than binge drinking* was chosen as the most explicitly “pro” ecstasy article we could find. The article reported a claim from a drug and alcohol expert that, compared to a substantial amount of alcohol, a small quantity of ecstasy was a “lesser evil.” A counter argument was also included which outlined the potential harms from ecstasy use. The second article, *Ecstasy death a 'painful lesson,'* was typical of an individual ecstasy overdose type story and included extensive quotes from family members and friends following the funeral of a 17 year old girl. The death concerned Gemma Thoms who died after taking ecstasy tablets at a Big Day Out concert. The final story denoted a cannabis portrayal. *Tough new laws on cannabis use* represented a law enforcement/law enforcement policy commentary portrayal which outlined the introduction of new cannabis laws in Western Australia. This included bans on the sale of all smoking implements and paraphernalia and new police powers to frisk people for drugs and weapons (see Appendix C for more information on each article). Here we outline the major insights from the focus groups.

Effect of media portrayals

The focus groups reinforced, as per the survey results, that media portrayals can elicit different effects on youth. For example, the tone of discussion visibly shifted according to the different portrayals covered, with *Ecstasy death a 'painful lesson'* producing a powerful negative impact – “it’s really sad” (20 year old female) – and *Tough new laws on cannabis use* eliciting a much less discernable impact – “it doesn’t sound that tough to me” (20 year old female).

Of the three articles discussed, the *Ecstasy death a 'painful lesson'* was deemed the most effective in reducing pro-drug attitudes and in preventing future use:

“I think that would convince me not to take drugs. Just ‘cause... I feel sorry for her...I mainly feel sorry for the parents honestly, ‘cause I don’t want to see my parents, or any parents, or my friends to have to go through what they did.” (17 year old male)

“I think it’s kind of effective in terms of you don’t ever want to be that grieving person, you don’t want any of your friends to go through that. So I think it’s quite effective in deterring people.” (22 year old female)

These responses supported the findings from the survey about the persuasiveness of the death of a user portrayal, particularly when the portrayals quote family members.

While this article sent a powerful preventative message, it also appeared to send a harm reduction message to some youth. We actively discouraged discussion of individual drug use experience, yet participants invariably related the articles to their own or their peers’ experiences in order to create meaning and to accept or reject messages. In doing so it became apparent that the *Ecstasy death a ‘painful lesson’* article sent out different messages about the risks of ecstasy use *per se* versus the risks of harmful patterns of use, depending on people’s individual perceptions on drugs. As per the quotes above, some saw this as a deterrent to using ecstasy. But others who has used, or were relatively exposed to drug use, identified messages about the risks of using at events like Big Day Out, or using large quantities of ecstasy at once:

“I don’t think this makes people go ‘I’m going to die after a small amount of ecstasy,’ like, ‘ecstasy is going to kill me full stop.’ I think it goes, ‘a lot of ecstasy at once is going to kill you.’” (23 year old female)

“I think that it would affect me because it says that there are authorities at Big Day Out so I think I would learn not to take ecstasy pills at events like that.” (17 year old male)

This dual effect could help to explain why some of the articles used in the survey were more effective at eliciting reactions in both users and non-users.

Conversely, *Tough new laws on cannabis use* was deemed the least effective article – “if you look at that kind of reporting it’s completely useless” (22 year old female). For our participants the message about new laws and new police powers lacked credibility since most perceived the risk of detection to be minimal:

“They’re like ‘80 people were arrested on drugs charges’ and young people are like, ‘it’s ridiculous, I’ll take that risk (cos) there are so many people that are taking drugs’.” (22 year old female)

This indicates the presence of sophisticated assessments about the depicted risk, both in terms of the likelihood of the risk occurring, plus the perceived severity of the depicted risk, with the net result being that the crime and arrest type portrayals lacked the impact of the more atypical portrayals.

Our third article, *Ecstasy 'safer' than binge drinking*, was deemed the most likely to incite drug use. It also provided the clearest evidence of the differential effects that media reporting can have on Australian youth. Participants identified a range of messages from this one article including: that ecstasy was safe or cheap; that binge drinking was dangerous; that both ecstasy and alcohol were dangerous and should only ever be consumed in moderation; and that new laws on binge drinking were problematic. These contradictory views are exemplified by the following quotes:

“It’s like they’re trying to encourage people to take ecstasy.” (17 year old male)

“I don’t think it’s a pro-ecstasy article, it’s anti-drinking..... Cos it’s all about the cons of binge drinking... It’s pretty much being like, binge drinking ‘bad,’ ecstasy ‘hmmm’.” (23 year old female)

Some youth saw this article as irresponsible media reporting – “wow, that should of never even made it to the press” (23 year old female). But others saw this article as one of better examples of media reporting on illicit drugs since it was willing to provoke debate and to provide a more balanced perspective on the issue:

“I see it as a relatively positive thing that someone’s actually discussing this.” (24 year old female)

What *shapes* media interpretation

The focus groups identified a number of factors that shaped youth interpretation of media reports on illicit drugs:

- Pre-existing knowledge and belief systems;
- Media literacy skills;
- Media framing; and
- Frequency of the media message.

The first factor that affected youth interpretation was pre-existing knowledge and belief systems. Youth argued that someone’s attitudes to drugs are an important influence on message receptivity. For example, in regards to the *Ecstasy 'safer' than binge drinking* article it was suggested that pro-drug messages will have limited if any affect for people who are completely anti-drugs:

“I think it would put some... a few positive things in your head. But I think it depends ... on your stance on drugs.” (22 year old female)

Conversely, the *Ecstasy death a 'painful lesson'* article was argued to have a greater effect on people that exhibited anti-drug attitudes, such as the following girl – “I would read this and say ‘Nah - not taking drugs.... scary, scary’” (20 year old female). This illustrates that, as per the communication theories, pre-existing schemes effect how youth respond to media reports and whether, as these cases exemplify, the messages will be filtered in or out (Entman, 1989).

Knowledge of the drug world, whether through personal experience, peers or other means, also affected message interpretation. This led some youth to reject anti-drug messages. For example, the “preventative” message of the *Ecstasy death a ‘painful lesson’* article lacked credibility for those with greater knowledge of the drug world – “it was really sad but when you start going out and seeing things then it’s hard to take it as seriously” (24 year old female). Conversely, knowledge of the drug world lead other youth to reject pro-drug messages, such as elicited by the *Ecstasy ‘safer’ than binge drinking* article. In this case many young people noted that the article disregarded much of the broader context surrounding ecstasy use. First and foremost was the illegality of ecstasy, which was ignored in the comparison between the two substances, ecstasy and alcohol:

“I don’t know what you are supposed to take from it. OK great, so we should go out and take ecstasy... but wait, ecstasy is illegal. There’s no mention of ecstasy being illegal in there.”
(20 year old female)

Many of our participants also noted that the article made no mention of the purity of ecstasy in the Australian drug market, nor of the typical patterns of illicit drug use. They therefore argued that ecstasy is only likely to be *safer* if it is 100% pure, used in small quantities and used on its own. This hypothetical scenario, however, ignores the reality that ecstasy tablets are not pure in Australia, that most people will consume more than one pill and that most will be poly-drug consumers:

“The thing that was really weird to me was that they talk about them as if they’re separate (like some people binge drink, some people take ecstasy) and that binge drinkers should switch to ecstasy. I don’t know *anyone* that takes ecstasy who’s not drinking.”
(20 year old female)

“It’s strange that people are actually tapping into ecstasy being safer but this is only provided that it’s 100% MDMA in all the pills which are being sold... (But) you don’t even buy ecstasy anymore, I mean what I hear, it’s like you buy a pill and it’s not ecstasy.” (20 year old male)

The net result was that for most participants with prior knowledge of drugs, the article was a “media beat-up” that was not believable or convincing. It did not lead to reduced perceptions of risk associated with ecstasy or to increased likelihood of future use. This suggests that messages that do not accord with youth perceptions about illicit drugs are much less likely to have an effect.

Similarly, prior experience and knowledge influenced youth interpretation of *Ecstasy death a ‘painful lesson.’* For example, it mentioned that Gemma Thoms died after consuming three ecstasy pills. As the following interchange demonstrates, details about the quantity consumed had differential impacts on youth, based on prior illicit drug exposure:

Female 1: Um... I’ve never seen ecstasy tablets. How many is three? Is that a lot? A little?

Female 2: For a 17 year old that’s insane.

Female 3: At once that is a lot.

Female 1: Like I don’t know what the average dose would be. And if you’ve got no frame of reference then that doesn’t particularly sound like a lot.

The differential interpretations reflect the different schemas or frames of reference that youth had. It moreover meant some youth with greater knowledge about drugs actively rejected the message:

“I don’t want to be disrespectful to the girl that died but the article kind of just loses all its purpose and credibility just because it was kind of idiotic to take (three pills).”
(24 year old female)

As per above other youth discerned and accepted a harm reduction type message about the need to avoid consuming large quantities of pills or avoid taking pills at events such as the Big Day Out.

The second factor affecting media interpretation was the extent to which youth were media savvy. The focus groups indicated that most youth were able to interpret media messages. Most were aware that media reporting on illicit drugs is not the “truth.” In particular, youth recognised that media reporting on illicit drugs tends to oversimplify issues and that topics are filtered in (e.g. young person dying from drugs) or out (e.g. wealthy and/or successful people who habitually use drugs). They also recognised that journalists play an active role in constructing how illicit drugs are reported:

“With celebrities, the way it’s reported it’s not as negative as it is for kids doing drugs... If George Michael is caught in his car with cocaine it’s just news.” (20 year old female)

Participants were particularly aware of what they saw as implicit and explicit agendas behind the construction of media portrayals on drugs. This was argued to reinforce the link between drug use and negative consequences, with one participant going so far as to say that the media “emotionally blackmails” (24 year old male) media consumers:

“There is no such thing as healthy drug use, that’s what they’re trying to portray. It’s like one thing leads on to another.” (17 year old female)

“It’s sort of like, instead of reporting news, they’re trying to tell you not to have drugs.”
(19 year old male)

Accordingly, the ability to discern and process messages was deemed critical for young people’s ability to respond to media reporting on illicit drugs. Media literacy helped them to recognise and filter the explicit or implicit message.

Our participants were also aware that young Australians vary in the extent to which they can discern or filter messages. In our focus groups we deliberately separated 16-17 year olds from 18-24 year olds. It was interesting to note that the 16-17 year olds perceived themselves as different to the 18-24 year olds in terms of their reactions to illicit drug reporting. The older age group, the 18-24 year olds, similarly saw 16-17 year olds, especially school aged youth, as different. In particular, the older age group deemed 16-17 year olds as more prone to media influence:

“If I was 16 and read that I would say, ‘I would not take ecstasy,’ but like, when you’re older, it’s different.” (24 year old female)

“Maybe it’s just our age and our education level but we need something more definitive like research or something in the article before it would change anything that I thought about drugs. But... younger people would probably... they’d just see the headlines and so that’s that.” (21 year old female)

However, it became clear that the ability to discern and reject messages was not so much age as a reflection of their level of drug awareness and media literacy skills. We found that some 16-17 year olds were *much* less likely to take articles at face value than their older peers. For example, one 16 year old who admitted he was more gullible, was able to discern and reject the message about ecstasy being “safe”:

“Especially young people... I don’t know so much for older people, but I know that for gullible people like me, I’m easily convinced. And like I can say (with) this article... reading the first couple of lines convinced me ‘cause it used the word ‘research’... If you know that research is involved then it’s the truth... I was convinced...but not anymore.” (17 year old male)

Another participant noted how their schemas changed as they became more aware about illicit drug issues and built new frames of reference:

“I must say when I was younger, I found those emotive stories, like particularly that one about Anna Wood, really affected my views and the way that that was portrayed in the media totally shaped the way that I saw drugs, whereas like as an older person, I guess I have a bit more of an understanding.” (22 year old female)

Given the power of media literacy it is perhaps not surprising that the third factor that affected media interpretation was the media framing itself, with youth readily able to distinguish writing style and tone, and make judgements about the accuracy of quotes or examples used:

“The reporting is fine, the quote’s just... What the guy’s saying is just crazy.” (18 year old male)

“I can kind of understand, they just put it the wrong way.” (16 year old female)

Our participants noted multiple factors relating to the article construction and framing that affected their interpretation of the article. For example, the pro-drug message was deemed to be increased in *Ecstasy ‘safer’ than binge drinking* because of the article construction: the ordering of arguments (putting pro before anti); the prominent and somewhat misleading heading – “It should be more like ‘Ecstasy could be safer than binge drinking’ rather than ‘Ecstasy ‘safer’ than binge drinking’,” (24 year old male); and use of an expert from a drug and alcohol centre. Yet for other participants, the pro-drug message was nullified by three factors. The first factor was the inclusion of both pro and anti-drug arguments within the one article:

“By the end of the article, although there is like the one thing at the beginning, there’s so many other opinions, which I think is great, ‘cause usually it’s just one... that I just don’t think that many people would take it very seriously. If you just read the first half then sure you’d be like ‘yeah it’s fine’ but by the second half you’re like wow, there’s so much more to it than just that one opinion.” (22 year old female)

The “pro-drug” message was also nullified, at least by those who had more experience of drug issues, because of its lack of credibility and the failure to include a broader array of experts. The *Ecstasy ‘safer’ than binge drinking* article cited two academics, who were argued to be less credible given that the topic concerned a health issue, namely, the harms of ecstasy. The lack of inclusion of a drug and alcohol worker or treatment professional was seen to reduce the overall credibility of the article:

“I really wish a health professional, I mean someone with a medical as opposed to a research degree, had looked over this.” (20 year old female)

“As they’re making health claims they should talk to medical professionals... ‘cause it seems like they’re making academic claims (and) they’re not backing it up or getting someone who’s in that field to have a proper say.” (19 year old male)

As per media communication theories, this illustrates the multiple stages of information processing that can affect whether reports on drug issues will firstly be deemed salient, secondly be processed, thirdly be accepted or rejected, and finally, influence their attitudes or behaviours. It was apparent that youth responded to and were affected by many aspects of framing that were identified in the media analysis section, including: the extent to which articles were seen as balanced (and presenting one or multiple views), the types of sources cited, the examples provided, and the overall tone or moral evaluation of the article. We elaborate on the latter three aspects below.

The sources cited in the three articles received considerable attention by our participants, and affected their decisions about the overall article credibility. Our participants made active judgements about the expertise of each source, that is, their ability to comment in a qualified and unbiased manner on the issue at hand. They also judged the extent to which an article relied on one source or canvassed multiple viewpoints. The source based judgements were particularly illustrated by reactions to the *Ecstasy ‘safer’ than binge drinking* article but also to the *Tough new laws on cannabis use* article. For the latter article, the reliance on quotes from the Western Australian premier (about cannabis harm and potency) were seen as problematic, since he too lacked the credibility of a health professional and was deemed the most biased source available.

The use of examples similarly affected youth interpretations. While good use of them was considered to aid an article’s credibility, poor use or misuse had the opposite effect. In particular, old examples, such as the ecstasy death of Anna Wood in 1995, were scoffed at:

“If that’s the most recent example they can quote, then why on earth are they journalists?” (20 year old female)

More damaging were examples that were seen as untruthful. In this regard the *Tough new laws on cannabis use* article received particular notoriety. The article noted a number of reasons for the legislative change including increased potency and psychiatric hospital admissions. Yet the examples utilised (and sourced from the WA Premier himself) received condemnation for reference to “lethal” cannabis and “almost 80% of admissions to psychiatric hospitals” being “somehow *drug-related*” (as opposed to “cannabis related”):

“(Cannabis) doesn’t kill people. It’s not lethal so that’s a straight out lie.” (23 year old male)

“I think it’s worded really, really dodgily- ‘are somehow drug related,’ it doesn’t convince me. It just amazed me... are we talking illegal drugs or like, yeah what drugs are we talking about?” (22 year old female)

The net result was that by overinflating the risks associated with cannabis use the overall article was discredited. This led to the rejection of some of the preventative health messages about cannabis:

“It just sends mixed messages because it’s not convincing that any of their evidence says that it’s bad... It’s just convincing that they want to be like a big brother.” (22 year old female)

Interestingly, the rejection occurred in spite of the fact, that the tone of *Tough new laws on cannabis use* was deemed the most balanced of the three articles presented.

The tone of the articles was also important. Participants referred to the style of writing, most aptly contrasted as being emotive television soap or “Home and Away” style (19 year old male) versus a more neutral “SBS World News or ABC” style (20 year old male). Yet judgments on the style of writing were also intermeshed with the extent to which the article denoted a specific moral evaluation about illicit drugs. For example, participants identified the existence of “drugs are bad” versus “drugs are good” messages being conveyed by journalists. For some participants, the more emotive and directed articles such as *Ecstasy death a ‘painful lesson’* were more compelling – “this would get to me much more than a bunch of statistical information” (22 year old female) – whereas for others this was much more likely to be rejected. The article that received the greatest praise was described as adopting the neutral “SBS World News or ABC” approach:

“The way it’s written isn’t like too bad... I mean it’s not really sensationalised. It’s just facts you know.” (22 year old male)

“This one’s the most informative and objective. Like it doesn’t seem like it has an agenda, it’s kind of just telling you what the laws are going to be and what they’re thinking of doing... It lets you formulate your own opinion on it.” (20 year old female)

Articles that were more objective and lacking moralistic messages about drugs, which can be likened to the more neutral articles in the media analysis sample, often had more direct influence on youth:

“This one is affecting me the most because it’s actually written well.” (20 year old male)

“I kind of think that this is a better article ’cause we’ve all seen like the campaigns and the exaggerated stories... We already know bad things can happen. This is just telling us what our consequences will be (and) I think that’s a better approach than saying ‘don’t do it’... Yeah, I think it’s a better approach to teenagers.” (17 year old female)

This suggests that the tone is particularly important for youth, at least in increasing the chance that reports on drugs move through the initial information processing stages.

While we did not provide details of the source or journalist of the articles, some youth actively sought this information. The absence of such information in our focus group articles challenged some people’s ability to discern the believability of the articles or article message, as shown by the following interchange between a 20 year old male participant and one of the researchers:

Participant: Do you know where this one was taken from?

Researcher: We do but we’re not going to tell you, because it might...

Participant: It might bias. That’s a good point because I’m very like...

This difference in youth interpretation reflects what Chaiken (1980) outlined as different cognitive preferences of recipients for either “systematic” – message based assessments – versus “heuristic” – source based assessments. The participants also suggest that the two may not be oppositional but rather they may occur simultaneously for some young people. We could not on the basis of the focus groups determine which factors were most important, but the differential interpretations reinforce that framing can increase or decrease the likelihood that particular messages will be attended to and/or impact on youth attitudes.

The final factor identified as affecting youth interpretations was the extent to which media portrayals were common or atypical. This refers not only to the overall frequency of the message in the news media but also the frames used to construct messages. For example, the gendered depictions of overdose victims were noted: “I don’t remember ever reading a story about a boy overdosing on ecstasy; it’s always a girl...” (20 year old female). One consequence was that more atypical portrayals such as the *Ecstasy ‘safer’ than binge drinking* article, might be rare (as the coding sample showed), but these were more likely to be recalled:

“I’m not sure that it’d make me take drugs in a heartbeat but it would definitely stick in my mind (more) than the negative media.” (22 year old female)

For many different reasons the more frequent messages were less likely to stick. As per the quote below some youth felt these messages were boring or not relevant to young people. The presence of pre-existing schemas thus can guide willingness to engage with an article and/or accept the message. This suggests that another reason the law enforcement type portrayals, such as the articles *Tough new laws on cannabis use* or *Ecstasy crackdown* (shown in the survey component), are less effective is because of their commonality.

“Another drug bust... oh who cares, it just happens so often.” (17 year old male)

To conclude, our focus groups confirmed that the media can and does impact on youth attitudes to illicit drugs. As per the information processing theories, media interpretation and influence will be affected by a number of different factors. Of the four we identified, the first set of factors reflect *individual* characteristics including pre-existing knowledge about the drug world, belief systems about drugs, and media literacy skills.

This means that some youth will be more likely to attend to and accept a message, that as summed up below, “hits them”:

“I think like that it does depend on the person and like, we have some people saying that they read some of it and it just didn’t hit them. But the second (article) and the first (article) as well... they had my attention.” (17 year old male)

Equally important, it is the media framing and frequency of particular messages that affects information processing. In this regard, as summed up by one participant, there is a general perception that media are doing something right, but that they are often not sending the “right” message about illicit drugs:

“The one thing that I could say in favour of them is, they are universally pretty negative. It’s not like they come out and say drugs are good. And from the perspective of someone who certainly thinks drugs are bad, that’s good ‘cause they are promoting something of the right message. But as we said, it’s not really the right ‘right’ message... but it could be worse.” (20 year old female)

DISCUSSION

This study sought to provide insights into the nature of news media reporting of illicit drugs and its effect on youth attitudes to drugs. It sought to identify the dominant media portrayals used in Australian print media; identify trends over time; and explore the impacts of different media portrayals on youth perceptions of risk, acceptability and likelihood of future drug use.

Australian newspapers: How often do they report on illicit drugs?

We have demonstrated that even from a sample of one national newspaper, seven major metropolitan daily and weekend newspapers, and three regional/local newspapers, there was an average of 7,072 news media articles denoting illicit drugs published every year. This amounts to an average of 589 articles per month, 136 articles per week or 19 articles per day.

When compared to estimates of the coverage of smoking in Australia, with 1,881 smoking articles found in 1997 from 16 major newspapers (Tan & Boulter, 2000) and 1,188 smoking articles found in 2001 from 12 major newspapers (Durrant, et al., 2003), illicit drug news coverage appears to far exceed news coverage on smoking. This is in spite of population statistics showing that compared to those who have ever used an illicit drug (38.1%), a greater proportion of Australians aged 14 and over have ever smoked tobacco (44.6%) (Australian Institute of Health and Welfare, 2008a).

Using the Australian Press Council's "State of the News Print Media for 2005" it is also possible to compare estimates of coverage of illicit drugs versus other topics in Australian print media. From a random 28 day sample (i.e. roughly a one month period) from 14 major Australian newspapers, 552 articles depicted politics, 449 depicted entertainment and lifestyle issues, 359 depicted crime, 142 depicted sport and 91 depicted health issues (Van Heekeren & Simpson, 2006). The average number of articles that reported on illicit drugs every month in Australia thus exceeds any one particular topic identified in the Australian Press Council content analysis.

This provides clear evidence that illicit drugs are very pervasive in Australian print news media.

Trends in *patterns* of media reporting

This study identified that the amount of articles published about illicit drug issues will shift from year to year in Australia. The annual number of articles as noted above is high, but will fluctuate depending on the agenda. For example, there was a substantial spike in 2005 with 9,273 articles from our sample alone. Given that the media has limited space to devote to any one issue, this arguably reflects a privileging of a drug focused agenda over other public issues.

Shifts in how illicit drugs were *framed* by the media were also identified. There were two spikes in coverage of illicit drug issues at two points in time, 2005 and 2007. It is important to note that the reason for spikes in coverage was not always immediately apparent, but the first was clearly linked to a series of criminal justice events (i.e. international trafficking cases) and the second appeared more connected with ongoing domestic responses to the amphetamines problem. This provides support for the notion that the *pattern* of media coverage on drugs reflects the agenda of the day. The

dominant frames at these two points in time were quite different: 2005 was characterised by a very narrow framing where more than 70% of articles denoted legal problems as the likely consequence of illicit drugs/use. In contrast, 2007 was characterised by much broader framing, with more than 50% of depicted consequences being non-legal consequences. The extent to which the different frames reflected the issues at hand remains unclear. Yet this does emphasise that, as the media communication theories suggest, agenda setting and framing do not necessarily go hand in hand, and different drug issues may be framed in different ways.

The most significant trend in print media reporting in Australia over the period 2003-2008 appears to have been in relation to the denoted consequences of illicit drug use, specifically the extent to which non-legal consequences of drugs were being discussed. Between 2003 and 2005 there was a shift away from reporting drugs as leading to health problems or as a cost to society. Then from 2005 to 2007 there was another shift towards reporting drugs as a health or social problem. This trend reversed somewhat in 2008. The causes of these shifts are unknown, for example the extent to which they are driven by advocacy and publicity efforts, but from the perspective of fostering more informed debate and knowledge, any broadening of the frames within which illicit drug issues are constructed would appear beneficial.

Overall our analysis of trends from 2003-2008 by drug, topic, moral evaluation and consequence demonstrated that, while there will be some shifts over time with changing events, the dominant portrayals used by media remain relatively constant.

A criminal justice issue: The consequences of framing

As predicted by the theories on framing, the *way* illicit drug issues are reported in Australia is far from random. Instead, Australian newspaper coverage on illicit drugs is dominated by very particular frames of reference. In almost 70% of cases illicit drugs were deemed newsworthy because of an illicit drug bust, an arrest or criminal court case against a drug user, trafficker or manufacturer, or drug-related crime, with the implied consequence that drug use will lead to legal problems. This demonstrates illicit drugs are portrayed predominantly as a criminal justice or law enforcement issue.

Contrary to expectation, positive moral evaluations about illicit drugs were very rare. This means that the media, by and large, is not sending out positive messages about drugs. Across six years of analysis we were able to find only 39 articles where a “good” message was being sent about drugs, that is, 1.9% of the sample and over half of which were connected with cannabis. Contrary to the stereotypical view of media reporting in the alcohol and other drug sector as being sensational and unbalanced (Blood & McCallum, 2005), we found limited evidence of sensationalism. Drug issues that were shaped as ‘crises’ were very rare events. Moreover, we found the predominance of neutral frames of reference. There was clear evidence of subtle messages being sent about drugs. For example, moral evaluations about drugs were much less likely to be neutral than the overall tone of the articles in the sample (55.2% versus 83.5% of articles). This indicates journalists are more inclined to offer an explicit evaluation about drugs, where they may not in the overall manner of

their reporting on a story. But by and large the media do not appear to be sensationalising or fuelling panics about illicit drugs.

The reason for the apparent anomaly in terms of media coverage and how the alcohol and other drug (AOD) field views illicit drugs coverage can be explained by reference to two factors: our methodology; and the resonance of the atypical news media portrayals. First, our adopted method of media analysis explicitly included everyday news reporting on routine court cases and police activity. An article was included in the sample if it simply mentioned one of five drug types (cannabis, cocaine, ecstasy, amphetamines or heroin). In doing so, we cast a wide net of inclusion to capture a general, representative sample of illicit drugs in the Australian print media that included dominant and atypical portrayals. By contrast, most of the previous research has focused on particular events or crises such as the community concern over heroin overdoses in the late 1990s (Elliott & Chapman, 2000; Lawrence, et al., 2000; Watts, 2003) or the nexus between drugs and crime (Teece & Makkai, 2000). The ANCD study admits it did not use a systematic media analysis, instead relying on analysis of “prominent news stories” (Blood & McCallum, 2005, p. 14).

Second, while the vast number of articles that appear in news media every day will be the stereotypical portrayal of an individual getting arrested and charged, these perhaps are not the articles that come to mind when we think about media reporting on illicit drugs. As noted with the focus groups, the atypical portrayals are much more likely to be attended to and to “stick” in one’s mind. This is not to say that drugs are never framed as crises. At particular points in time we found a greater proportion of articles framed issues as crises, such as during 2007 with discussions surrounding amphetamines. We contend that the AOD field is more likely to remember these more *atypical* circumstances in connection with media coverage of illicit drugs.

News media coverage of illicit drugs is clearly not in line with Australian patterns of illicit drug use. According to the 2007 NDSHS, 33.5% of the Australian population reported ever having used cannabis, while only 2.0% of the population reported lifetime use of heroin (Australian Institute of Health and Welfare, 2008a). Yet over the period from 2003-2008 heroin was *more* likely to receive coverage in Australian newspapers than cannabis, amounting to 27.0% and 24.5% of our sample respectively. Conversely, ecstasy which was the second highest substance reported to have been used by the Australian population (amounting to 8.9% of the population in 2007) (Australian Institute of Health and Welfare, 2008a), was the drug that received the *least* amount of media coverage (only 4.9% of our sample).

The framing of media reporting on illicit drug issues has broad consequences for how society is likely to perceive illicit drugs and illicit drug issues. For example, while Australia’s National Drug Strategy (Ministerial Council on Drug Strategy, 2004) emphasises the need for multi-faceted responses to drugs, the dominant frame sends the message that illicit drugs are first and foremost a criminal matter and that the optimum response is through the provision of criminal justice intervention. Such a message is particularly emphasised in relation to heroin which is the dominant

drug depicted in mainstream news media. In this way media coverage shapes opportunities for debate and for input about particular issues.

Perhaps unsurprisingly given the dominance of the criminal justice topic, law enforcement voices amounted to 47.4% of all cited sources. This provides clear evidence of the marginalisation of other types of sources and reinforces what Beckett (1994, p. 429) has argued, namely that the inequality in media reporting is “exacerbated by the reliance of the media on ‘institutional’ sources” and by the privileging of these sources in terms of “access to the media,” to the exclusion of alternate sources.

One consequence is that across the period from 2003-2008, health or social matters and policy commentary were marginalised in Australian newspaper coverage. This we suspect is unlikely to have changed in 2009 or 2010. Critically for the current study we have also demonstrated that the messages shown to be most *effective* and *persuasive* for Australian youth received minimal coverage. To reiterate, only 4.8% of articles had a topic that depicted harms and only 4.9% of the sources cited were health workers. More broadly, only 24.3% of articles raised some notion of possible health or social consequences arising from illicit drug use. This study provides clear evidence of the power of framing in terms of how an issue, in this case illicit drugs, is portrayed: who gets to speak, what messages are denoted and, equally, what messages are excluded. This is not to imply that it is impossible to include alternate perspectives. The discrepancy, for example, between 4.8% of topics that denoted “harms” versus 24.3% that denoted health or social consequences clearly illustrates that alternate messages/arguments can be raised within a drug article. However the imbalance in the current spread of Australian drug media reporting frames stifles much of the opportunity for alternate debate or messages to be put forward.

We suggest that it is *unlikely* that other forms of news media, such as radio and online news, present vastly different media portrayals on illicit drugs. The basis for this assertion is in part because newspapers are seen as a litmus test or indicator for other forms of news media (Wakefield, et al., 2003). Another reason is that this media analysis, which is by many counts the biggest known conducted on illicit drugs, has indicated that the dominant media portrayal on illicit drugs is incredibly strong. That is, the dominant portrayal crosses *all* publications (broadsheet and tabloid) and all drug types (cannabis, heroin, amphetamines, cocaine and ecstasy), and holds true regardless of whether issues are front or inside page stories. It has also stayed relatively constant across six years. This constancy is quite astounding in light of all the factors that are known to shape and affect media production.

Can media impact upon youth attitudes toward illicit drugs?

We have now provided the first evidence that news framing of illicit drugs can produce different effects, at least in simulated settings, on youth attitudes to drug use. This effect holds true whether attitudes are assessed in terms of perceptions of risk, perceptions of acceptability or stated intentions to use illicit drugs, and whether the drug under examination is cannabis or ecstasy. The effect also holds across a broad spectrum of Australian youth. This leads us to conclude, albeit with some

caution on the need for replication, that the types of news media framing can in fact impact on youth attitudes towards illicit drug use.

The nature of the observed effect is particularly important, as the Australian news media guidelines on illicit drugs reporting were established due to concern that news media may incite illicit drug use. The current research reinforces what has been found in previous studies, that positive news media portrayals do appear capable of inciting pro-drug attitudes (Lancaster, 2004; Stryker, 2003; Thompson, 2005). The potential for inciting use is therefore a real concern.

But more than this, we have demonstrated that the nature of drug-news media effects is very complex. Multiple framing elements play a critical role in the nature of news media effects: including the indicated consequences, the moral evaluation and the sources cited. Youth receptivity to messages moreover was affected by individual mediating factors, including their sex, drug use history, attitudes towards drugs and life and media literacy skills. In this way we have demonstrated that media production and media effects are integrally linked.

Contrary to our hypothesis that news media would only impact on subsets of youth, our results suggest that news media had a general influence on youth as a whole. That said, it had a greater impact on subsets of youth. For example, media portrayals *per se* were more likely to impact on females, people who have never used illicit drugs and people who appeared less interested in illicit drugs and drug issues. This indicates that news media portrayals are more likely to resonate with youth who have pre-existing anti-drug attitudes. This may reflect the relative absence of pro-drug frames in news media.

Mechanisms of influence

We have demonstrated that messages differ in terms of their potential for impacts on perceptions of risk, acceptability and likelihood of future use, and how this plays out across the populations of youth. Given the nature of this study we cannot say with certainty what youth were specifically responding to or influenced by in our chosen set of articles. We know that frames are constructed from many different elements and any one of these elements may have a greater or lesser effect. That said, we observed very similar findings for the common ecstasy and cannabis portrayals. Furthermore, young people in the focus groups were able to identify and respond to dominant portrayals – to identify portrayed consequences and messages about the likely effects of drug use. This gives considerable confidence that the specific type of media portrayal was a key factor that affected how youth interpreted and responded to the article.

Our findings emphasised that relative to the dominant law enforcement portrayals, atypical portrayals were more influential. Portrayals denoting endorsement of low risk/acceptability of drug use increased pro-drug attitudes. Health, social and risk warning type portrayals had the converse effect. This suggests that the frame, particularly of denoted consequence and moral evaluation elements, is of particular relevance for how young people respond to media on illicit drug issues.

We also identified other mediators of the effect, including pre-existing knowledge and beliefs about illicit drugs and media literacy. The focus groups for example indicated that young people have considerable media literacy skills. The factor of interest is their ability to actively participate in the filtering and processing of media messages. This skill may help some youth to better discern and reject explicit or implicit pro-drug messages that at times appear in mainstream media. Pre-existing knowledge similarly helped some youth to discount explicit or implicit pro-drug messages due to the lack of credence with their knowledge about illicit drugs.

Media literacy and pre-existing knowledge and beliefs can also make some young people more likely to accept anti-drug or neutral messages. This is particularly the case if the message is seen as more believable, compelling or fitting with existing knowledge or beliefs. We identified that believability of messages was often fostered through the use of evidence and credible sources: that is, an expert who can speak on the topic/issue at hand (e.g. a health professional for health issues).

How big is the impact of the media now?

Our study illustrated that media portrayals on illicit drugs appear to elicit a small to large effect on the likelihood that 16-24 year olds will engage in future drug use ($r=0.14-0.66$). The effect is greater amongst particular subsets of youth, with media eliciting moderate to large effects for females ($r=0.24-0.72$), large effects for those who have never used drugs ($r=0.33-0.73$) and very large effects for those who are less susceptible to drugs based on the Blue Moon categories ($r=0.50-0.82$). These effect sizes are greater than those normally found in studies of media violence. The meta-analysis by Anderson et al. (2003) found media violence, whether presented in television and films, video games or music, produced a small to medium increase in aggressive behaviour ($r=0.17-0.23$).

The effect sizes generated from this study were substantial, with strong effects from most media portrayals of illicit drugs, regardless of whether the drug in question was ecstasy or cannabis. Given that large effect sizes tend to denote large societal benefits, it could be assumed that mainstream news media is currently playing a critical role in reducing pro-drug attitudes and reducing illicit drug use. Caution is needed in making such a judgment.

We know that Australian youth have considerable contact with news media, with for example 66.4-86.5% of our sample having at least weekly contact with newspapers, television, radio or online news. But the likely effect of mainstream news media reporting on illicit drug use attitudes and behaviours is likely *at present* to be small. This is because the law enforcement portrayal, which was by far the dominant portrayal in Australian print news media (and arguably in news media more generally), elicited only small to moderate effect sizes.

Policy implications

This study illustrates that mainstream news media plays a potentially powerful role both in terms of the types and frequency of drugs portrayals that it produces. Furthermore this study has identified a clear role for mainstream news media in the current and future prevention of illicit drug use. We

believe this to be a role that many, including the alcohol and other drug sector, have currently overlooked, seeing the media as an irritant rather than an ally.

The overwhelming benefit of using news coverage of illicit drug issues as a strategy for prevention and even for harm reduction is that it is continuous and cheap. When compared to the \$17.9 million devoted to the recent National Drugs Campaign advertising strategies (Department of Health and Ageing, 2010) mainstream news media is potentially more cost-effective and far reaching. Indeed, it is on this basis that Durrant et al. (2003) argue that, in relation to smoking, media advocacy may be more powerful than social marketing campaigns.

Our study suggests that there is considerable opportunity to expand the potential preventative benefits of mainstream news media. Compared to the crime and arrest portrayals, health and social harm media portrayals, such as cannabis psychosis or risk warnings associated with drugs, produced more of a deterrent effect on youth attitudes. If the *nature* of mainstream media reporting on illicit drugs in Australia were to shift, in favour of a more equal spread of reporting about law enforcement, health and social issues, this may well increase the potential deterrent or preventative effects on youth, at least in the short term. Given that harms constitute such a small proportion of coverage (4.8% in the print sample), then even a small increase in coverage denoting harms could enhance efforts under the National Drug Strategy (Ministerial Council on Drug Strategy, 2004) to prevent illicit drug use and related harms.

The proviso to such a claim is that this was a simulated experiment and as such we could not verify the ecological validity of the results or test for any long term impacts on youth attitudes to drugs. The key question is whether it is possible to modify the nature of Australian news media production and more specifically, the nature of drug reporting. The answer to the question we believe is yes, although success is likely to depend on how this is facilitated.

We do not see targeting media itself – through more proscriptive media guidelines – as the best approach to improving the use of mainstream media. Media guidelines are not well supported or used by editors and journalists (Blood & McCallum, 2005). We also know that newspaper reporting on the whole is not providing pro-drug messages. The main message that is deleterious concerns elite drug use, but “banning” these portrayals is not a realistic solution given the plethora of other entertainment media. Opportunities for increasing effectiveness rely more on other avenues, specifically by way of targeted dissemination.

One cause of the disproportionate media coverage relating to criminal justice issues reflects, we believe, differential media liaison resourcing by affected parties with Australian drug media production. As shown in the literature review, with the changing nature of media production, journalists are turning more and more towards use of media releases. Indeed Lewis et al. (2008) found one in five articles were wholly or mainly lifted from media releases. This is not necessarily problematic. For better resourced agencies, this can be beneficial in increasing media engagement.

MEDIA REPORTING ON ILLICIT DRUGS IN AUSTRALIA

There is considerable evidence to suggest that the disproportionate focus on law enforcement topics in our newspaper sample reflects in part the much higher engagement of Australian law enforcement sectors with news media outlets. Each of the 10 police forces that operate in Australia have dedicated media liaison teams to handle enquiries, coordinate media conferences and issue press releases. Media organisations can now subscribe to receive daily media releases from NSW Police via email (NSW Police, 2010) and in Victoria they can even log on to a purposely designed website that includes added interviews for media personnel (Victoria Police, 2010). This ensures that police agencies provide a large and easily accessible output of material on crime in general. Illicit drugs is clearly one such crime.

The volume of media releases is indicated by a random sample taken from one Australian police agency. Over a one month period from 12 May-11 June 2010, 24 media releases were issued by NSW Police in relation to illicit drugs (NSW Police, 2010). This was only 5% of their monthly media releases (439), but in the scheme of media reporting on illicit drugs in Australia (589 articles per month from only 11 newspapers) this is a very large number (i.e. reflects 4% of the identified amount of media produced on illicit drugs in any one month). We do not know to what extent these are being reproduced, but it is clear that the large output makes it very easy for media outlets to run these types of stories.

There is a huge potential to increase output of media releases by other agencies throughout Australia denoting health, social and risk warning type portrayals. This includes drug and alcohol research centres, treatment centres as well as government departments themselves. Chapman and Dominello (2001) found this to be an attainable strategy in regards to news media on tobacco issues. In their five week pilot using unpaid mass media releases they managed to generate an additional 58 newspaper articles, which amounted to 20.5% of all coverage on tobacco control during the period of study. This suggests that increased coverage of health issues relating to illicit drugs should also be possible.

It is evident that fostering media awareness skills in youth helps their ability to critically interpret media messages about illicit drugs. There are also specific strategies that could be implemented to improve media reporting on illicit drug issues.

Recommendations

To government

1. Supplement all social marketing campaigns about illicit drugs with news and editorial coverage. A key advantage of media advocacy as a strategy for prevention is that news coverage of illicit drug issues is continuous and cheap, thereby increasing public exposure throughout the year. Advertising in conjunction with publicity therefore provides more coverage and greater impact within budget constraints.
2. Increase funding for media liaison activities by drug and alcohol research centres and non-government organisations, such as the Australian National Council on Drugs. Media liaison personnel are often under-resourced. For example the National Drug and Alcohol Research Centre (2009) currently has less than one full-time funded media liaison person responsible for managing solicited media enquiries, which limits the capacity for proactive dissemination of results from multiple projects.
3. Supplement the teaching of media literacy skills in Australian primary and secondary school curricula through the provision of drug and alcohol specific media literacy units. As was cited earlier, this has been implemented with apparent success in some parts of the United States in regards to smoking (Bergsma, 2002).
4. Allocate funds as an integral part of all drug and alcohol research projects to enable the active dissemination of results to Australian media. Particular emphasis should be placed on funding the provision of news releases about harms associated with illicit drug use. This will capitalise on new research and ensure media opportunities are not waylaid due to budgetary constraints.
5. Provide media with an easy to use online source of information about major illicit drug issues – including definitions, research findings, key statistics and trends, information on risks and harms associated with common problems such as psychosis and overdose, as well as contacts for further information and expert comment. This should be in plain language, be separate from government and be updated regularly. It could be accessible to the general public, or restricted to media only as is the case with police media liaison websites.
6. Produce media guidelines and provide media training for all relevant government agencies involved in drug and alcohol issues. This should cover strategies for building relationships and working more collaboratively with the media.
7. Encourage where possible the use of cross-governmental public relations strategies on illicit drugs. As this research has demonstrated, media portrayals that include multiple sources and points of view are more likely to be deemed credible. This has merit for both prevention and harm reduction strategies.

To researchers/research agencies

1. Build a culture of media engagement. Provide support for and actively promote media engagement as a core strategy. Provide training for *all* alcohol and other drug researchers in how to engage with the media, especially how to respond to sensitive questions from the

media. Core skills include learning how to speak to the media confidently, taking advantage of media opportunities and building good relationships with the media.

2. Increase the potential relevance of media releases denoting drugs research. Core strategies include using inter-sectoral media strategies to incorporate for example police or youth comment. This is critical since our research demonstrated that academic sources alone are far less persuasive. Provide specific details (such as project title and chief investigators) and online links to all research findings and thereby allow the general public to make more informed decisions about research credibility. Where appropriate direct the public to quality AOD information sources and services, by including links to sites, such as the Australian Drug Foundation's youth site "Somazone" or the Drug Information Clearinghouse.
3. Make drug experts available to regularly address and educate media students about drug issues and cooperate with the tertiary education sector to include drug and alcohol training modules in media communication and journalism courses.

To media outlets

1. Include online links or references to drug information and counselling support lines e.g. Australian Drug Foundation or Lifeline, for all stories denoting health and social harms from illicit drugs. Referral information is particularly important for overdose and mental health harm portrayals.
2. Offer expert media briefings to help improve journalists' understanding of illicit drug issues. Provide journalists with a list of contacts or a liaison service to enable journalists to obtain expert comment at short notice on illicit drug issues.
3. Provide online links for all cited drug statistics, research and reports. This will enhance the usability and credibility of any published media stories on illicit drugs.

Future research

Further research is required to address some of the limitations of this study, to measure impacts in real world settings and the effects of other forms of media. Key to this is the need for cross-sectional and longitudinal studies of the effects of drug media coverage, as has been done in the smoking arena (see for example Wakefield, et al., 2003). Our contention that the observed effects are likely to be similar in other news media also needs to be tested.

There is a need for further experimental studies to unpack the nature of health, social and criminal justice portrayals and to determine the elements that are most and least effective in positively or negatively influencing youth attitudes. We see a huge opportunity to explore the extent to which manipulation of particular portrayals affect youth attitudes. For example, to what extent different types of health or criminal justice portrayals on illicit drugs increase overall perceptions of risk associated with cannabis use. We moreover identified through the focus groups that some media articles have the capacity to elicit both harm reduction and prevention messages. From a public health perspective, identifying what types of portrayals best elicit these messages holds considerable potential as it offers a means to target multiple populations at once.

Our analysis centred on print news reporting in Australia where illicit drugs were identified as a primary or secondary focus, but excluded for the main part portrayals where illicit drugs were mentioned only in passing. We need more research that explicitly examines this second aspect, that is news media where illicit drugs are depicted as part of everyday social occurrences such as in connection with entertainment, culture and sport. It is hypothesised that such areas are much more likely to glamorise or legitimise risk behaviours such as illicit drugs, and hence to have more subtle impacts on societal norms surrounding illicit drug use. Studies conducted in the tobacco and alcohol field have identified that more frequent depictions of such activities increase the likelihood that they will be normalised. The potential role of the news media in normalisation of illicit drugs warrants future investigation.

Most importantly, additional work needs to be done to examine the effects of media in general. That is, news media *and* mainstream media, in terms of its coverage of illicit drugs in Australia and likely synergistic or non-synergistic effects on Australian youth. Central to this will be the assessment and comparison of the frequency and framing of illicit drug messages in Australian mainstream and non-mainstream media (i.e. the nature of media production). Based on the focus groups, we know Australian youth are aware of pro-drug messages from entertainment media and suspect they will also affect Australian youth. For example, as outlined by Roberts and Christensen (2000), high frequency depictions of alcohol in entertainment media have been associated with more pro-alcohol attitudes and higher levels of alcohol consumption. But we contend that it may also be that news media can and does moderate (to some extent) messages from entertainment media. More research is therefore needed into the framing and effects of different forms of media.

We have suggested that there is a beneficial preventative value to certain media portrayals. Given that the more effective harms related portrayals tended to be those least represented in the Australian print media, we do not know if there would be a ‘tipping point’ at which these messages would be rejected on the basis of their normative frequency, if their presence was to increase. It is unclear whether harm related portrayals are more effective simply because they are atypical, or because of other factors. Our focus groups however suggest that the frequency of portrayals is less important than their inherent persuasiveness. They suggest that regardless of the extent of coverage, health and social harm portrayals are always going to be more persuasive than crime and arrest portrayals, because the former are perceived as denoting more *probable* and *severe* risk to youth. This suggests that any ‘tipping point’ would be marginal at most. This hypothesis needs to be tested.

Finally, this study examined the impact of media portrayals on *attitudes* towards illicit drugs and not the impact on actual drug using *behaviour*. While prospective studies have identified expressed intention to use drugs as a good predictor of illicit drug consumption (Korf, et al., 2008; von Sydow, et al., 2002), the impact of news media framing on illicit drug use needs to be assessed.

CONCLUSION

The impacts of mainstream news media coverage of illicit drug issues have long been neglected by the alcohol and other drug sector. This study has provided the first comprehensive documentation of the power and potential of the news media framing for shaping attitudes to illicit drug use.

This study identified the dominant media portrayals used to denote illicit drugs in Australian print media (across and within drug types); outlined the extent to which media portrayals changed over time (from 2003-2008); and assessed the impact of different media portrayals on youth attitudes to drugs for sub-populations, such as users and non-users, and for youth as a whole.

To test these effects we conducted a content analysis of 4,397 articles from one national newspaper, seven major metropolitan daily and weekend newspapers, and three regional/local Australian newspapers over the period 2003-2008. In addition we devised and conducted a national online repeated measures survey of 2,296 youth aged 16-24 years that measured youth reactions to a randomised set of eight media articles: denoting four portrayals on ecstasy and four on cannabis. Focus groups were also conducted with 52 youth aged 16-24 years to identify core factors that affected youth interpretation of media portrayals.

A number of key findings emerged.

Illicit drugs were proven to be highly pervasive in Australian media reporting with more than 19 articles being produced every day, from just 11 newspapers, over the period of study. This amounted to more than one article per paper per day.

Contrary to expectation, the dominant portrayals on illicit drugs depicted in Australian news media were not sensational. Nor did they tend to glamorise drugs or send pro-drug messages. Illicit drug frames differed somewhat between drugs, with for example greater emphasis for heroin articles on legal problems and greater emphasis for ecstasy articles on negative health consequences. Yet with 60-70% of articles depicting criminal justice issues and legal problems, illicit drugs were framed in Australian newspapers in a very narrow manner. One key consequence is that the dominant portrayal limits frames of reference of illicit drug issues.

Media portrayals on illicit drugs elicited at least short term change in youth attitudes to drugs. Across the whole sample, with only one exception, the media portrayals affected youth attitudes in an anti-drug manner: they increased perceptions of risk, reduced perceptions of acceptability and reduced the likelihood of future drug use. This effect was observed for both ecstasy and cannabis portrayals.

The type of portrayal affected both the size and direction of impact. Portrayals *endorsing* drug use tended to increase “pro-drug” attitudes. Conversely, negative portrayals tended to reduce pro-drug attitudes. But these effects were not uniform across sub-populations, especially between users, non-recent users and recent users. In general, the health and social harm portrayals were far more effective than the dominant law enforcement portrayal at reducing pro-drug attitudes. The irony was

that the health and social portrayals were the least represented in the sample of Australian news media.

Given this was an exploratory study there is a need to replicate the current study in real world settings, and to examine the extent to which these portrayals and effects hold true across other forms of media. Nevertheless, this study provides evidence that, just as in the fields of violence, body image and smoking, media portrayals on illicit drugs can elicit at least short term change in youth attitudes to drug use. These effects will be mediated by both media framing elements and individual audience characteristics.

To conclude, the alcohol and other drug sector has long neglected the effects of news media. This study provides evidence that the somewhat ‘innocuous’ news media is a potentially powerful influence upon attitudes to illicit drug use. We do not suggest that mainstream media is the ‘silver bullet’ in drug prevention, but we assert that news media is a tool that needs to be better understood and utilised alongside other preventative measures. The onus is now on the alcohol and other drug sector to recognise the potential power of news media and to increase resourcing capabilities to foster better and more frequent engagement with news media outlets. We suggest that such investment is likely to pay dividends, because as summed up by one young Australian:

“Media is probably one of the few ways that prevention message(s) can keep being pushed.”

REFERENCES

- Anderson, C., Berkowitz, L., Donnerstein, E., Rowell Huesmann, L., Johnson, J., Linz, D., et al. (2003). The influence of media violence on youth. *Psychological science in the public interest*, 4(3), 81-110.
- Ang, I., Brand, J., Noble, G., & Sternberg, J. (2006). *Connecting diversity: Paradoxes of multicultural Australia*. Artarmon: Special Broadcasting Service.
- Audit Bureau of Circulations (2008). *Consumer newspaper circulation audit*. North Sydney: Audit Bureau of Circulations.
- Australian Bureau of Statistics (2009). *Australian demographic statistics* (No. 3101.0). Canberra: Australian Bureau of Statistics.
- Australian Communications and Media Authority (2009). *Use of electronic media and communications: Early childhood to teenage years*. Melbourne: ACMA.
- Australian Institute of Health and Welfare (2008a). *2007 National Drug Strategy Household Survey: Detailed findings* (Drug Statistics Series No. 22). Canberra: Australian Institute of Health and Welfare.
- Australian Institute of Health and Welfare (2008b). *2007 National Drug Strategy Household Survey: First results* (Drug Statistics Series No. 20). Canberra: Australian Institute of Health and Welfare.
- Australian Press Council (1978). Reporting guidelines: Drugs reporting, General press release No. 20 Retrieved 8 January, 2010, from <http://www.presscouncil.org.au/pcsite/activities/guides/gpr20.html>
- Australian Press Council (2001a). Reporting guidelines: Drugs and drug addiction, General press release No. 246 (ii) Retrieved 8 January, 2010, from http://www.presscouncil.org.au/pcsite/activities/guides/gpr246_2.html
- Australian Press Council (2001b). Reporting guidelines: Reporting of suicide, General press release No. 246 (i) Retrieved 8 January, 2010, from http://www.presscouncil.org.au/pcsite/activities/guides/gpr246_1.html
- Australian Press Council (2010). Guidelines on press reporting Retrieved 29 April, 2010, from <http://www.presscouncil.org.au/pcsite/activities/gprguide.html>
- Baillie, R. (1996). Determining the effects of media portrayals of alcohol: Going beyond the short term influence. *Alcohol & Alcoholism*, 31(3), 235-242.
- Beckett, K. (1994). Setting the public agenda: 'Street crime' and drug use in American politics. *Social Problems*, 41(3), 425-447.
- Bell, P. (1985). Drugs and the media. *Australian Alcohol/Drug Review*, 4(2), 235-242.
- Berelson, B., Lazarsfeld, P., & McPhee, W. (1954). *Voting: A study of opinion formation in a presidential campaign*. Chicago: University of Chicago Press.
- Bergsma, L. (2002). *Media literacy and prevention: Going beyond "just say no"*. Malibu, California: Centre for Media Literacy
- Biener, L., Ji, M., Gilpin, E., & Albers, A. (2004). The impact of emotional tone, message, and broadcast parameters in youth anti-smoking advertisements. *Journal of Health Communication*, 9, 259-274.
- Biener, L., McCallum-Keeler, G., & Nyman, A. (2000). Adults' response to Massachusetts anti-tobacco television advertisements: Impact of viewer and advertisement characteristics. *Tobacco Control*, 9, 401-407.
- Blood, R. W., & McCallum, K. (2005). *Key principles for the reporting of drug issues: Final report*. Canberra: Australian National Council on Drugs.

- Brown, J., L'Engle, K., Pardun, C., Guo, G., & Kenneavy, K. (2006). Sexy media matter: Exposure to sexual content in music, movies, television and magazines predicts black and white adolescents' sexual behaviour. *Pediatrics*, 117(4), 1018-1027.
- Brown, J., Tucker Halpern, C., & L'Engle, K. (2005). Mass media as a sexual super peer for early maturing girls. *Journal of Adolescent Health*, 36, 420-427.
- Brown, J., & Witherspoon, E. (2002). The mass media and American adolescents' health. *Journal of Adolescent Health*, 31(6), 153-170.
- Brown, M. (1996). *The portrayal of violence in the media: Impacts and implications for policy* (Trends & Issues in Crime and Criminal Justice No. 55). Canberra: Australian Institute of Criminology.
- Carroll, T. (2000). *Illicit drugs research to aid in the development of strategies to target youth and young people. Report prepared for the Commonwealth Department of Health and Aged Care*. Sydney: Blue Moon Research and Planning.
- Chaiken, S. (1980). Heuristic versus systematic information processing and the use of source versus message cues in persuasion. *Journal of Personality and Social Psychology*, 39(5), 752-766.
- Chapman, S., & Dominello, A. (2001). A strategy for increasing news media coverage on tobacco and health in Australia. *Health Promotion International*, 16(2), 137-143.
- Chen, C.-Y., Storr, C. L., & Anthony, J. C. (2009). Early-onset drug use and risk for drug dependence problems. *Addictive Behaviors*, 34(3), 319-322.
- Cho, H., & Boster, F. J. (2008). First and third person perceptions on anti-drug ads among adolescents. *Communication Research*, 35(2), 169-189.
- Christie, S. (1998). Trial by media: Politics, policy and public opinion. *Current Issues in Criminal Justice*, 10(1), 37-51.
- Clark, G., Scott, N., & Cook, S. (2003). *Formative research with young Australians to assist in the development of the National Illicit Drugs Campaign*. Canberra: Commonwealth Department of Health and Ageing.
- Clegg Smith, K., Wakefield, M., Siebel, C., Szczypka, G., Slater, S., Terry-McElrath, Y., et al. (2002). *Coding the news: The development of a methodological framework for coding and analyzing newspaper coverage of tobacco issues* (Research Paper Series No. 21). Chicago: Impact Teen.
- Clegg Smith, K., Wakefield, M., Terry-McElrath, Y., Chaloupka, F., Flay, B. J., L, Saba, A., et al. (2008). Relation between newspaper coverage of tobacco issues and smoking attitudes and behaviour among American teens. *Tobacco Control*, 17(1), 17-24.
- Cohen, B. (1963). *The press and foreign policy*. Princeton, N.J.: Princeton University Press.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, New Jersey: Lawrence Erlbaum Associates
- Commercial Radio Australia (2004). Codes of practices and guidelines. Surry Hills, NSW: Commercial Radio Australia.
- Cunningham, S., & Turner, G. (Eds.). (2010). *The media and communications in Australia* (3rd ed.). Crows Nest, NSW: Allen & Unwin.
- Davis, A. (2000). Public relations, news production and changing patterns of source access in the British national media. *Media, Culture & Society*, 22, 39-59.
- Davis, R., Gilpin, E., Loken, B., Viswanath, K., & Wakefield, M. (2008). *The role of the media in promoting and controlling tobacco use* (Tobacco Control Monograph No. 19). Bethesda, MD: U.S Department of Health and Human Services, National Institutes of Health, National Cancer Institute.

- Denemark, D. (2005). Mass media and media power in Australia. In S. Wilson, G. Meagher, R. Gibson, D. Denemark & M. Western (Eds.), *Australian social attitudes: The first report* (pp. 220-239). Sydney: UNSW Press.
- Department of Health and Ageing (2009). Past phases of the National Drugs Campaign Retrieved 9 June, 2010, from [http://www.health.gov.au/internet/drugs/publishing.nsf/Content/campaign-resources/\\$FILE/Past%20phases%20of%20the%20Campaign%20Fact%20sheet.pdf](http://www.health.gov.au/internet/drugs/publishing.nsf/Content/campaign-resources/$FILE/Past%20phases%20of%20the%20Campaign%20Fact%20sheet.pdf)
- Department of Health and Ageing (2010). National Drugs Campaign - Frequently asked questions Retrieved 18 June 2010, from [http://www.drugs.health.gov.au/internet/drugs/publishing.nsf/Content/D4F26CDA5358936ACA2576D4007A93B9/\\$File/Frequently%20asked%20questions.pdf](http://www.drugs.health.gov.au/internet/drugs/publishing.nsf/Content/D4F26CDA5358936ACA2576D4007A93B9/$File/Frequently%20asked%20questions.pdf)
- Detenber, B. H., & Winch, S. P. (2001). The impact of color on emotional responses to newspaper photographs. *Visual Communication Quarterly*, 8(3), 4-14.
- Donovan, R., Boulter, J., Borland, R., Jalleh, G., & Carter, O. (2003). Continuous tracking of the Australian National Tobacco Campaign: Advertising effects on recall, recognition, cognitions, and behaviour. *Tobacco Control*, 12(Suppl 2), 30-39.
- Duncan, D., White, J., & Nicholson, T. (2003). Using internet-based surveys to reach hidden populations: Case of nonabusive illicit drug users. *American Journal of Health Behavior*, 27, 208-218.
- Durkin, S., Wakefield, M., & Spittal, M. (2006). Looking for boomerang effects: A pre-post experimental study of the effects of exposure of youth to television advertising for nicotine replacement therapy and Zyban. *Addictive Behaviors*, 31, 2158-2168.
- Durrant, R., Wakefield, M., McLeod, J., Clegg Smith, K., & Chapman, S. (2003). Tobacco in the news: An analysis of newspaper coverage of tobacco issues in Australia, 2001. *Tobacco Control*, 23(Suppl 11), ii75-ii81.
- Elliott, A., & Chapman, S. (2000). 'Heroin hell their own making': Construction of heroin users in the Australian press 1992-1997. *Drug and Alcohol Review*, 19, 191-201.
- Entman, R. (1989). How the media affect what people think: an information processing approach. *The Journal of Politics*, 51(2), 347-370.
- Entman, R. (1993). Framing: Toward clarification of a fractured paradigm. *Journal of Communication*, 43(4), 51-58.
- Essential Research (2010). Report - 15 March 2010. Carlton, Victoria: Essential Research.
- European Monitoring Centre for Drugs and Drug Addiction (2004a). *Evaluation instrument bank: Beliefs about consequences*. Lisbon: European Monitoring Centre for Drugs and Drug Addiction.
- European Monitoring Centre for Drugs and Drug Addiction (2004b). *Evaluation instrument bank: Perception of risks associated with drug use*. Lisbon: European Monitoring Centre for Drugs and Drug Addiction.
- Eveland, W. (2003). A "mix of attributes" approach to the study of media effects and new communication technologies. *Journal of Communication*, 53(3), 395-410.
- Fan, D. (1996). News media framing sets public opinion that drugs is the country's most important problem. *Substance Use & Misuse*, 31(10), 1413-1421.
- Freeman, B., & Chapman, S. (2007). Tobacco promotion invades new media. *The Lancet Oncology*, 8(11), 973-974.
- Geiger, S., & Newhagen, J. (1993). Revealing the black box: Information processing and media effects. *Journal of Communication*, 43(4), 42-50.

- Gelders, D., Patesson, R., Vandoninck, S., Steinberg, P., Van Malderen, S., Nicaise, P., et al. (2009). The influence of warning messages on the public's perception of substance use: A theoretical framework. *Government Information Quarterly*, 26, 349-357.
- Glover, D. (1985). The sociology of the mass media. In M. Haralambos (Ed.), *Sociology new directions* (pp. 369-442). Lancashire: Causeway.
- Gotthoffer, A. (1998). *Do social norms and media coverage influence illicit drug trial among college students*. Paper presented at the Association for Education in Journalism and Mass Communication.
- Hansen, A., Cottle, S., Negrine, R., & Newbold, C. (1998). *Mass communication research methods*. London: Macmillan.
- Hughes, C. (2010, 31 August). The Australian (illicit) drug policy timeline: 1985-2010, Drug Policy Modelling Program, from <http://www.dpmp.unsw.edu.au/dpmpweb.nsf/page/Drug+Policy+Timeline>
- Huston, A. C., Wartella, E., & Donnerstein, E. (1998). *Measuring the effects of sexual content in the media: A report to the Kaiser Family Foundation*. Menlo Park, CA: The Henry J. Kaiser Family Foundation.
- Iyengar, S. (1991). *Is anyone responsible? How television frames political issues*. Chicago: University of Chicago Press.
- Jones, S., & Gregory, P. (2007). *What does alcohol advertising tell young people about drinking?*, University of Wollongong, Wollongong.
- Jones, S., & Rossiter, J. (2004). Believability of messages about cannabis, cocaine and heroin amongst never-tryers, trier-rejecters and current users of cannabis. *Health Education*, 104(6), 344-350.
- Kohring, M., & Matthes, J. (2002). The face(t)s of biotech in the nineties: How the German press framed modern biotechnology. *Public Understanding of Science*, 11, 143-154.
- Korf, D., van den Brink, W., Vervaeke, H. K. E., & Benschop, A. (2008). Predicting ecstasy use amongst young people at risk: A prospective study of people initially ecstasy-naïve. *Journal of Drug Education* 38(2), 131-146.
- Kosicki, G., & McLeod, J. (1990). Learning from political news: Effects of media messages and information-processing strategies. In S. Kraus (Ed.), *Mass communication and political information* (pp. 69-83). Hillsdale NJ: Erlbaum.
- Lancaster, A. (2004). What does curiosity really do to the cat? A look at how message exposure can lead to illicit drug trial among college students. *Mass Communication & Society*, 7(1), 77-95.
- Laugesen, M., & Meads, C. (1991). Advertising, price, income and publicity effects on weekly cigarette sales in New Zealand supermarkets. *British Journal of Addiction*, 86(1), 83-89.
- Lawrence, G., Bammer, G., & Chapman, S. (2000). 'Sending the wrong signal': Analysis of print media reportage of the ACT heroin prescription proposal, August 1997. *Australian and New Zealand Journal of Public Health*, 24, 254-264.
- Lewis, J., Williams, A., & Franklin, B. (2008). A compromised fourth estate? UK news journalism, public relations and news sources. *Journalism Studies*, 9(1), 1-20.
- MacDonald, P., & Estep, R. (1985). Prime time drug depictions. *Contemporary Drug Problems*, 14, 419-438.
- Macnamara, J. (2006). *Media content analysis: Uses, benefits and best practice methodology*. Sydney: CARMA Asia Pacific.
- Mallick, J., Johnston, J., Goren, N., & Kennedy, V. (2007). *Drugs and driving in Australia: A survey of community attitudes, experience and understanding*. Melbourne: Australian Drug Foundation.

- Martins, S. S., Mazzotti, G., & Chilcoat, H. D. (2006). Recent-onset ecstasy use: Association with deviant behaviors and psychiatric comorbidity. *Experimental and Clinical Psychopharmacology*, 14(3), 275-286.
- Matthes, J., & Kohring, M. (2008). The content analysis of media frames: Toward improving reliability and validity. *Journal of Communication*, 58, 258-279.
- McArthur, M. (1999). Pushing the drug debate: The media's role in policy reform. *Australian Journal of Social Issues*, 34(2), 149-165.
- McCombs, M. (1997). Building consensus: The news media's agenda-setting roles. *Political Communication*, 14, 433-443.
- McCombs, M. (2004). *Setting the agenda: The mass media and public opinion*. Cambridge: Polity Press.
- McCombs, M., & Shaw, D. (1972). The agenda-setting function of mass media. *Public Opinion Quarterly*, 36, 176-187.
- McLeod, J., Kosicki, G., & Pan, Z. (1991). On understanding and misunderstanding media effects. In J. Curran & M. Gurevitch (Eds.), *Mass media and society* (pp. 235-266). New York: Edward Arnold.
- McQuail, D. (2005). *Mass communication theory* (5th ed.). London: Sage Publications.
- McQuail, D. (2010). *Mass communication theory* (6th ed.). London: Sage Publications.
- Meyers, P., & Biocca, F. (1992). The elastic body image: The effect of television advertising and programming on body image distortions in young women. *Journal of Communication*, 42, 108-133.
- Miller, P. (2010). Reporting of the ACT heroin trials. *Journal of Media and Communication Studies*, 2(1), 1-8.
- Mills, J. S., Polivy, J., Herman, C. P., & Tiggemann, M. (2002). Effects of exposure to thin media images: Evidence of self-enhancement among restrained eaters. *Personality and Social Psychology Bulletin*, 28(12), 1687-1699.
- Ministerial Council on Drug Strategy (2004). *The National Drug Strategy: Australia's integrated framework 2004-2009*. Canberra: Ministerial Council on Drug Strategy.
- mX (2010, n.d.). MX Retrieved February 5, 2010, from <http://www.mxnet.com.au>
- National Drug and Alcohol Research Centre (2009). *National Drug and Alcohol Research Centre annual report 2008*. Sydney: NDARC.
- Neuendorf, K. (2002). *The content analysis guidebook*. Thousand Oaks, CA: Sage Publications.
- Newspaper Works (2007). Newspapers today - Part 1 - Print Retrieved 29 April, 2010, from <http://www.scribd.com/doc/3361990/Newspapers-Today>
- Newspaper Works (2010). Newspaper readership among Australian youth: Prepared for NDARC. Pyrmont: Newspaper Works.
- Niederdeppe, J., Farrelly, M. C., Thomas, K. Y., Wenter, D., & Weitzenkamp, D. (2007). Newspaper coverage as indirect effects of a health communication intervention. *Communication Research*, 34(4), 382-405.
- Noto, A. R., Pinsky, I., & De Carvalho Mastroianni, F. (2006). Drugs in the Brazilian print media: An exploratory survey of newspaper and magazine stories in the year 2000. *Substance Use & Misuse*, 41, 1263-1276.
- NSW Police (2010). NSW Police Force media releases archives Retrieved 11 June, 2010, from http://www.police.nsw.gov.au/news/media_release_archives
- Palmgreen, P., Donohew, L., Lorch, E. P., Hoyle, R. H., & Stephenson, M. T. (2001). Television campaigns and adolescent marijuana use: Tests of sensation seeking targeting. *American Journal of Public Health*, 91(2), 292-296.

- Pan, Z., & Kosicki, G. (2001). Framing as a strategic action in public deliberation. In S. Reese, O. Gandy & A. Grant (Eds.), *Framing public life: Perspectives on media and our understanding of the world* (pp. 35-66). Mahwah, NJ: Lawrence Erlbaum Associates.
- Pechmann, C., & Reibling, E. (2006). Antismoking advertisements for youths: An independent evaluation of health, counter-industry, and industry approaches. *American Journal of Public Health*, 96, 906-913.
- Penman, R., & Turnbull, S. (2007). *Media literacy - Concepts, research and regulatory issues*. Melbourne: Australian Communications and Media Authority.
- Pierce, J., & Gilpin, E. (2001). News media coverage of smoking and health is associated with changes in population rates of smoking cessation but not initiation. *Tobacco Control*, 10, 145-153.
- Pink, B. (2009). *Household use of information technology: Australia - 2008-09*. Canberra: Australian Bureau of Statistics.
- Pirkis, J., Warwick Blood, R., Beautrais, A., Burgess, P., & Skehan, J. (2006). Media guidelines on the reporting of suicide. *Crisis*, 27(2), 82-87.
- Posavac, H. D., Posavac, S. S., & Posavac, E. J. (1998). Exposure to media images of female attractiveness and concern with body weight among young women. *Sex Roles*, 38, 187-201.
- Proctor, D., & Babor, T. (2001). Drug wars in the post-Gutenberg galaxy: Mass media as the next battleground. *Addiction*, 96(3), 377-381.
- Quinn, S. (2005). Youth publications, generation Y and hopes for the future of newspapers. *Australian Journalism Review*, 27(1), 195-207.
- Ramo, D., Hall, S., & Prochaska, J. (2010). Reaching young adult smokers through the Internet: Comparison of three recruitment mechanisms. *Nicotine and Tobacco Research* 12(7), 768-775.
- Research and Evaluation Committee (2004). *Australia's National Tobacco Campaign - Evaluation report volume three*. Canberra: Australian Government Department of Health and Ageing.
- Roberts, D., & Christensen, P. (2000). *'Here's looking at you, kid': Alcohol, drugs and tobacco in entertainment media*. New York: The National Center on Addiction and Substance Abuse at Columbia University.
- Roberts, D., Foehr, U., Rideout, V., & Brodie, M. (1999). *Kids and media @ the new millenium*. Menlo Park, CA: Kaiser Family Foundation.
- Roberts, D., Henriksen, L., & Christensen, P. (1999). *Substance use in popular movies and music*. Washington, DC: Office of National Drug Control Policy.
- Rowell Huesmann, L., & Taylor, L. (2006). The role of media violence in violent behaviour. *Annual Review of Public Health*, 27, 393-415.
- Roy Morgan (2007). *Morgan poll: Television remains main source of news & current affairs - NineMSN leads the way in internet news*. Sydney: Roy Morgan.
- Saunders, N. (1998). How the media report ecstasy. *Journal of Substance Misuse*, 3, 98-100.
- Scheufele, D. (1999). Framing as a theory of media effects. *Journal of Communication*, 49(1), 103-122.
- Shaw, D., McCombs, M., Weaver, D., & Hamm, B. (1999). Individuals, groups and agenda melding: A theory of social dissonance. *International Journal of Public Opinion Research*, 11(1), 2-24.
- Siggins Miller (2009). *Evaluation and monitoring of the National Drug Strategy 2004-2009, Volume 1: Findings and recommendations*. Kenmore, Qld: Siggins Miller.
- Snyder, L., & Nadorff, G. (2010). Youth substance use and the media. In L. Scheier (Ed.), *Handbook of drug use etiology: Theory, methods, and empirical findings* (pp. 475-491). Washington, DC: American Psychological Association.

- Stack, S. (2003). Media coverage as a risk factor in suicide. *Journal of Epidemiology and Community Health*, 57(4), 238-240.
- Stephenson, M. (2003). Mass media strategies targeting high sensation seekers: What works and why. *American Journal of Health Behavior*, 27(3), S233-S238.
- Sternberg, S. (2006). Youth media. In S. Cunningham & G. Turner (Eds.), *The media and communications in Australia* (2nd ed.). Sydney: Allen & Unwin.
- Strasburger, V. C. (2004). Children, adolescents, and the media. *Current Problems in Pediatric and Adolescent Health Care*, 34(2), 54-113.
- Stryker, J. E. (2003). Media and Marijuana: A Longitudinal Analysis of News Media Effects on Adolescents' Marijuana Use and Related Outcomes, 1977-1999. *Journal of Health Communication*, 8(4), 305-328.
- Tan, N., & Boulter, J. (2000). Chapter six: Monitoring of print media news coverage In K. Hassard (Ed.), *Australia's National Tobacco Campaign report: Volume two* (pp. 179-200). Canberra: Commonwealth Department of Health and Aged Care.
- Tan, N., Montague, M., & Freeman, J. (2000). Impact of the National Tobacco Campaign: Comparison between teenage and adult surveys. In K. Hassard (Ed.), *Australia's National Tobacco Campaign evaluation report: Volume two* (pp. 77-113). Canberra: Commonwealth Department of Health and Aged Care
- Taylor, L. (2005). Effects of visual and verbal sexual television content and perceived realism. *Journal of Sex Research*, 42(2), 130-137.
- Teece, M., & Makkai, T. (2000). *Print media reporting on drugs and crime, 1995-1998* (Trends & issues in crime and criminal justice No. 158). Canberra: Australian Institute of Criminology.
- The Social Research Centre (2007). *National Tobacco Youth Campaign evaluation report*. North Melbourne: The Social Research Centre.
- The Social Research Centre (2008). *National Drugs Campaign: Evaluation of phase 3*. North Melbourne: The Social Research Centre.
- Thompson, K. M. (2005). Addicted media: Substances on screen. *Child and Adolescent Psychiatric Clinics of North America*, 14(3), 473-489.
- Tiffen, R. (1989). *News and power*. Sydney: Allen & Unwin.
- Tiffen, R., & Gittens, R. (2004). *How Australia compares*. Cambridge, UK: Cambridge University Press.
- Turner, G. (2005). *Ending the affair: The decline of television current affairs in Australia*. Sydney: UNSW Press.
- Unger, J. B., Cruz, T. B., Schuster, D., Flora, J. A., & Johnson, C. A. (2001). Measuring exposure to pro- and anti-tobacco marketing among adolescents: Intercorrelations among measures and associations with smoking status. *Journal of Health Communication*, 6(1), 11-29.
- van Dijk, T. (1996). Power and the news media. In D. Paletz (Ed.), *Political communication in action* (pp. 1-36). New Jersey: Hampton Press.
- Van Heekeren, M., & Simpson, L. (2006). News content analysis. In A. P. Council (Ed.), *State of the news print media in Australia report 2006* (pp. 27-32; 92-95). Sydney: Australian Press Council.
- Victoria Police (2010). Victoria police online news centre Retrieved 10 June, 2010, from http://www.vicpolice.com.au/index.php?option=com_rsform&formid=2
- Vogl, L., Newton, N., Teesson, M., Swift, W., Karageorge, A., Deans, C., et al. (2009). *CLIMATE schools: Drug prevention programs. Report for the Australian Government Department of Health and Ageing*. Sydney: National Drug and Alcohol Research Centre.

- von Sydow, K., Lieb, R., Pfister, H., Höfler, M., & Wittchen, H. (2002). What predicts incident use of cannabis and progression to abuse and dependence? A 4-year prospective examination of risk factors in a community sample of adolescents and young adults. *Drug and Alcohol Dependence*, 68(1), 49-64.
- Wakefield, M., & Durrant, R. (2006). Effects of exposure of youths at risk for smoking to television advertising for Nicotine Replacement Therapy and Zyban®: An experimental study. *Health Communication*, 19(3), 253-258.
- Wakefield, M., Flay, B., Nichter, M., & Giovino, G. (2003). Role of the media in influencing trajectories of youth smoking. *Addiction*, 98, 79-103.
- Wakefield, M., Germain, D., & Durkin, S. J. (2008). How does increasingly plainer cigarette packaging influence adult smokers' perceptions about brand image? An experimental study. *Tobacco Control*, 17, 416-421.
- Warwick Blood, R., & McCallum, K. (2005). *Key principles for the reporting of drug issues: Final report*. Canberra: Australian National Council on Drugs.
- Warwick Blood, R., Williams, J., & McCallum, K. (2003). Representations of public risk: Illegal drugs in the Australian press. *Media International Australia incorporating Culture and Policy*, 108, 82-100.
- Watts, R. (2003). 'Headlining heroin': Policy change and reporting the heroin problem. *Media International Australia incorporating Culture and Policy*, 108(August), 67-81.
- Wodak, A. (2010). Soft on drugs? Or going cuckoo? *Croakey: the Crikey health blog* Retrieved 5 May, 2010, from <http://blogs.crikey.com.au/croakey/2010/01/28/soft-on-drugs-or-going-cuckoo/>
- Wright, T. (2010). Fairfax misleads public about cannabis study, Retrieved 5 May, 2010, from http://theaustralianheroinidiaries.blogspot.com/2010/04/fairfax-misleads-public-about-cannabis_05.html
- Young, S. (2009). The decline of traditional news and current affairs audiences in Australia. *Media International Australia, Incorporating Culture & Policy*, 131, 147-159.
- Youth Affairs Council of Victoria Inc (2003). *In the spotlight: Young people and the media* (Policy Issues Paper). Melbourne, Victoria: Youth Affairs Council of Victoria Inc.

APPENDIX A: MEDIA CODING INSTRUMENT AND DESCRIPTORS

Primary drug mentioned (if article does not include at least one of these illicit drugs, do not proceed to rest of coding)	1. Cannabis		2. Ecstasy/MDMA	
	3. Cocaine		4. Heroin	
	5. Meth/amphetamines		6. Mixed	

Focus of the article (if article scores 3 or 4, then do not proceed to rest of coding)	1. Illicit drugs are the main focus	The article is specifically related to illicit drug issues or consequences.
	2. Illicit drugs are the secondary focus	The article is discussing another issue but references illicit drugs as an important contributory factor or associated issue.
	3. Illicit drugs are only mentioned in passing	Illicit drugs are mentioned incidentally or briefly in the context of another issue and not focused upon or discussed.
	4. Other	For articles where the subject is not drug related but key search words have been included. May also include mention of drugs not the focus of this study. This category should be used infrequently.

Unique ID		Date dd/mm/yyyy	
Headline		Page number	
Number of words		Journalist	
Newspaper	1. The Age		2. The Australian
	3. Canberra Times		4. The Courier Mail
	5. Daily Telegraph		6. Sydney Morning Herald
	7. The West Australian		8. Herald Sun
	9. Geelong Advertiser		10. Newcastle Herald
	11. Sun Herald		12. Sunday Telegraph
	13. Sunday Age		14. Sunday Herald Sun
	15. Sunday Mail		16. Sunday Times
	17. mX Sydney		
State	1. NSW		2. ACT
	3. VIC		4. QLD
	5. WA		6. National (Australian)
Region	1. Regional		2. City
	3. National (Australian)		
Newspaper type	1. Tabloid		2. Broadsheet
Type of article	1. Feature		2. Editorial
	3. News article		4. Column
	5. Opinion		

MEDIA REPORTING ON ILLICIT DRUGS IN AUSTRALIA

Value Dimensions	Framed as a crisis or emergency issue (Yes/No)	Illicit drug issues are framed as requiring immediate or urgent government attention or community awareness. A “worsening” problem. There is a sense of urgency due to severity of consequences. May use emotive, heightened language. May emphasise new evidence or suggest that a long term problem has come to a sudden inflection point.
	Framed as a youth issue (Yes/No)	Illicit drugs are discussed in the context of a youth demographic or specifically as a youth problem distinct from the wider community. Youth includes specific mention of age (e.g. 16-24), Gen-Y, school, university or students. Typically youth activities such as music festivals, parties and clubs are included.
	Overall tone	Reading the article as a whole, what is the overall impression? The overall tone does not relate to attitudes to illicit drug use specifically, but rather the way the whole story is framed.
	1. Positive	A “good news” story – may be a positive evaluation of policy, a new discovery, a lower cost solution or an uplifting personal story.
	2. Negative	A “bad news” story – failure, increasing pessimism, growing problems or fear.
	3. Mixed	Article gave equal weight to both sides of the discussion and endeavoured to give a balanced assessment of the situation by including several perspectives.
	4. Neutral	Did not overtly express an opinion. May be a factual report of events with little analysis or interpretation.
Topic - primary reason for “what makes this news today?”	1. Individual level	The article primarily focuses on a particular person, as opposed to discussing broader themes or implications for society at large.
	2. Specific group/ community level	The article primarily focuses on a particular group or specific community, as opposed to implications for society at large. May be a specific demographic, town/city or group of users e.g. gay, indigenous communities.
	3. Broader society level	The article primarily focuses on broader themes or matters that may affect the wider Australian or international community, as opposed to the plight of one individual or community group.
	1. Criminal justice/ prison - user	Report of court or criminal justice proceedings. May include reporting of evidence or witnesses in a short or ongoing trial, or information about sentencing or prison terms. Court reporting is regarding the trial of a user. May include trafficking if in the context of use, not in the context of profit.
	2. Criminal justice/prison - dealer	Report of court or criminal justice proceedings. May include reporting of evidence or witnesses in a short or ongoing trial, or information about sentencing or prison terms. Court reporting is regarding the trial of a dealer, organised crime figure or trafficker.
	3. Law enforcement - user	Article will include information about a police operation or arrest. May include customs operation, seizure or surveillance. Police targeted or arrested user/s.
	4. Law enforcement - dealer	Article will include information about a police operation or arrest. May include customs operation, seizure or surveillance. Police targeted or arrested dealer, organised crime figure or trafficker.
	5. Violence/ drug related crime	Article reports incidence of violence or crime in the context of drug use – drug-related assault, or crime committed by drug users.
	6. Organised crime	Article primarily focuses on organised crime figures or prevalence of organised crime (excluding trafficking). Manufacture of illicit drugs by organised crime groups may also be included. Drugs are for profit, not primarily for use.
	7. Trafficking	Article focuses on illicit drug trafficking – but not primarily about organised crime, court proceeding or police action.
	8. Harms - death/ overdose	The article reports incidence of illicit drug related deaths or overdoses. May include poly-drug use, or fear of potential overdoses due to purity or availability.

MEDIA REPORTING ON ILLICIT DRUGS IN AUSTRALIA

	9. Harms - mental health	Mental health is discussed referencing illicit drugs as causal or correlated. May discuss groups at risk of adverse mental health consequences.
	10. Harms – physical	Physical harms that may be causal or correlated to illicit drug use. Includes brain damage or unspecified, mixed physical harms. May mention blood borne viruses - HIV/ AIDS; Hepatitis C etc if in the context of physical harms, not harm minimisation. Includes all physical health related harms but excludes overdose and death.
	11. Harms - addiction	Addictiveness of certain illicit drugs or outcomes of addiction (psychological, physiological and social) are reported. May also include information about quitting or treatment if primarily linked to concept of addiction.
	12. Harms - to group/ community	Harms related to illicit drug use specific to a particular community or group. May be a specific demographic, town/city or group of users.
	13. Policy commentary - treatment	Policy commentary regarding treatment or quitting. May include service information specifically related to treatment. May discuss success or failure of an existing government policy. Not overtly political.
	14. Policy commentary – law enforcement	Policy commentary related to law and law enforcement. May discuss success or failure of an existing government policy or law. Not overtly political.
	15. Policy commentary - prevention	Policy commentary related to prevention. May include social or education issues. May discuss success or failure of an existing government policy. Not overtly political.
	16. Policy commentary – harm reduction	The article discusses drug related harm reduction. May include health or public information issues. May discuss success or failure of an existing government policy. Not overtly political.
	17. Policy commentary – other	Policy commentary regarding any other illicit drug policy issue. Or may include articles where various policies are discussed in a mixed way with equal weight. Not overtly political.
	18. Politics	Discussion of political opinion regarding illicit drug policy (or related issue area). May include opposition opinion, Question Time, election coverage or inter-government debate. Not including policy announcements but mainly political discussion of issues and policy proposals specific to a political agenda.
	19. New initiative	Reporting of an announcement of a new government policy or program. May include advertising campaign, awareness campaign or funding for new health/education/social initiative. May include new technology, system or service related to illicit drug use or monitoring.
	20. Research	Article reports on statistics, research or economics to do with illicit drugs or related areas. May include economics, surveys or new research reported. Will often include new recommendations stemming from studies and analysis, not just statistics.
	21. Trends/ patterns of use	Article reports on research or information specifically related to illicit drug trends or patterns of use. May include comparisons over time or across demographics. May include international comparisons.
	22. Drug market changes	Article reports on changes in the drug market – availability of new drugs, purity etc.
	23. Cost to society - social	Social costs as a result of illicit drug use or drug market. May include impact on public amenity of a particular community or affect upon institutions e.g. public fear, decreased trust, corruption. May include social costs of policy implementation e.g. law enforcement action. May be a particular example or thematic discussion.
	24. Cost to society - monetary	Monetary costs as a result of illicit drug use or drug market. May include cost to business through absenteeism, the cost of health care provision or drug-related crime etc. May be a particular example or thematic discussion.
	25. Cost to society - environmental	Environmental impact and costs as a result of illicit drug use or illicit drug market. May be a particular example or thematic discussion.
	26. Elite - politician	Reporting of illicit drug use by elected government officials – local, state and federal. International politicians or royal families may also be included.
	27. Elite - music	Reporting of illicit drug use by musicians, bands, producers, music industry management.

MEDIA REPORTING ON ILLICIT DRUGS IN AUSTRALIA

	28. Elite - sport	Reporting of illicit drug use by professional and amateur sports people and organisations.
	29. Elite – “icon”	Reporting of illicit drug use by high profile individuals or leaders in their field. Cultural or business figures well known to general public including actors etc.
	30. Elite - model	Reporting of illicit drug use by professional and amateur models in Australia and internationally. May also include industry workers such as photographers, managers or fashion elites.
	31. Event – calendar	Reporting of illicit drug use in the context of a calendar event such as New Year’s Eve or summer.
	32. Event – music or festival	Reporting of illicit drug use in the context of a music event, festival, dance party or club.
	33. Event - youth	Reporting of illicit drug use in the context of a youth specific event (excluding music festivals) such as schoolies week.
	34. Event – other	Reporting of illicit drug use in the context of any other event or public occasion.
	35. Other	Specify (should be used infrequently). Articles that do not match other topics.
Moral evaluation of drugs	1. Good	Illicit drug use (and involvement in the market) is considered good and/or beneficial for certain people. Drug use is fun and pleasant. May consider that illicit drugs should be legalised. Certain illicit drugs may be seen as being beneficial to health or may even have positive social outcomes (inclusion, productivity, self-medication, independence).
	2. No risk/ Minimal risk	Illicit drug use (and involvement in the market) is considered to have minimal or no negative risks. It is believed that there are many things that are more risky than trying drugs. A belief that police should not be intervening or arresting users. Illicit drugs may be seen as having little or no health risks attached to their use (especially cannabis and MDMA).
	3. Normal/ rite of passage/ free agent	Illicit drug use (and involvement in the market) is a normal part of society or is excusable for particular individuals or in particular circumstances (especially youth, when under stress, misinformed, naive about consequences). There is an understanding that we all do “silly things” when we are young. Many young people may use drugs then grow out of it. Drug use, from this perspective, may impact on areas of life such as relationships, work and study but there is an expectation that any permeation into these areas of life will be short term. There is a perception that individuals should be free to make their own choices with knowledge of the risks. Individuals may suffer misadventure, or be unlucky.
	4. Risky behaviour	Illicit drug use (and involvement in the market) is risky behaviour and requires regulatory intervention. Not a zero tolerance policy, but rather an awareness of the risks and a belief that people should be informed about the hazards. May include harm minimisation philosophy.
	5. Bad	Illicit drug use (and involvement in the market) is deemed unacceptable in all circumstances. A belief that laws and regulation should be stronger. Zero tolerance.
	6. Mixed	Article gave equal weight to both sides of the issue and endeavoured to give a balanced opinion by including several perspectives. May include sources from differing perspectives.
	7. Neutral	An opinion is not overtly expressed.
Consequence portrayed of illicit drugs/use	1. Unknown risk/ “Russian roulette”	Illicit drug use has unknown risks. The risks and consequences of illicit drug use are considered idiosyncratic – like playing “Russian roulette.”
	2. Cost to society – public amenity	Illicit drug use impacts on public amenity. May include impact upon a particular community (e.g. consequences of having injecting rooms or services in the neighbourhood) or more generally as a social problem. May also include environmental impact. May be a particular example or thematic discussion.
	3. Cost to society – government	Illicit drug use costs government money. May include the cost of health care, service provision, government spending on prevention

MEDIA REPORTING ON ILLICIT DRUGS IN AUSTRALIA

	spending	and law enforcement or other policy related monetary expenses.
	4. Cost to society – drug related crime	Illicit drug use leads to drug related crime. May be cost to an individual victim of drug related crime or broader social and monetary cost of crime to the community (safety concerns, prevalence). May also include costs and exposure to risk for police. May discuss prevalence of drug related criminal activity.
	5. Cost to society - industry	Illicit drug use adversely impacts industry. May include consequences for business such as absenteeism or productivity. May include financial impact on business in particular area affected by illicit drug market. May be specific to a particular business or a more general discussion.
	6. Leads to loss of control	Illicit drug use makes you lose control. May do something you wouldn't ordinarily do, and may regret. May include public nuisance (but not crime as such).
	7. Leads to marginalisation	Illicit drug use leads to marginalisation. Marginalisation may or may not have been caused by illicit drug use, but in the reporting they are connected. May be a particular example or thematic discussion. Implies that users become loner/ loser/ lazy/ irresponsible.
	8. Reduces employment/ education prospects	Illicit drug use leads to decreased employment or lower education (e.g. potential expulsion or job loss). May include personal financial trouble. Unemployment or lack of education may or may not have been caused by illicit drug use, but in the reporting they are connected. May be a particular example or thematic discussion, both current and future.
	9. Contributes to tragedy/ family breakdown	Illicit drug use contributes to tragedy or leads to family breakdown. These tragic circumstances may or may not have been caused by illicit drug use, but in the reporting they are connected. Domestic problems such as child abuse and neglect or divorce may be discussed. May be a particular example or thematic discussion.
	10. Arrest/ incarceration	Illicit drug use leads to problems with the law. Police action or court report resulting in arrest or incarceration. May use language such as "punished," "convicted," "imprisoned" or "sentenced."
	11. Death/ overdose	Illicit drug use can lead to death or overdose. May include poly-drug use, or fear of potential overdoses due to purity or availability.
	12. Physical health problems	Illicit drug use leads to physical health problems. May be causal or correlated.
	13. Mental health problems	Illicit drugs use results in causal or correlated mental health problems. May discuss groups at risk of adverse mental health consequences.
	14. Addiction	Illicit drug use may lead to addiction. May lead to need for treatment to help you quit.
	15. Damage to reputation	Illicit drug use may cause damage to reputation. May "get caught" but there is no/minimal legal punishment - not necessarily result in being convicted. May include being warned, getting caught at work or by family. May include consequences such as job loss after workplace drug test, or may be simply embarrassing (loss of reputation, in with the "wrong crowd," public humiliation).
	16. Not a barrier to success	Illicit drug use is not a barrier to success. May be an accepted part of the industry or deemed necessary for enhanced performance.
	17. Health benefits	Illicit drug use may be seen as being beneficial to health (e.g. pain relief or cancer).
	18. Social benefits	Certain illicit drugs may have positive social outcomes (social inclusion, relationships, independence, relaxation, friendships, party activities).
	19. Fun	Illicit drug use is necessary or a desirable way to have fun.
	20. Neutral	Does not specify consequences of illicit drug use.
	21. Other	Specify (should be used infrequently). Articles that do not match other themes.
Sources/ Primary definers	Number of sources	A source is defined as an individual or organisation giving information or opinion. A source may be quoted, give a statement, be interviewed or publish a report that is mentioned in the article. A press release is regarded as a statement by a source if it comes from an individual or organisation. Reports or statistics may be counted as a source if the reference is mentioned (i.e. a report or statistics from a particular

MEDIA REPORTING ON ILLICIT DRUGS IN AUSTRALIA

		institution) not just mention of "fact." Opinion writers may be a source if they are not ordinarily a journalist. Editorials may be counted as a "newspaper" source if the article is deemed to be agenda setting.
	Type of source	Each source mentioned in the article must be noted. If one source gives multiple quotes, count that source only once.
	1. Politicians/ ministers	Elected government officials – local, state and federal. International politicians or royal families may also be included. Senior bureaucrats, political party members or election candidates may also be included.
	2. Law enforcement/ police/ judiciary	Police force (state and federal), judges, law reform commission, royal commission, coroner or customs officials. May also include legal practitioners.
	3. Health/ doctor	Hospitals, doctors (specialist and general), mental health organisations.
	4. Welfare	Publicly funded government organisations and their representatives including DOCS, Centrelink, Department of Child Safety. Excludes NGO service providers.
	5. Youth	Typically aged 16-24, Gen-Y, school or university students. Organisations or spokespersons representing youth specifically may also be included – youth centres, youth politics.
	6. User/ accused person	A person who identifies as an illicit drug user, or has been accused by law of being an illicit drug user. Also includes dealers, organised crime figures, traffickers and "mules."
	7. Elite/ celebrity	Sports person, politician (where speaking personally and not in their capacity as an elected official), icon, musician, rock legend, model or public figure well known to the general public. Including spokesperson for the elite.
	8. Activist	An individual, spokesperson or organisation that advocates for or against illicit drug policy. May have broader social or political agenda.
	9. Unions	An individual or spokesperson speaking on behalf of unions including workplace relations.
	10. Industry	An individual or spokesperson speaking on behalf of an industry or commercial business affected by illicit drug use. May include event organisers, businesses, pharmaceuticals or other enterprises.
	11. Researcher/ expert	An individual or spokesperson for a research institution (including government funded bodies) or an expert in the field. May include reference to research or report released by a particular research institution.
	12. NGO/ service delivery	Non-government organisations – may deliver services such as treatment, clinics, harm, minimisation, housing or employment. May be community organisations, churches, charities, not-for-profits.
	13. Family/ friends	Family or friends of a user, victim, accused person, dealer, organised crime figure or any other person connected to illicit drugs. Includes acquaintances.
	14. General public	Member of the general public, resident, community representatives.
	15. Newspaper/ media	Newspaper or editor when publication is specifically agenda setting or overtly expresses an opinion – e.g. "We at the SMH believe...." May also include reference to another media source or journalist.

APPENDIX B: MEDIA ARTICLES ON ILLICIT DRUGS USED IN SURVEY

A total of eight articles were used for the online survey and three for the focus groups. They were all derived from Australian newspaper coverage over the period of study: 2003-2008. Here we provide the abridged versions of the articles used in the survey. Focus groups articles are not provided for reasons of copyright. They can however be obtained through Factiva.

Ecstasy articles

Ecstasy crack down

POLICE have warned they are cracking down on drug-taking party-goers after arresting 29 people and seizing almost 300 ecstasy pills and other drugs at a dance party in Sydney's west.

Drug dogs were used at the Transmission Dance Party at Sydney Olympic Park to nab dealers at the event, which was attended by about 2000 revellers.

One of the people charged with supplying drugs was an 18-year-old man who allegedly had 55 ecstasy pills in his possession.

Pills spiked with killer drug

ILLICIT drug makers are cutting pills with a "death drug" because they can't obtain other illegal ingredients, police and medical experts warned yesterday.

In a mayday call to young people, police said there has been a lift of para-methoxyamphetamine (PMA) being added to ecstasy tablets.

"PMA is becoming more noticeable and there are more detections" a senior drug squad officer said.

Hundreds farewell a smiling dancer

WITH her infectious smile and cheeky nature, Annabel Catt could get away with almost anything. But, at last weekend's Good Vibrations music festival, the 20-year-old dance teacher tested her luck one too many times.

"We all take risks in life," her father, Pater, told the more than 700 people who yesterday packed into the Pittwater Uniting Church for her funeral.

"Some eat or drink too much. Some smoke, some drive recklessly... the list is endless," he said.

"Annabel took a risk. She took what she believed was ecstasy... She risked, she died."

Ecstasy safe says top cop

A CONTROVERSIAL police officer is facing demands to resign after publicly claiming the illegal rave drug ecstasy is safer than aspirin.

In his latest bizarre proclamation, Chief Constable Richard Brunstrom insisted the drug which claims almost 50 lives a year in the UK was a "remarkably safe substance."

And he went on to dismiss what he called "scaremongering" over the dangers, while predicting all drugs would be legalised in 10 years.

Cannabis articles

Arrests at Mardi Grass

MORE than 100 people were arrested during the annual Mardi Grass weekend festival at Australia's cannabis capital Nimbin, police said yesterday.

The northern NSW town's 34th Mardi Grass attracted up to 7000 people for a three-day weekend event and 109 arrests for offences including possessing cannabis-laced goods and offensive behaviour.

Two police were injured chasing a person on foot, one officer requiring surgery. The majority of those charged are alleged to have possessed or supplied a prohibited drug.

Cannabis users are prone to failure

CANNABIS is the “losers’ drug” with heavy use leading to failure in a range of areas such as work and relationships, according to a new study.

Melbourne University’s Centre for Adolescent Health researchers tracked 1943 Victorian teenagers over 10 years and found heavy marijuana smokers were more likely than heavy alcohol drinkers to under-achieve.

“In terms of education and having a job, high-end alcohol users were not dissimilar to people who weren’t high-end users,” lead researcher and adolescent psychiatrist George Patton said. “But cannabis users had a lot more educational failure, fewer had degrees and tertiary qualifications by the age of 25, more were unemployed.”

Cannabis is worst drug for psychosis

FOUR out of five people with incurable schizophrenia smoked cannabis regularly between the ages of 12 and 21.

Andrew Campbell, of the NSW Mental Health Review Tribunal, warned that a hidden epidemic of cannabis-induced psychosis could make the so-called soft drug more dangerous than heroin.

"It's much safer to take heroin -- you can live to be 90 with heroin," Dr Campbell said.

A five-year review of the histories of mentally ill patients in NSW who had been committed to an institution or needed compulsory treatment found four out of five had smoked marijuana regularly in adolescence.

Branson’s Byron drug daze admission

BILLIONAIRE Richard Branson is under fire for revealing he smoked marijuana with his son during his holiday in Byron Bay.

Virgin boss Sir Richard, 57, made the admission in an interview in which he discussed joining the “mile-high” club and trying ecstasy and Viagra.

Sir Richard told Britain’s GQ magazine he smoked cannabis with his son Sam, now 21, while in Australia in 2004.

“We learned to surf and had some nights where we laughed our head off for eight hours,” Sir Richard recalled.

APPENDIX C: MEDIA ANALYSIS OF ARTICLES USED IN SURVEY AND FOCUS GROUPS

Here we provide a media content analysis of the key features of each of the articles used in the survey and focus groups. We also discuss the key features in light of the media content analysis sample. Our purpose in so doing is to identify the features that may shape media interpretation. All articles had either cannabis or ecstasy as the primary drug mentioned, and all had illicit drugs as the main focus (i.e. the article specifically related to illicit drugs issues or consequences). Of the media content analysis sample (n=3,959), cannabis accounted for 24.5% (the second largest proportion of the sample by drug type) and ecstasy articles were the smallest proportion with 4.9%.

Ecstasy articles

Ecstasy crack down

Ecstasy crack down is typical of the dominant portrayal in the wider sample and the ecstasy sample. It is portrayed neither as a youth issue or a crisis. The overall tone is neutral (did not overtly express an opinion; a factual report of events with little analysis or interpretation). The topic level relates to a specific group/community (a specific demographic, town or city) and the topic type is “criminal justice – dealer.” The moral evaluation of drugs is “bad” (unacceptable in all circumstances) and the consequence is “arrest/incarceration.” No research or sources are used.

Pills spiked with killer drug

Pills spiked with killer drug portrays the issue as a crisis, and as a youth issue. The overall tone is negative (a “bad news story”). The topic level is the broader society level and the topic type is drug market changes. The moral evaluation of drugs is “risky behaviour” and the consequence portrayed is death/overdose. The article uses one source, a law enforcement figure but does not use research.

Hundreds farewell a smiling dancer

Hundreds farewell a smiling dancer portrays the issue as a youth issue, but not as a crisis. The overall tone of the article is negative (a “bad news story”). The topic level is individual and the topic type is “Harms – death/overdose” (i.e. it discusses the death/overdose of a particular individual, not broader community prevalence). The moral evaluation of drugs is “risky behaviour” (not a zero tolerance policy, but an awareness of the risks and a belief that people should be informed about the hazards) and the consequence is death/overdose. One source is used, a friend/family member, and no research is cited.

Ecstasy safe says top cop

Ecstasy safe says top cop is an atypical portrayal. It is portrayed neither as a youth issue or crisis, and has an overall negative tone (a “bad news story”). The topic level is the broader society level and the topic type is “policy commentary – other.” The moral evaluation of drugs is “mixed” (article gave equal weight to both sides of the issue) and the consequence discussed is “death/overdose.” One source is used, a law enforcement figure, and research in the form of statistics are mentioned.

Cannabis articles

Arrests at Mardi Grass

Arrests at Mardi Grass is typical of a large proportion of criminal justice/law enforcement portrayals in the wider sample. It is portrayed neither as a crisis nor a youth issue. The overall tone of the article is neutral (did not overtly express an opinion; a factual report of events with little analysis or interpretation). The topic level is a specific group/community (a specific demographic, town or city) and the topic type is “law enforcement – user” (i.e. information about a police operation or arrests targeting users). The moral evaluation of drugs was “bad” (unacceptable in all circumstances) and the consequence was “arrest/incarceration.” The article used one source, a law enforcement figure, and did not use research

Cannabis users are prone to failure

Cannabis users are prone to failure portrayed the issue as a youth issue, but not as a crisis. The overall tone of the article is negative (a “bad news story”). The topic level is the broader society level (as opposed to the plight of an individual or specific community) and the topic type is “research.” The moral evaluation of drugs was “bad” (unacceptable in all circumstances) and the consequence portrayed was “reduces employment/education prospects.” One source is used, an academic researcher/expert, and a report/article is used as research.

Cannabis is worst drug for psychosis

This article is typical of mental health/harms type portrayals. *Cannabis is worst drug for psychosis* portrayed the issue as a crisis (requiring immediate or urgent government attention or community awareness; a worsening problem) but not as a youth issue. The overall tone of the article was negative (a “bad news story”). The topic level was the broader society level and the topic type was “harms – mental health.” The moral evaluation of drugs was “bad” (unacceptable in all circumstances) and the consequence portrayed was “mental health problems.” One source is used (health/doctor type) and research in the form of a report/article is used.

Branson’s Byron drug daze admission

This article is representative of portrayals of drug use by elites, although its pro-drug stance was atypical. *Branson’s Byron drug daze admission* did not portray the issue as a crisis or youth issue, and the overall tone of the article is neutral (did not overtly express an opinion; a factual report of events with little analysis or interpretation). The topic level is individual (a particular person, as opposed to society at large) and the topic type is “elite – icon” (reporting of drug use by high profile individuals; figures well known to the public). The moral evaluation of drugs is “good” (drug use is good and/or beneficial for certain people; fun and pleasant) and the consequence portrayed is “fun” (drug use is a necessary or desirable way to have fun). Two sources were used, the elite and a media outlet, but research was not cited.

Focus group articles

Ecstasy ‘safer’ than binge drinking

Ecstasy ‘safer’ than binge drinking portrayed the issue as a youth issue, but not as a crisis. The overall tone of the article was neutral (did not overtly express an opinion; a factual report of events with little analysis or interpretation). The topic level was on the broader society level and the topic type was “harms – physical.” The moral evaluation of drugs was mixed (article gave equal weight to both sides of the issue) and the consequence was death/overdose. Three sources are used, including two researchers/experts and one industry representative. The research used was ongoing research and the experts were academics.

Ecstasy death a ‘painful lesson’

Ecstasy death a ‘painful lesson’ portrayed the issue as a youth issue, but not as a crisis. The overall tone of the article is negative (a “bad news story”). The topic is discussed on an individual level and the topic type is “harms – death/overdose.” The moral evaluation of drugs is “risky behaviour” (not a zero tolerance policy, but an awareness of the risks and a belief that people should be informed about the hazards) and the consequence was “death/overdose.” Two sources are cited, family and friends, and no research is used.

Tough new laws on cannabis use

Tough new laws on cannabis use did not portray the issue as a crisis or youth issue. The overall tone of the article is neutral (did not overtly express an opinion; a factual report of events with little analysis or interpretation). The topic level pertains to a specific group/community and the topic type is “policy commentary – law enforcement.” The moral evaluation of drugs is “bad” and the consequence portrayed is “mental health problems.” One source is used, a politician, and anecdotal research is also used.

APPENDIX D: THE BLUE MOON RESEARCH AND SCREENING TOOL

Our goal of the research was to distinguish sub-groups of youth based on their attitudes to illicit drugs. This element of the research was undertaken using the Blue Moon Research screening tool devised in 2000 (Carroll, 2000; Clark, et al., 2003). The Blue Moon study was conducted as a precursor to the development of the National Drugs Campaign that aimed to investigate the positive and negative perceptions of drug use among a spectrum of young people in terms of their attitudes, knowledge, and behaviour toward illicit drugs. Of importance for the current work was the development of a set of six archetypes into which all youth could be classified. Each archetype described attitudes to illicit drug use and life such as propensity to engage in risky behaviours.

The archetypes were devised through a two stage research process: qualitative interviews amongst affinity triads and a national quantitative survey (Carroll, 2000; Clark, et al., 2003). The qualitative stage involved 57 youth affinity triads (groups of three friends) that were conducted in November and December 1999. Triads were conducted with people aged 12 to 24 years in three states (NSW, Vic and SA) and in seven specific areas which covered city and rural areas. Within these areas, locations were selected in conjunction with advice from the Commonwealth Department of Health and Ageing. This enabled researchers to focus on areas of high illicit drug activity and to include youth from culturally and linguistically diverse backgrounds. Triads included approximately equal numbers of males and females, ages, locations and types of users (e.g. non-users/light users and heavy users of alcohol and tobacco, occasional and regular cannabis users, regular users of other drugs and injectors). In each interview participants were asked about their attitudes to life, drugs and drug use behaviour. The total sample of the triads was 171. Based on the triads a typology of six archetypes was devised, with names devised to suit the drug and attitudinal characteristics. The typology was then further tested by using the statements derived from qualitative research (re attitudes to life, drugs and drug use) to quantify youth attitudes to life and drugs in a national survey of 2,306 people aged 15 to 24 years.¹ Results from national survey were subject to Principal Components Analysis and Factor Analysis and gave rise to six groups.

The six identified archetypes were similar but not identical to the results from the qualitative groupings above. The main exception was that one identified category (Careful Curious) had merged with another (Thrill Seekers) and a new category had emerged (Ambivalent Neutrals). For the present results we used the archetypes derived from the quantitative national survey: Cocooned Rejectors, Considered Rejectors, Ambivalent Neutrals, Risk Controllers, Thrill Seekers and Reality Swappers. The key characteristics of each and the estimated proportion of youth that fall into each category is summarised in Table 16.

¹ Of these, 603 interviews (26%) were conducted face to face in the home. The remainder was conducted by telephone. Interviews were conducted in all parts of Australia except the Northern Territory (NT). In each state, interviews were conducted in the capital city and a selected number of other regional and rural areas. The sample was drawn at random from the electronic white pages for each sampling area.

MEDIA REPORTING ON ILLICIT DRUGS IN AUSTRALIA

Table 16: Blue Moon archetypes showing key characteristics and proportion of youth (based on Blue Moon sample of 2,306 youth aged 15-24 years)

Archetype	Characteristics	Proportions based on Quant method
Considered Rejectors	Not interested in drugs Happy and self motivated and choose not to use drugs Peers have similar views hence little peer exposure to drugs	13%
Cocooned Rejectors	Believe drugs are a problem and find even talking about drugs issue confronting Anxious not to upset their parents or the authorities hence would rather avoid drugs i.e. don't use due to external pressures Not very happy or secure in lives Little peer exposure to drugs	16%
Ambivalent Neutrals	Believe drugs are a problem Peers use drugs so exposed to drugs Some use and some don't Have limited interest in them Relatively happy and secure	13%
Risk Controllers	Relatively happy Use drugs when/if exposed to drugs – but will only use to certain extent (i.e. will take “safe”, fun, familiar drugs – not “heavy” drugs) Concerned about future and managing image of selves	20%
Thrill Seekers	Looking for fun and extra excitement Live for today – not tomorrow Believe drugs are potentially fun Have many peers that use drugs Enjoy the excitement of drugs, the ‘buzz’ and the sense of risk Could be tempted to try “hard” drugs but unlikely to become dependent	20%
Reality Swappers	Generally are unhappy and insecure with their lives - feel they lack control over their lives Believe that the reality they experience while on drugs is better than the ‘straight’ world Many peers use drugs Have negative attitude to drugs – continue to use even if makes life worse	16%

It must be noted that the Blue Moon Research findings have not been subject to independent peer review. Nevertheless, the use of both qualitative and quantitative analysis with a large national sample gives some confidence in the results. The more important issue for the current analysis is there are no other existing tools that have been devised to distinguish between Australian youth on the basis of their attitudes to life and drugs. This therefore makes one additional tool that has been used to examine the responses of particular sub-populations of Australian youth to media reporting.

APPENDIX E: MEDIA CONTENT ANALYSIS - TABULAR FORMAT

Table 17: Topic by drug type (proportion) (corresponding to Figure 10)

	Heroin (n=443)	Cannabis (n=475)	Amphetamines (n=296)	Cocaine (n=200)	Ecstasy (n=127)	Mixed (n=461)
Topic Type	Proportion (%)					
Criminal justice	62.1	64.0	51.4	48.5	55.1	44.9
Drug related crime	10.6	3.8	13.2	7.5	2.4	6.9
Policy - law enforcement	7.2	5.5	5.1	2.0	4.7	12.1
Policy - other	7.9	9.9	14.2	2.5	4.7	11.1
Elites	3.8	5.3	4.7	32.5	11.0	8.2
Harms	4.7	5.3	4.4	2.5	12.6	3.5
Research	3.6	6.3	7.1	4.5	9.4	13.2
Total¹	99.9	100.1	100.1	100.0	99.9	99.9

¹May not add to 100% due to rounding

Table 18: Consequence by drug type (proportion) (corresponding to Figure 11)

	Heroin (n=445)	Cannabis (n=487)	Amphetamines (n=299)	Cocaine (n=202)	Ecstasy (n=133)	Mixed (n=477)
Consequence	Proportion (%)					
Legal problems	73.3	62.4	51.8	55.9	57.9	52.2
Social problems	2.5	10.9	7.0	20.3	9.8	14.3
Health problems	14.2	10.7	16.1	12.4	23.3	15.1
Cost to society	9.0	4.1	22.4	4.5	4.5	13.4
Neutral	1.1	7.0	2.7	6.9	1.5	4.6
Benefits	0.0	4.9	0.0	0.0	3.0	0.4
Total¹	100.1	100.0	100.0	100.0	100.0	100.0

¹May not add to 100% due to rounding

Table 19: Moral evaluation by drug type (proportion) (corresponding to Figure 12)

	Heroin (n=445)	Cannabis (n=487)	Amphetamines (n=299)	Cocaine (n=202)	Ecstasy (n=133)	Mixed (n=477)
Moral evaluation	Proportion (%)					
Neutral	62.7	60.9	46.2	69.8	48.1	43.6
Bad	31.0	19.6	48.8	20.8	33.8	39.4
Risky behaviour	4.0	8.2	3.3	4.5	11.3	11.3
Mixed	2.0	7.0	1.7	3.5	3.8	3.6
"Good"	0.2	4.3	0.0	1.5	3.0	2.1
Total¹	99.9	100.0	100.0	100.1	100.0	100.0

¹May not add to 100% due to rounding

MEDIA REPORTING ON ILLICIT DRUGS IN AUSTRALIA

Table 20: Consequence by topic type (proportion) (corresponding to Figure 13)

	Criminal justice - dealer (n=920)	Criminal justice - user (n=185)	Drug related crime (n=154)	Policy - law enforcement (n=139)	Elites (n=173)	Policy - other (n=186)	Research (n=149)	Harms (n=96)
Consequence	Proportion (%)							
Legal problems	95.0	62.7	50.0	47.5	31.8	8.1	4.0	1.0
Social problems	0.7	25.9	3.9	7.9	34.1	15.6	8.7	16.7
Health problems	0.5	5.4	5.8	10.1	24.3	31.7	47.7	81.3
Cost to society	1.6	4.9	36.4	25.2	4.0	28.5	20.1	0.0
Neutral	2.1	0.5	3.9	8.6	5.8	8.6	11.4	1.0
Benefits	0.1	0.5	0.0	0.7	0.0	7.5	8.1	0.0
Total¹	100.0	99.9	100.0	100.0	100.0	100.0	100.0	100.0

¹May not add to 100% due to rounding

Table 21: Number of articles (and proportion) by drug, by year (corresponding to Figure 14 and Figure 15)

	2003	2004	2005	2006	2007	2008
Drug type	Number of articles (Proportion %)					
Cannabis	58 (24.3)	70 (22.7)	159 (30.4)	92 (24.9)	55 (16.3)	55 (20.6)
Heroin	62 (25.9)	63 (20.5)	139 (26.6)	104 (28.1)	41 (12.1)	36 (13.5)
Mixed	56 (23.4)	85 (27.6)	95 (18.2)	73 (19.7)	86 (25.4)	82 (30.7)
Amphetamine	40 (16.7)	39 (12.7)	43 (8.2)	43 (11.6)	80 (23.7)	54 (20.2)
Cocaine	16 (6.7)	23 (7.5)	50 (9.6)	44 (11.9)	46 (13.6)	23 (8.6)
Ecstasy	7 (2.9)	28 (9.1)	37 (7.1)	14 (3.8)	30 (8.9)	17 (6.4)
Total (Total %¹)	239 (99.9)	308 (100.1)	523 (100.1)	370 (100.0)	338 (100.0)	267 (100.0)

¹May not add to 100% due to rounding

Table 22: Number of articles (and proportion) by topic, by year (corresponding to Figure 16)

	2003	2004	2005	2006	2007	2008
Topic type	Number of articles (Proportion %)					
Criminal justice	116 (48.5)	171 (58.0)	316 (61.4)	220 (60.4)	143 (43.9)	139 (52.9)
Drug related crime	18 (7.5)	22 (7.5)	44 (8.5)	14 (3.8)	22 (6.7)	34 (12.9)
Policy - law enforcement	11 (4.6)	17 (5.8)	51 (9.9)	23 (6.3)	18 (5.5)	19 (7.2)
Policy - other	38 (15.9)	32 (10.8)	22 (4.3)	34 (9.3)	40 (12.3)	20 (7.6)
Elites	12 (5.0)	16 (5.4)	36 (7.0)	31 (8.5)	52 (16.0)	26 (9.9)
Harms	13 (5.4)	12 (4.1)	21 (4.1)	17 (4.7)	23 (7.1)	10 (3.8)
Research	31 (13.0)	25 (8.5)	25 (4.9)	25 (6.9)	28 (8.6)	15 (5.7)
Total (Total %¹)	239 (99.9)	295 (100.1)	515 (100.1)	364 (99.9)	326 (100.1)	263 (100.0)

¹May not add to 100% due to rounding

MEDIA REPORTING ON ILLICIT DRUGS IN AUSTRALIA

Table 23: Number of articles (and proportion) by moral evaluation, by year (corresponding to Figure 17)

	2003	2004	2005	2006	2007	2008
Moral evaluation	Number of articles (Proportion %)					
Neutral	119 (49.8)	171 (55.5)	314 (60.0)	190 (51.4)	170 (50.3)	164 (61.4)
Bad	73 (30.5)	98 (31.8)	158 (30.2)	142 (38.4)	116 (34.3)	68 (25.5)
Risky behaviour	14 (5.9)	30 (9.7)	30 (5.7)	23 (6.2)	25 (7.4)	24 (9.0)
Mixed	22 (9.2)	5 (1.6)	15 (2.9)	13 (3.5)	19 (5.6)	3 (1.1)
"Good"	11 (4.6)	4 (1.3)	6 (1.1)	2 (0.5)	8 (2.4)	8 (3.0)
Total (Total %¹)	239 (100.0)	308 (99.9)	523 (99.9)	370 (100.0)	338 (100.0)	267 (100.0)

¹May not add to 100% due to rounding

Table 24: Number of articles (and proportion) by consequence, by year (corresponding to Figure 18 and Figure 19)

	2003	2004	2005	2006	2007	2008
Consequence	Number of articles (Proportion %)					
Legal problems	114 (47.7)	179 (58.5)	393 (75.1)	235 (63.5)	158 (46.7)	145 (54.3)
Health problems	44 (18.4)	47 (15.4)	42 (8.0)	50 (13.5)	74 (21.9)	34 (12.7)
Cost to society	31 (13.0)	37 (12.1)	31 (5.9)	35 (9.5)	36 (10.7)	36 (13.5)
Social problems	21 (8.8)	31 (10.1)	34 (6.5)	33 (8.9)	53 (15.7)	35 (13.1)
Neutral	15 (6.3)	9 (2.9)	16 (3.1)	13 (3.5)	16 (4.7)	16 (6.0)
Benefits	14 (5.9)	3 (1.0)	7 (1.3)	4 (1.1)	1 (0.3)	1 (0.4)
Total (Total %¹)	239 (100.1)	306 (100.0)	523 (99.9)	370 (100.0)	338 (100.0)	267 (100.0)

¹May not add to 100% due to rounding