TOXIC LEGACY:

A CONTENT ANALYSIS OF NEW ZEALAND NEWS

MEDIA COVERAGE OF METHAMPHETAMINE

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Abstract

This thesis investigates New Zealand's print news media coverage of methamphetamine to determine whether there was a moral panic surrounding the drug between 2009 and 2017. While previous research on the media coverage of methamphetamine has been conducted in New Zealand, none has examined the period since 2010. Goode and Ben-Yehuda's (2009) five elements of a moral panic (concern, volatility, hostility, consensus and disproportionality) are utilised to create testable research questions. A content analysis of New Zealand's major newspapers is conducted, finding a total of 7819 articles. Exploratory quantitative analyses are conducted on these articles before a stratified-random sample of 413 articles is selected for in-depth quantitative and qualitative analysis. The results show that methamphetamine was the subject of a lengthy period of negative and misleading coverage particularly in terms of: the rates of use, the proportion of users who become addicted, and its effects on users and society more broadly. I argue that two periods in 2016 ostensibly achieve at least four of the Goode and Ben-Yehuda's five elements of a moral panic. However, the first period in June 2016, demonstrates substantial disagreement between groups preventing consensus from being achieved. The second period, October 2016, appears to have caused only moderate public concern. I discuss possible explanations, and whether a period with one or more of the five elements missing can be considered a moral panic. A key novel finding is the introduction and increased focus of the news media on the issue of "methamphetamine contamination" between 2015 and 2017. I conclude by suggesting improvements for both the theoretical and empirical study of moral panics.

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Callum

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Introduction

On 23 May 2017, Police Minister Paula Bennett said that her understanding of methamphetamine addiction was "one hit and you are hooked"("Paula Bennett's Meth Warning"). Bennett's warning echoes one made in *Newsweek* about crack cocaine, on 16 June 1986, quoting a drug expert in the United States saying, "Try it once and you're hooked!"(as cited in Goode & Ben-Yehuda, 2009, p. 207). The empirical evidence on the rates of users that become addicted to either drug would suggest both of these statements are massive exaggerations (O'Brien & Anthony, 2009; Hart et al., 2000). On 12th September 2015, *The Press* published an article titled "Even Meth Smokers Leave Behind Toxic Legacy" (p. 2). It identified a growing threat potentially lurking in thousands of New Zealand homes: methamphetamine contamination. Over the following months, the coverage of methamphetamine contamination continued to grow, reaching a peak in June 2016. It was described as a threat to human health and a crisis comparable in destruction to a natural disaster. Yet just a year earlier, in 2014, methamphetamine contamination was a "problem" almost never discussed in the news media.

The striking similarities between the first two statements, separated by three decades and a continent, suggests a similarity between the two drugs. But is said similarity due to the pharmacological properties of the drugs themselves, or due to similar coverage of the drugs by the news media? The third statement suggests a substantial increase has occurred in the level of threat posed by methamphetamine contamination. Is this due to a measurable increase in the objective harm or is this too a matter of media coverage? This thesis addresses these questions by examining the New Zealand news media coverage of methamphetamine between 2009 and 2017.

The substantive section of this thesis commences by examining the empirical evidence related to methamphetamine use. The first part of which assesses the evidence concerning methamphetamine's effects, prevalence, and addresses the changes in the extent of consumption over time. After which, a broad range of the potential effects of methamphetamine use are reviewed. These range from the acute effects experienced seconds or minutes after consuming the drug, to long-term effects that may occur after years of methamphetamine use. Some of the effects examined focus on the individual,

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including biological and psychological health. Others will address the wider societal effects, particularly crime. While debate exists in the literature, the effects of methamphetamine are not as uniformly, or severely, negative as mainstream media coverage might suggest. In most situations, individual psychological, and structural factors contribute to any negative effects that occur.

Attention then turns to past research about methamphetamine coverage in the news media. Media coverage is an important area for study as it has a wider reach than sources like official statistics or academic research, which few people examine for themselves (Beckett, 1994). This will reveal that the media have not accurately covered the evidence on the effects of methamphetamine, instead presenting it in a sensationalistic and narrow manner. Moral panic theory offers an accurate description of the news media's portrayal of methamphetamine and other illicit drugs. A moral panic is a period where a society is concerned to an unjustifiable extent by the perceived threat posed by a group or phenomenon. Goode and Ben-Yehuda's (2009) moral panic model provides the theoretical underpinning of this research. The model is a criteria-based approach that determines whether a moral panic has occurred, based on the presence of five elements: concern, volatility, hostility, consensus and disproportionality. Moral panic theory demonstrably provides an explanation of a range of societal reactions to methamphetamine in the past in both the United States and New Zealand. An important finding from the United States is that moral panics surrounding methamphetamine can resurface after a period of dormancy. No research has examined the news media coverage of methamphetamine in New Zealand since 2010; thus, this thesis attempts to determine whether this was a period of dormancy or whether a moral panic occurred.

The findings of past research on news media coverage, especially pertaining to methamphetamine, were used to devise several research questions each of which contribute to answering whether a moral panic had occurred. From the questions and the instruments used in past research, a quantitative and qualitative content analysis protocol was developed; the goal being to produce a rigorous and full account of the news media coverage. The quantitative analysis focused on aspects of the coverage including the topic, framing, and sources used by articles. The qualitative analysis focused on the context and particular word choices used by each article to construct an

image of methamphetamine and its users. Combined this analysis created a detailed and dynamic picture of the news media coverage of methamphetamine.

In the Results and Discussion chapter, each of the findings are presented according to Goode and Ben-Yehuda's (2009) five elements of a moral panic. While some elements are conclusively met, others are subject to uncertainty. Across the study time frame, two potential periods of moral panic will be identified, both during 2016. One of these periods, October 2016, displayed many of the typical characteristics of past moral panics related to methamphetamine and other drugs. However, issues arise as to the extent to which the public were concerned by the coverage. The other period, June 2016, is of particular interest as coverage centred on a previously undetected topic: methamphetamine contamination. Due to the novelty of this finding, I extensively examine the dynamics around methamphetamine contamination, and the possible reasons for New Zealand's ensuing 2016 moral panic.

During the research process several aspects of moral panic research that could be improved upon were noticed; these relate to both the theoretical conceptions and empirical study. Firstly, it is suggested that researchers should use tools that are comparable to each other thereby improving the concurrent validity and allowing for comparison between pieces of moral panic research. Secondly, it is suggested that the current elements of a moral panic are altered slightly to make them conceptually more cohesive and easier to demonstrate through empirical research. Additionally, several suggestions will be made as to gaps in the research that are worthy of further investigation and how limitations of this thesis could be improved upon in future.

Attention now turns to the existing body of literature on methamphetamine use and the news media coverage thereof. This will commence with an outline of what methamphetamine is. The current prevalence of methamphetamine in New Zealand will be detailed. Research on the effects of methamphetamine on the individual and society will be extensively explored. It will be shown that Goode and Ben-Yehuda's (2009) moral panic theory provides a plausible explanation of the current research. Which leads to the main research question: has a moral panic concerning methamphetamine occurred in New Zealand between 2009 and 2017?

Literature Review

This chapter consists of two substantive parts. The first provides an overview of methamphetamine. It will commence with a brief introduction to the history of methamphetamine and its global use. Significant attention will then be paid to contemporary research on the biological, psychological and social effects of methamphetamine use. The second part will examine the findings of contemporary research into how the news media has framed illicit drugs, especially methamphetamine. Goode and Ben-Yehuda's (2009) moral panic theory will be utilised to understand the media's coverage of illicit drugs in general and methamphetamine in particular. Research demonstrating the utility of this particular moral panic theory in explaining news media coverage on methamphetamine will be explored. Finally, past research that has examined the news media's coverage of methamphetamine as a moral panic in New Zealand will be evaluated.

Overview of Methamphetamine

Broadly, amphetamine is a class of drug that contains a variety of substances used globally for both medical and recreational purposes (Heal, Smith, Gosden & Nutt, 2013). The key effects underlying their recreational and medical purposes rely on their ability to promote increased attention and wakefulness. Methamphetamine is the most potent drug of the class: as at any given quantity, it will have a larger effect than other amphetamines (Mosher & Akins, 2006). First synthesised in 1919 by the Japanese chemist, Nagai Nagayoshi, over the course of the twentieth century it was used in a variety of settings. From the initial synthesis, its ability to enhance alertness and wakefulness was noted by researchers. It was then used extensively in military settings by German, American and Japanese soldiers during World War II. During this time, soldiers noted additional effects including its appetite supressing properties (Weisheit & White, 2009). Methamphetamine then became popular for weight loss between the 1950s and 1990s. Today, methamphetamine continues to be used in several countries to treat medical disorders including attention deficit hyperactivity disorder (ADHD), narcolepsy and obesity. However, in New Zealand it is a Class A controlled drug and cannot be prescribed under any circumstances.

In addition to these medical uses, methamphetamine is the most popular synthetic drug in the world (Stoneberg, Shukla & Magness, 2017). It was first widely used as a recreational drug in the United States in the 1960s. Since then its use has spread globally, with particularly substantial growth occurring during the 1990s and 2000s. By 2011, methamphetamine use was greater than that of Cocaine and Heroin combined (United Nations Office on Drugs and Crime [UNODC], 2011). By 2015, there were 37 million users of amphetamine type substances globally (UNODC, 2017). Despite these large global increases in the rate of use, it remains relatively rare; few countries have yearly population use of the drug higher than 1% (UNODC, 2017). New Zealand is one of the countries where yearly prevalence is around 1% or higher.

Methamphetamine in New Zealand

Methamphetamine was first manufactured in New Zealand in the 1970s (Edens, 2016). However, it was not until the late 1990s that it began to be used more widely and received significant attention from law enforcement and the news media (Wallace, 2006). A large part of this thesis will focus on the extent to which the news media coverage of methamphetamine in New Zealand has lacked proportion to the realities of the drug based on empirical evidence. To establish this, the research into the prevalence and effects of methamphetamine will be covered in depth. As this thesis is primarily interested in media coverage since 2010, attention will be focused on that period. However, some brief historical information on methamphetamine use in New Zealand will be presented to provide additional context.

At least ten national surveys were conducted between 1998 and 2017 examining the prevalence of methamphetamine use in New Zealand. As Figure 1 shows, the highest level of methamphetamine use recorded was 5.0% in 2001. This decreased substantially in the following years and since 2011 the yearly prevalence has been around 1% and there have been no statistically significant changes. However, there are several important caveats to note. First is the mode of data collection: the 1998, 2001, and 2003 studies were conducted over the telephone; the 2007 interview was conducted using a computer as an audio-assisted self-interview, and the 2011 to 2017 surveys were conducted via face-to-face interviews. This is important because research has shown that participants tend to display a social desirability bias whereby they tend "to deny socially undesirable traits and to claim desirable ones" particularly in face-to-face

situations (Nederhof, 1985, p. 264). This may have resulted in under-reporting the prevalence of methamphetamine use. Secondly, the age range has differed between surveys. Crucially, the 1998 and 2001 data had an age limit of 45 whereas subsequent surveys have included those up to the age of 65. Importantly these same surveys show that those between the age of 45 and 65 are less likely to have used amphetamines than other groups, meaning that the 1998 and 2001 surveys are likely an overestimate of population usage rates. Additionally, changes in the format of surveys and the questions asked prevent it from being said with certainty that the decrease between 2001 and 2011/12 represents a real trend.

However, since 2011/12 methamphetamine use has been surveyed in a consistent manner on an annual basis. The New Zealand Health survey has a "multi-stage, stratified, probability-proportional-to-size (PPS) sampling design." (Ministry of Health, 2017a, p. 6). It encompasses over 14,000 adults. They are weighted for gender, ethnicity and socioeconomic position as "these variables are related to many health conditions and to non-response" (p.19). These surveys are thus a reliable measure of the number of people using methamphetamine in the past year. These have consistently shown that methamphetamine use in the past year has been around 1% of the population with no evidence of a change between 2011/12 and 2016/17 (p = 0.83). Thus, the data suggests that since 2007 the prevalence of methamphetamine use in New Zealand has remained stable or declined.
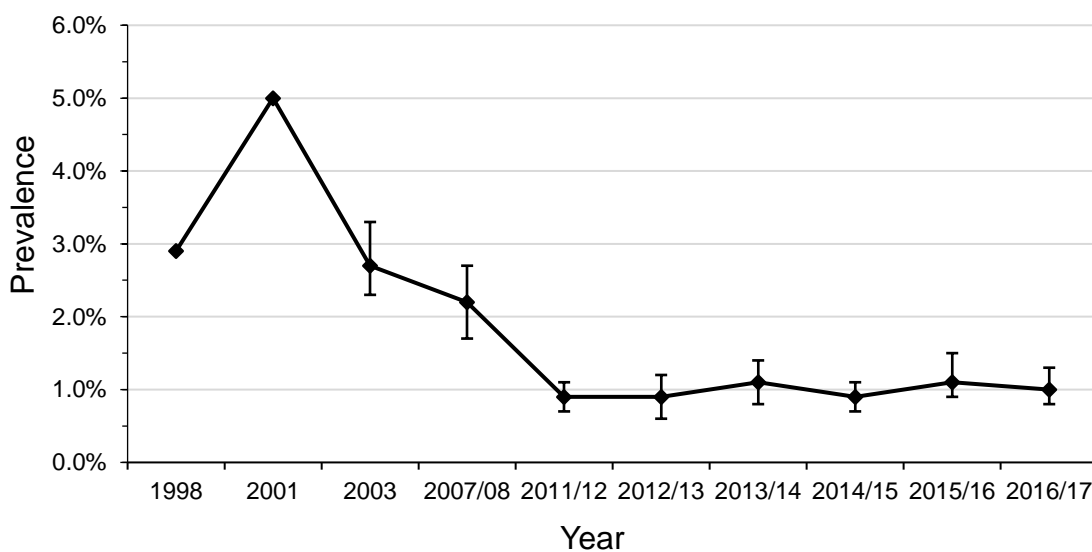

Figure 1. Prevalence of methamphetamine use in New Zealand by year. Sources: Wilkins & Sweetsur, 2008; Ministry of Health, 2017.)

However, prevalence is not the only aspect of methamphetamine that has been measured in New Zealand. Between 2008 and 2015, the price and purity of the drug remained stable with median price between $650-700 and purity between 69-73% (Wilkins, Prasad, Moewaka Barnes, Romeo & Rychert, 2017). Difficulty to obtain methamphetamine also remained relatively constant although a slightly higher proportion of respondents found methamphetamine becoming easier to acquire in 2015 compared to 2008 (Wilkins et al., 2017).

One area where the prevalence of methamphetamine appears to have changed is in terms of law enforcement activity. There was a significant increase in the number of convictions for possession, supply and manufacture between 2004/2005 and 2014/2015. In 2004/2005, there were a total of 1554 convictions for possession, supply and manufacture of methamphetamine. This more than doubled by 2014/2015 to 3177 (Policy Advisory Group, 2015). This may indicate greater possession, supply and manufacture of methamphetamine or it may signal increased enforcement by police. Additionally, the volume of seizures has increased substantially in recent years. This may represent a greater quantity of methamphetamine being used. Alternatively, it may simply reflect changes in the methods of production and distribution: from being produced in New Zealand in small labs to being produced in large labs overseas and imported (Gilbert, 2016). Overall, this research suggests that there have not been any significant changes in the rates of methamphetamine use. However, there have been changes in the supply chain of the drug, or in law enforcement activity, resulting in a larger quantity of border seizures and increased availability. With the methamphetamine situation in New Zealand established, the following section will focus on the effects of both short and long-term methamphetamine use.

Effects of Methamphetamine

Methamphetamine is purported to have a number of effects over both the short and long term. It is necessary to establish what the scientific literature currently states about methamphetamines effects, so this can later be used to assess the accuracy of the print news media coverage. The effects will be separated based on whether they occur over the short or long term and whether they effect the individual user or other parties.

Firstly, the acute effects will be assessed. These are the effects that last for somewhere between several minutes to several days after consuming a dose of methamphetamine. Following this, the effects of long-term methamphetamine use will be examined on four domains. The first three pertain to effects on aspects of an individual's health. This will include biological health effects, psychological effects and addiction. Finally, the broader effects of methamphetamine on a societal level will be discussed particularly regarding crime and child abuse.

Acute Effects

There is now extensive literature on the acute effects of methamphetamine on human physiology and behaviour under laboratory conditions (Hart et al., 2012). Short-term or acute effects are those that result directly from ingesting a dose of methamphetamine and last until the entirety of the dose has been metabolised. These randomised controlled trials (RCTs), generally consist of three steps: firstly, baseline tests on a variety of measurements of interest are performed. These often include self-reported changes in mood and alertness, and objective measures of cognitive function and physiological reaction. Second, participants are administered a specific amount of methamphetamine, another drug, or a placebo. Thirdly, participants are reassessed multiple times on the same set of tests they performed at the baseline over the following hours and days (Hart et al., 2012). This controlled and double-blinded design allows for the effects of methamphetamine to be observed without confounding variables.

These studies have found the immediate effects of methamphetamine to be: feelings of euphoria, improved cognitive functioning, increased blood pressure and heart rate, and reduced sleep (Hart et al., 2008; Silber et al., 2006). The feelings of euphoria and improved cognitive functioning tend to last for approximately four hours while the increase in blood pressure and heart rate tend to last for approximately 24 hours. These physiological increases, although statistically significant, do not present a danger to the health of participants and are less than those experienced during rigorous physical exercise (Hart et al., 2008). Those who receive methamphetamine, as compared to a placebo, sleep for around 2 hours less over a 24 hour period (Hart et al., 2008).

The finding of improved cognitive functioning is robust as it has been replicated on a variety of populations tested, including those who have never used stimulants before

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(Johnson et al. 2000), or have used stimulants infrequently (Hart, Haney, Foltin & Fischman; Marrone, Pardo, Krauss & Hart, 2010), as well as those who meet the clinical definitions of methamphetamine dependence and abuse according to the Diagnostic and Statistical Manual of Mental Disorders, 4th edition (DSM-IV) (Hart et al., 2008). Additionally, these results have been replicated with participants administered methamphetamine orally, via smoking, intra-nasally and intravenously (Johnson et al., 2005). Despite such varied research none of these studies found cognitive disruptions in tasks even when high doses have been administered, although some found no effect of methamphetamine use on cognitive domains (Sevak et al., 2009). This general finding of enhanced cognitive effects due to acute methamphetamine use is consistent with its use as a treatment for ADHD and narcolepsy in the United States. This should be unsurprising as one of the more common drugs to treat ADHD is dextroamphetamine (the active ingredient in Adderall) and "there are no known neurobiological differences in action between the two drugs" (Shoblock, Sullivan, Maisonneuve, & Glick, 2003, p. 359). Overall, methamphetamine use induces euphoria, as well as improved attention and cognitive functioning over a wide range of groups in the short term. Attention now shifts to the effects the drug may have on human health over longer time periods.

Long-Term Effects

Compared to the acute effects, the effects of long-term methamphetamine use are more heavily contested in the literature. This is in no small part due to the differing nature of the research. As it would be both difficult and unethical to carry out RCTs where participants are administered high doses of methamphetamine over an extended period of time, the research into the effects of long-term use is observational (Hart et al., 2012). This can make it difficult to demonstrate causation, and to separate the contribution of various other factors. Some have criticised the research into the effects of long-term use for not sufficiently acknowledging confounding variables and presenting overly certain causative claims (Moore & Fraser, 2015). The potential effects discussed will fall under the categories of biological, psychological, addiction and social. The biological effects will include potential harms to brain structure and function and severe tooth decay. The psychological effects discussed include: cognitive impairment, potential for psychosis and the triggering of other mental illnesses. Potential psychological benefits are also discussed. Addiction effects noted will cover the potential for methamphetamine to

induce addiction or dependence. Finally, the social harms that will be most thoroughly examined will be in relation to crime and child abuse.

Biological effects

A range of biological effects of methamphetamine have been examined in research: from severe tooth decay to increased vulnerability to other diseases like HIV. Before surveying this research, it is important to note that the boundaries between the biological and psychological effects is a blurred one. In this chapter, neurological effects of methamphetamine will be discussed under biological effects, whilst cognitive effects will be categorised as psychological. This division is to an extent arbitrary and is made for clarity rather than as a claim about the nature of these effects. The first biological effect of long-term methamphetamine use evaluated will be the effects on the structure of the brain. This will be followed by exposition of the research pertaining to methamphetamine's connection to severe tooth decay. Finally, several other potential effects will be briefly noted.

Research has examined the effects of long-term methamphetamine use on the structures of the brain. Thompson et al. (2004) examined brain scans which revealed that the right cingulate gyrus and hippocampus of methamphetamine users were smaller than those of non-users by eleven and eight percent respectively. They concluded that methamphetamine use "causes... deterioration that contributes to impaired memory performance."(p. 6028). The clinical significance of these differences is questionable, as normal variation in the size of many brain structures can be 10-15% without any difference in cognitive function (Kirkpatrick et al., 2012). Aside from changes in the structure and functioning of the brain, one aspect of long-term methamphetamine use that has provoked significant interest is that of extreme tooth decay or "meth mouth" (Linnemann & Wall, 2013). Hamamoto and Rhodus (2009) propose that methamphetamine causes severe tooth decay because it restricts salivatory flow leading to dry mouth. However, Hart et al. (2008), note that dry mouth is a common side effect of a variety of medications including the commonly prescribed amphetamine Adderall. Despite the popularity of Adderall, there are no reports of tooth decay associated with use (Hart et al., 2008). Therefore, Hart et al., (2012) argue that observed extreme tooth decay in some people that abuse methamphetamine is potentially the result of poor diet and dental hygiene. These are linked to lower socio-

economic backgrounds which methamphetamine users are more likely to come from. Thus, the effect of methamphetamine use on tooth decay is disputed and is potentially correlative rather than causative.

There are a number of other potential health harms associated with methamphetamine use. These include: hypertensive crisis, decreased immune response, increased prevalence of HIV and potential death from overdose (Anderson & Flynn, 1997; Ho, Josephson, Lee & Smith, 2009; Darke, Kaye, McKetin & Duflou, 2008). These will not be covered in further detail here except to state that whilst these are clearly extremely negative effects, these are rare and associated with extended periods of heavy use. In the case of HIV, it is not clear that there is more than a correlative relationship, with confounding variables causing both methamphetamine use and HIV (Hart et al., 2014; Anderson & Flynn, 1997). Overall, in terms of biological effects, methamphetamine might reduce the size and function of some areas of the brain but not to a clinically significant extent. Furthermore, as the research on brain structure, tooth decay, and other health effects tends to be observational; substantial confounding variables, especially the socio-economic, make causality difficult to determine.

Psychological Effects

The long-term psychological effects of methamphetamine use have been extensively researched but remain the subject of debate. As noted above, this largely stems from the observational nature of the research and important confounding variables. This section will focus on the two most frequently studied: cognitive impairment and psychosis but also one that has not been the subject to such frequent research: functional use.

Some studies have found cognitive impairment in long-term users of methamphetamine. Simon et al. (2002) found significant differences in performance between participants meeting the clinical definitions of methamphetamine abuse[1] and a control group on several cognitive tasks testing participants' short-term memory and ability to complete puzzles, among other things. This led the authors to conclude that long-term methamphetamine use leads to severe cognitive impairment in users. Further research has found that on most cognitive tests methamphetamine users and non-users perform similarly, and even on the few that users perform worse on, all the scores fall

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[1] All references to "abuse" and "dependence" are based on the DSM-IV unless otherwise mentioned.

within the normal range (Johanson et al., 2006). It has been argued that the research finding cognitive impairments have been interpreted by some in a manner that overemphasises the differences between methamphetamine abusers and non-abusers and ignores the vast similarities when it comes to cognitive functioning (Scott et al., 2007). Hart et al. (2012) note that even though mean scores in several tests were lower for methamphetamine abusers, the scores for all of them fell within a normal range indicating that methamphetamine abusers did not have any clinically significant impairment. They argue that much of the confusion in the research comes from the two different meanings of 'impairment'. Research that finds cognitive impairment often uses the term in the sense of performance of abusers being worse on a task in terms of statistical significance. A second meaning of impairment that better captures the common use of the term is a substantial loss of function on cognitive tasks which would be of clinical significance. This is often ignored in the literature when authors move to the implications of their findings. Hart et al. (2012) note a "propensity to interpret any brain difference as pathology, even when there are no differences on functional outcome measures" (p. 597). Cherner et al. (2010) support this by finding no cognitive impairment in long-term methamphetamine users. Thus, whilst the issue of cognitive impairment in methamphetamine users has not been resolved in the literature, there is certainly no reason to believe that even those that abuse methamphetamine over a prolonged period suffer cognitive impairment that places them outside the range of normal variation.

Another key concern when it comes to the psychological effects of long-term methamphetamine use is its ability to bring about psychosis or potentially trigger other mental illnesses. Research has shown that methamphetamine users are more likely to have experienced a psychotic episode compared to the general population (Darke et al., 2008). However, it is a relatively rare effect that tends to be associated with heavy long-term use and often a predisposition for mental illness due to psychosocial factors (Hart, Csete & Habibi, 2014). Thus, it is plausible that these harmful long-term effects may be the result of other factors rather than methamphetamine use itself but at the very least these other factors play a role.

Due to an emphasis on determining the pathology and negative aspects of illicit drug use research into methamphetamine use has rarely mentioned positive effects of the

drug. However, some research has found that similar to other licit and illicit drugs, there can be positive reasons for use (M Ter Bogt & Engels, 2005). Lende, Leonard, Sterk and Elifson (2007) focused on functional use: where a drug is taken because it provides enhancement to the user on functions like changing their mood or ability to handle social situations (p. 466). They found that regular methamphetamine users self-reported three key reasons for use: enhanced functioning, increased productivity and the ability to function 'normally'. This is consistent with methamphetamines use as a treatment for ADHD. Research on the extent of functional methamphetamine use is relatively limited though as often surveys will focus exclusively on negative effects of the drug. For instance, in New Zealand, all of the questions asked by Wilkins, Reilly, Roy, Pledger and Lee (2004), question the degree to which aspects of users' lives have been negatively impacted. It is unsurprising then, that the picture constructed by a substantial portion of the research is negative.

Addiction

Addiction and dependence are key concerns for any potentially harmful behaviour and especially important in the context of drugs. Research looking at the addictiveness of methamphetamine has found approximately 5% of users will become addicted within two years (O'Brien & Anthony, 2009). This is consistent with surveys of New Zealand users; Wilkins et al., (2004) found that most of those who had used amphetamine or ice (a specific type of methamphetamine) in the last year, had only used it 1 or 2 times. The percentage of users that had used either drug 10 or more times in the past year was only 19% and 14% of users for amphetamine and ice respectively (pp. 26–27). Of those that had ever used either drug approximately one in five had used it in the last month.

Note: even those people that become addicted to methamphetamine do not become completely focused on acquiring the drug. Kirkpatrick et al. (2012), show that when people addicted to methamphetamine are given the option between choosing five dollars or a dose of methamphetamine, they choose the five dollars 59% of the time and the dose of the drug on only 41% of occasions. When offered $20 or a hit of methamphetamine the methamphetamine is chosen only 17% of the time. The authors conclude that the fact that those addicted to the drug will turn down an opportunity to use it for a small sum demonstrates that the addictiveness of methamphetamine has been exaggerated. This is supported by Moore and Fraser (2015), who note that

contradictions often occur throughout academic research on methamphetamine. A paper might claim both that methamphetamine is "highly addictive" but note somewhere else that most users have few or no problems and do not become addicted (p. 90). This has been demonstrated in New Zealand with data showing that less than 20% of users become addicted (Ministry of Health, 2017b). Thus, while addiction is a common side effect of methamphetamine use, most users do not experience it, and those who do are not so overwhelmed by their addiction that they become entirely focused on drug acquisition.

Social Effects

The key purported social effects of methamphetamine are its association with crime and cause of harm to families and children. It is clear that methamphetamine is associated with both violent and acquisitive crime, but it has proven difficult to establish causation. Additionally, even though the possibility exists that methamphetamine may cause crime and other harms; it does not do so in the vast majority of cases. There is stronger evidence for methamphetamine being the cause of child abuse, although other factors are still important, and the majority of methamphetamine users do not abuse their children.

Research has linked methamphetamine use to acquisitive crimes, such as burglary and theft. In New Zealand, Wilkins and Sweetsur (2011) found evidence of a strong association between spending on methamphetamine and earnings from both acquisitive crime and drug dealing. Those that had purchased methamphetamine in the last 30 days were three times more likely to have committed acquisitive crime. This is potentially because people commit acquisitive crime to fund their drug use. However, Wilkins and Sweetsur (2011) were unable to rule of other possibilities like offenders committing acquisitive crime and only later deciding to spend the money acquired on drugs. Alternatively, both higher rates of methamphetamine spending and acquisitive crime might be the result of "developmental factors, such as family dysfunction and youth delinquency, and broader socio-cultural factors, such as social and economic exclusion" (Wilkins & Sweetsur, 2011, p. 795). Thus, there are many confounding variables, which make causation in the relationship unclear.

Potentially, a greater problem are the links between methamphetamine use and violent crime. Research in the United States has shown that methamphetamine users self-

report higher levels of violent behaviour (Cartier, Farabee & Prendergast, 2006). Wilkins et al., (2004), found that 15% of frequent users of methamphetamine in New Zealand had experienced violent behaviours after methamphetamine use compared to 6% before use (pp. 78- 79). However, this study had a small sample size of 53 participants and Wilkins et al. did not perform any statistical tests on this data. To confirm their results, I performed a Pearson's chi-squared test on their data. It showed no significant change between users behaving violently before and after use (χ^2 = 2.54, df = 3, p = 0.11). The most well-designed study on methamphetamine's link to violence, conducted by Dobkin and Nicosia (2009), examines methamphetamine prevalence during the mid-1990s in California. During this time the Drug Enforcement Agency (DEA) conducted one of its most successful seizures, taking massive quantities of the methamphetamine precursor pseudoephedrine off the market. This large and abrupt change allowed them to examine the effect on crime. They found that the DEA's actions successfully reduced the supply of methamphetamine as price increased and purity decreased. This resulted in fewer people using methamphetamine, at least in a problematic manner, as methamphetamine-associated hospitalisations and admissions to treatment decreased by 30% and 35% respectively. The proportion of arrestees who tested positive for methamphetamine also decreased from around 50% to around 20%. If methamphetamine use was a significant cause of crime, the reduction in use by a half should have caused a large decrease in crime. However, they found no discernible reductions in any form of property or violent crime. The only crimes that did reduce significantly were those related to the possession and supply of methamphetamine (Dobkin and Nicosia, pp. 344-346). This would suggest that while methamphetamine may be strongly associated with crime, it might not be the cause.

No similar research has been conducted in New Zealand as many of the data sources relied by Dobkin and Nicosia (2009) have no New Zealand equivalents. On face value, though, there appears to be a similar lack of relationship. Like many other Western countries, violent crime, particularly homicide decreased between the mid-1990s and 2009 (Collins, 2009). This occurred during the time that methamphetamine became increasingly prominent, indicating that at the very least, other factors make important contributions to violent crime. Thus, whilst methamphetamine might play a contributing role in the problems experienced by some users, the evidence does not support it being seen as the sole cause in the majority of cases.

Potentially, the negative effect of methamphetamine with the greatest supporting evidence is its effect on child abuse. Cunningham and Finlay (2013) showed that during the same price shocks as Dobkin and Nicosia (2009), there was a decrease in the number of children placed in foster care by about 30%. This is a sizeable effect and includes decreases in the number of children being admitted for neglect and physical abuse. Although this does also include placement in foster care for parental drug use and incarceration; common reasons for children being admitted to foster care. Nevertheless, this is evidence that methamphetamine use can increase the rates of child abuse and neglect.

Summary

It has been demonstrated that much of the literature claiming methamphetamine is a significant "problem" is disputed. Moore and Fraser (2015), argue that researchers are guilty of *problem inflation*. They state: "at best, the research [on methamphetamine] can be confusing and insufficiently rigorous in its treatment of key issues such as causation and, at worst, it misrepresents the available evidence in ways that exaggerate problems and the amount we know about them." (p. 89). Dwyer and Moore (2013) show that "a common practice in methamphetamine research is to support findings via selective and inaccurate readings of (often highly limited) research" (p. 89). However, recent, critical research has taken a different approach towards methamphetamine; looking more broadly at the psychosocial causes of problems associated with use. This highlights the importance of the work of Zinberg (1984) who notes, that aside from the pharmacological effects of a drug, two things are important: set and setting. By set, Zinberg refers to the mind-set of the individual including their mood and expectations. Setting refers to the physical but also social context of drug use. To understand problematic patterns of use, these must be understood in addition to the pharmacological effects of a drug.

To provide just one example of problem inflation that was found during the examination of the literature: Scott et al. (2007), state that "considering its highly addictive potential, it is not surprising that chronic [methamphetamine] use leads to adverse psychosocial and behavioural outcomes. [Methamphetamine] users are likely to be unemployed and uninsured (Baberg et al. 1996)." However, looking at the research of Baberg, Nelesen and Dimsdale (1996), shows two very important caveats: firstly, the

paper focuses only of those admitted to hospital for psychiatric treatment, it is possible that this group is not representative of the wider population of methamphetamine users. Secondly, they do not provide information on socio-economic differences between users and non-users. This is important because Baberg et al., even note that other research has shown that methamphetamine users tend to come from lower-socioeconomic backgrounds than other drug users. Scott et al., then clearly ignore important limitations on the research they cite to imply that methamphetamine use causes these problems.

In this section, a clear picture of the research in regard to methamphetamine use has been established. In the short term, methamphetamine produces alertness, increased attention and euphoria in a user. The effects of long-term use are substantially less clear. Heavy use over the long-term may lead to biological health problems like changes to the brain and tooth decay although there are other factors that can explain tooth decay and any changes in the brain are not clinically significant. While methamphetamine is an addictive substance, research has shown that most users do not become addicted and that those that do are not constantly overwhelmed by their compulsion for the drug. It is possible that very frequent use of large amounts of methamphetamine may contribute to psychological problems including psychosis although other underlying psychosocial problems also play a part. Finally, while methamphetamine may impact on crime, the vast majority of users do not commit crime, especially violent crime, and socio-economic factors play a substantial part. With this established, the second part of this chapter will focus on how past research has found methamphetamine to be covered in the news media and the extent to which moral panic theory can be used to explain this.

Drugs and the News Media

Jamieson and Campbell (2006) observe that "the news media are pervasive and forceful persuaders with the ability to shape our perceptions and to influence our beliefs and attitudes" (p. 119). It is therefore important to examine what the media are saying about methamphetamine: the frequent referencing of a drug alongside harmful acts can lead the reader to associate the two (Roach, 2012, p. 70). Research has consistently

found a correlation between the stories that the media chooses to cover and public priorities. Additionally, newspapers have been found to be more effective at setting the agenda than television (Walgrave and Van Aelst, 2006). The fact that the media can influence how the public think about issues is important when it comes to drugs as it means that the media play a part in determining whether drugs are thought of as a criminal or a public health issue (Chenault, 2012, p. 17).

In this section, a wide range of research on the news media's coverage of drugs will be examined. This will start with a basic outline of the importance of the media in shaping public opinion. Then moral panic theory, which has been widely applied to the news media coverage of crime and illicit drugs will be explained. The specific findings of past research into the news media coverage of methamphetamine in both New Zealand and other countries will be given exposition. This will demonstrate that moral panic theory fits in with the majority of the research that has been conducted on the news media coverage of methamphetamine.

Most people in New Zealand have never used any given illicit substance (Ministry of Health, 2010, p. 15). The public therefore heavily rely on the media's reporting on illicit drug issues (Lancaster, Hughes, Spicer, Matthew-Simmons & Dillon, 2011). As Hall, Critcher, Jefferson, Clarke and Roberts (1978) state "the media are often presenting information about events which occur outside the direct experience of the majority of the society. The media thus represent the primary, and often, the only source of information about many important events and topics." (p. 56). This has been demonstrated in New Zealand where UMR (2009) highlighted the role the news media played in "raising awareness and informing" the public about illicit drug use (p.33). Substantial past research has focused on "sensationalism, bias and narrow framing", finding the use of "alarmist fear imagery and risk frames" including making drugs out to be epidemics with emphasis placed on growing threats posed by drugs and drug users (Blood, Williams & McCallum, 2003, p. 99). However, Hughes, Lancaster and Spicer (2011) argue that overall "news coverage of drug issues is less sensationalised, biased and narrowly framed than identified in past research" (p. 289).

Sensationalist or not, there is evidence of bias in news reports' framing of drug issues based on their reliance on certain types of sources. The news media look for attention-grabbing, stories to report to sell newspapers and advertising space (Hall et al., 1978, p.

84). Past panics surrounding drugs have been traced to police informing journalists that use of a certain drug has started to get beyond their control (Cohen and Young, 1973). Therefore, Cohen and Young suggest that the police play a vital role in how drugs and drug users are viewed. It has been argued that the news media's preference for law enforcement officials, reduces drug use to a "narrow range of topics and interpretative frameworks" resulting in the neglect of other causes or solutions (Taylor, 2008, p. 242). A key theory used to describe the media reaction to drugs at certain times is that of the moral panic.

Moral Panic Theory

A moral panic is a brief period during which a society unjustifiably views a group or object to be so harmful to the fabric of society that steps must be taken to control or punish them (Goode and Ben-Yehuda, 2009, p. 35). Moral panic theory has been a widely used tool to examine the media's coverage of issues of deviancy over the past half century. It has been found to be a particularly useful framework for studying the news media's framing of drug issues. The concept was first formulated by Stanley Cohen and Jock Young in the 1960s. Cohen's (1972) conception of a moral panic has been particularly influential. It is a processual conception, whereby a moral panic can be identified by observing progression between four stages: warning, impact, inventory and reaction. According to Cohen (2002, pp. 16-17), the warning phase encompasses members of a group (often police or politicians) making initial claims that something is getting worse or may pose a danger. The impact phase occurs when "disaster strikes" and certain events make the panic around the group or object highly felt. Inventory follows as society asses what has happened and finally the reaction where societal groups decide what course of action to pursue in response to the threat. Goode and Ben-Yehuda (1994) attempted to bring together the wide range of research that has been conducted on moral panics to identify the key attributes. They come up with a criteria-based model whereby a moral panic is not identified by the order of the phases like Cohen but by whether or not five elements are present. These are: concern, volatility, hostility, consensus and disproportionality. The rest of this section will be devoted to exposition of Goode and Ben-Yehuda's (2009) conception. It is this model that will primarily be utilised in this research for two reasons: firstly, it is the model that has

most frequently been employed by the literature that will be discussed in the coming sections, suggesting its utility (E.g. Armstrong, 2007; Carton, 2016; Keune, 2014). Secondly, using the same model as most of the extant research allows comparisons to easily be drawn with this thesis in regard to why or why not certain features of a moral panic are exhibited.

Concern

The first element of a moral panic according to Goode and Ben-Yehuda (2009) is that there must be a heightened concern over a group or object among one or more other societal groups (p. 38). There are five 'spheres' in which concern can be displayed/agents who may express concern. These are: the general public, the media, social movements, political activity and law enforcement (Goode and Ben-Yehuda, 2009, p. 49). Goode and Ben-Yehuda state that concern should be measurable in "concrete" ways (p. 38). This demonstrates the role of quantitative research in moral panics as concern can be measured by the frequency of news media articles or the concern the public express in opinion polls.

Volatility

Moral panics must be volatile, they both appear and disappear suddenly. Although they must erupt suddenly, they can lie dormant for long periods beforehand and may reappear months or years later. Although the panic itself will run its course of intensity quickly, it may long have had historical antecedents, and it may result in the creation of social movements, institutions or legislation that last indefinitely afterwards (Goode and Ben-Yehuda, 2009). So, over the course of time, multiple moral panics surrounding the same issue may arise with each individual panic arising and subsiding over the period of a few months or years (Goode and Ben-Yehuda, 2009, pp. 41–43). There is a matter of degree to volatility; but if the panic is effectively constant then it does not qualify as a moral panic (Goode and Ben-Yehuda, 2009, p. 42). This element has been slightly more difficult to determine as subsequent research has used different definitions of volatile. For some panics, volatility has involved a few short months before subsiding over subsequent months (Jenkins, 1994). Other panics have appeared more slowly, over the course of several years (Baerveldt, Bunkers, De Winter & Kooistra, 1998). Generally, the research would indicate that moral panics should be measured on the scale of weeks and months rather than years or decades.

Hostility

There must be increased hostility toward the group or object. This involves them being designated as harmful or an enemy whose behaviour threatens at least one segment of society. Hostility should have a number of observable elements. One of these involves a dichotomy forming between "us" decent people and "them" the deviants (Goode and Ben-Yehuda, 2009, p. 38). "They" will likely be stereotyped into what Cohen (2002) refers to as 'folks devils' with negative stereotypes surrounding their behaviour and appearance. Creating the symbols and themes is an important part of effectively causing a panic. Cohen states that "through symbolisation, plus other types of exaggeration and distortion, images are made much sharper than reality" (p. 43). As Cohen (2002) states, the image of the deviant is one that is worked on and:

> The deviant is assigned to a role or a social type, shared perspectives develop through which he and his behaviour are visualized and explained, motives are imputed, causal patterns are searched for and the behaviour is grouped with other behaviour thought to be of the same order. (p. 76)

Another key aspect of hostility is the framing of the issue as a crisis. It may be claimed that the threat posed is so large that the problem is on the scale of natural disasters. Language may invoke natural disasters by referring to the group or object using terms like crisis or epidemic and it may be stated that it affects all of society (Reinarman & Levine, 2004).

Consensus

There must be widespread agreement that the group or category under discussion poses a threat. Although this must be widespread it does not need to be universal. Panics exist on a continuum of consensus with some effecting the vast majority of members whilst others effect only a substantial minority. While a precise number cannot be produced, an event certainly does not meet the threshold of consensus if it only occurs for a small section of individuals. Panics can be regionalised or confined to a specific group but there needs to exist a sizeable section in that group or region that believe in the panic (Goode and Ben-Yehuda, 2009, pp. 38-39).

While there must be consensus that a problem exists, this does not mean that all proposed responses must be uniform. Some may suggest that an emphasis on law and

order is required to stop the problem, but often others may suggest measures like education or treatment (Goode and Ben-Yehuda, 2009, pp. 35-36). Additionally, there is the potential for some groups to dissent against prevailing views. These groups are often weak and unorganised but can be strong and united (Goode and Ben-Yehuda, 2009, pp. 39-40). McRobbie and Thornton (1995) argue that as the number of alternative media outlets has increased so has the ability of groups at the centre of a panic to counter the mainstream media narrative. This may reduce the extent to which consensus is found in news coverage. Furthermore Hall et al. (1978) argue that public concern is not central to a moral panic and is little more than an expression of elite interests. However, this fails to acknowledge that often potential panics are ignored because they do not resonate with the public or, conversely, a panic is created that elites would rather ignore (Jenkins, 2009; Goode & Ben-Yehuda, 2009, p. 39).

Part of the reason for consensus might be the media's use of easily accessible and authoritative sources. These sources tend to be official, such as: the police, the judiciary, and politicians (Wallace, 2006). Such sources have at times been referred to as *moral entrepreneurs,* people who can initiate or feed the panic and often stand to benefit from the panic becoming greater in scope (Goode and Ben-Yehuda, 1994, p. 20). The use of official sources potentially adds to the bias in the manner in which drug issues are framed as the police have their own agenda when it comes to portraying crime. Cohen and Young (1973) identify what they call a "symbiotic relationship" between the police and news media. At any given time, the police may be seeking attention or funding for crime control and the media will be seeking a gripping story.

Disproportion
The element of disproportionality requires that the perceived threat from the group or object to society is greater than a realistic appraisal of the evidence would justify. Goode and Ben-Yehuda (2009) explain that "the term moral panic conveys the implication that public concern is in excess of what is appropriate if concern were directly proportional to objective harm." (p. 40). This requires some ability to measure objective harm which makes disproportionality the most highly contested element. Waddington (1986) argues that the seriousness of a threat cannot be measured objectively and thus cannot be called 'disproportionate' to the concern elicited. Goode and Ben-Yehuda (2009), disagree, arguing that "some features of threat and harm can be measured against

claims, and… be found wanting" (pp. 40-41). Whilst there may be degrees of certainty they argue that some statements are more likely to be true than others, based on empirical knowledge. This is particularly true of moral panics surrounding drugs as drug harms are often relatively well studied and can be quantified. An alternative defence of disproportion is offered by Linnemann (2016) who argues that while it might not be possible to determine if coverage is disproportionate using objective standards, coverage is still disproportionate if it covers the subject in a near uniform manner when there are other sources and evidence that could suggest an alternative.

To emphasise the objective nature of disproportionality rather than being simply a value judgement, Goode and Ben-Yehuda (2009, pp. 44-46) set out several indicators of disproportion. Some of these involve the use of facts and figures that are inaccurate, misleading or even fabricated like urban legends. Another indicator of disproportion is if there is substantial attention given to the subject of the panic despite other issues causing similar or greater harm. For drugs, this can be determined by comparing media coverage of licit and illicit drugs (Forsyth, 2001). Finally, if the attention paid to the group at the peak of the panic is much greater than at a previous or later time without any change in the size of the threat according to the evidence, then it is disproportionate.

The five key elements of the Goode and Ben-Yehuda (2009) model of moral panics have now been established. However, a clear picture of what a moral panic concerning methamphetamine looks like has yet to be developed. The next two sections will focus on the findings of past research into moral panics concerning drugs with an emphasis on methamphetamine. The first of these sections will be centred around the United States where there has been substantial research conducted but will also examine research from Australia, the UK, South Africa and Canada. The second section will focus on the applicability of Goode and Ben-Yehuda's (2009) moral panic framework to contemporary New Zealand.

Methamphetamine Panics

According to Goode and Ben-Yehuda (2009, p. 198), moral panics concerning drugs occur frequently. Generally, during such panics, claims are made about the potential

harm of a substance, links are made to psychological problems and violence that cannot be substantiated by evidence. Although the details surrounding each drug scare differ, they have many common elements that have been observed as far back as scares surrounding cannabis in the 1930s (Himmelstein, 1983). However, only the literature pertaining to methamphetamine will be discussed in depth in this thesis. Therefore, this section will focus on research concerning the media coverage of methamphetamine. It will show that the five elements of Goode and Ben-Yehuda's moral panic model fit well with the contemporary body of evidence.

Methamphetamine Panics Outside of New Zealand

As previously mentioned, past research has found moral panics concerning methamphetamine in a range of countries in recent years. Especially prominent among these is the United States where researchers have previously identified at least three separate moral panics surrounding methamphetamine. The first occurred between 1989 and 1990 primarily in the state of Hawaii although it spread to a nationwide panic. The second occurred between 1994 and 1996 and was larger in size and effect on a national level. Finally, a moral panic seems to have occurred in Midwestern states in the mid-2000s, although some research disputes this. For brevity, these panics will respectively be referred to as: the 1989-1990 panic, the mid-1990s panic, and the 2000s panic. The evidence for each of these panics, using Goode and Ben-Yehuda's (2009) five elements of a moral panic will be covered. The evidence for moral panics surrounding methamphetamine from studies in other countries will also be addressed.

Firstly, some background on each of the three panics in the United States. The 1989-1990 panic has been explored in depth by Jenkins (1994). Jenkins (1999) argues that it follows all the typical stages of a moral panic, at first there were warnings presented in the media that methamphetamine could be an emerging new problem in 1988 in Hawaii. This increased in early 1989 before expanding nationally and reaching a peak in late 1990. Coverage then declined sharply from early 1990 onwards. Another moral panic surrounding methamphetamine occurred nationally in the United States between 1994 and 1996 (Jenkins, 1999). This started off in 1994 when methamphetamine began to feature prominently in the news. Before reaching a peak in 1995 where numerous federal changes were made particularly concerning funding increases for law enforcement. Finally, the most recent instance of a moral panic surrounding

methamphetamine in the United States occurred in the Midwest between 2002 and 2005 (Armstrong, 2007; Chenault, 2012). Each of Goode and Ben-Yehuda's (2009) five elements of a moral panic in relation to methamphetamine coverage will now be examined, particularly in the United States but studies from a number of other countries will be included. Some of these studies successfully found all of Goode and Ben-Yehuda's element's (Armstrong, 2007), whilst others found mixed results (Keune, 2014).

Concern

For the element of concern to be met it must be shown that there is a large quantity of interest in methamphetamine. Research along these lines has tended to focus on two of Goode and Ben-Yehuda's (2009) five spheres: media concern and public concern. This is likely due to the fact that these spheres can have their concern relatively easily demonstrated via the quantity of news coverage and public opinion surveys.

When it comes to concern in the media, Jenkins (1994) found that by late 1989 the methamphetamine panic was "taken up by all major regional newspapers and national newsmagazines" (p. 12). This concern was further reflected by the fact that many of these articles appeared on the front page of these publications. The peak of concern according to Jenkins (1994) was between September 1989 and February 1990. During the 2000s panic, Armstrong (2007) found large increases in concern demonstrated by increases in the number of articles published at certain times and increased proclamations by political figures about the problem in the articles (pp. 430-431). However, Chenault (2012, p. 24) found a decreasing trend in coverage in the regional newspapers studied across the period with 158 articles in the first year of the study compared to 39 in 2007 the final year. He argued that there was a decrease in concern surrounding methamphetamine in the early-2000s. This disagreement about whether there was increased concern could be due to the fact that the researchers chose different regional newspapers.

Volatility

Volatility requires that a panic both appears and disappears in a relatively short period of time. This tends to be best described in terms of weeks or months rather than years or decades. Jenkins (1994) found the 1989-1990 panic to be particularly volatile, with a change from very few mentions of methamphetamine to it becoming a dominating news story in just a few months in 1989. This quickly dissipated though and just a few months

later in mid-1990, there was very little coverage once again. The mid-1990s panic lasted considerably longer with Jenkins (1999) stating that it appeared throughout 1995 was at its height throughout 1996 before fading from prominence by 1997. Jenkins argues that a mixture of the more prevalent use of methamphetamine combined with political and law enforcement interest resulted in this panic being less volatile. However, given that this panic appeared and disappeared again well within three years, it still appears to be a volatile change rather than a gradual one.

Hostility

Past research into the news media coverage of methamphetamine has found it to be overwhelmingly hostile. Even Lancaster et al. (2011) who found that overall coverage of illicit drugs was not as negative as some other research had indicated found that "articles depicting amphetamines appear to have the most explicit and pejorative value dimensions, with almost half portraying a "bad" moral evaluation." (p. 289). There are several key attributes and themes of this hostile coverage to discuss. Firstly, similar to other moral panic research, there is the portrayal of methamphetamine as a crisis issue and the corresponding use of catastrophe related language. Secondly, methamphetamine use and related harms are said to be getting worse, often substantially worse. Thirdly, during the panic, methamphetamine is said to be the cause of significant harm including being extremely addictive, causing psychological problems, other health problems, harm to children and resulting in crime especially violent crime. Finally, research has found methamphetamine users were framed as *folk devils*.

The portrayal of methamphetamine as a threat to society is one of the most consistent findings of the research into news media coverage of the drug. Jenkins (1999) found it in the 1989-1990 panic. This is visible immediately from the term used by local media to refer to the period: *the ice age*. This created a powerful image associated with the potential destruction that was being caused to the extent that it could become the defining factor of the time. During the panic, Jenkins (1994) also notes the frequent use of terms like "epidemic'", "plague" and "crisis" (p. 15). Examining the period between 1997 and 2005 in the Midwest, Weidner (2009) also found the use of crisis language like "epidemic" and "plague". He found at least some dramatic rhetoric although its frequency varied for different papers. Examining major national newspapers in the

United States between 2000 and 2002, Roach (2012) found methamphetamine to be portrayed as a threat in 19% of articles. Demonstrated by the use of "sensational rhetoric in relation to methamphetamine use and users." (p. 72).

The use of crisis language and natural disaster imagery is not isolated to the news media coverage of methamphetamine in the United States. Studies from South Africa, Canada, the UK, and Australia have also found the frequent use of such terms. In South Africa, Howell (2015, p. 138) found methamphetamine to be constructed in what were deemed "pathological terms" which included "scourge", "epidemic" and "plague". Boyd and Carter (2010) also found the use of catastrophe language to describe the extent of the methamphetamine problem in Canada including the use of terms like "epidemic" (219). Ayres and Jewkes (2012) found the use of catastrophe language in the UK with methamphetamine being compared to the devil and being referred to as "deadly" (p. 321). Additionally, Keune (2014, pp. 54 -55) found that a wide range of articles framed methamphetamine as a crisis in South Africa by using terms like "scourge", "rampant" and "epidemic". By contrast, Lancaster et al. (2011) found that only 18% of articles depicted methamphetamine as a crisis issue in Australia (p. 288). The authors believe that the majority of sensationalism may not occur consistently across time but during particular episodes of heightened alarm (p. 290). However, it is clear that overwhelmingly media coverage uses a consistent set of language to frame methamphetamine as a crisis, especially the terms epidemic, plague, and crisis.

A second key finding when it comes to hostility surrounding methamphetamine is that the media makes claims that the rate of use is increasing at a dramatic rate. Weidner (2009, p. 230) found this with claims that the use of methamphetamine was spreading rapidly. This was accompanied by further catastrophe rhetoric, implying the quick increase was a "flood". Roach (2012, p.73) found that articles warned that the methamphetamine problem had increased massively or that it was only a matter of time before it caused havoc. This was further supported by Keune (2014) who found that many articles mentioned the drug problem getting worse. They used phrases like "escalating enormously", and "dramatic increase" (pp. 54-55).

One of the most consistent findings in the international research is that methamphetamine is said to be responsible for causing a wide range of problems. These fit broadly into five categories: psychological harms, addiction, physical harms, harm to

children and crime. Linnemann (2016) found reference to the psychological harm that was caused by methamphetamine. This included claims of methamphetamine induced psychosis and claims that users became zombie-like (p. 28). These references to severe psychological problems were also found by Keune (2014) who reported that 11% of articles in some way referenced "causing psychosis" and "inducing fury" (pp. 52-55).

Related to the purported psychological effects of methamphetamine, research has consistently found that the news media emphasise methamphetamine as not simply addictive, but highly or extremely addictive and that even people using methamphetamine a single time risked a lifetime of addiction. This was found by Armstrong (2007) who reported many claims made by newspapers about methamphetamine's very addictive nature including that "if you use it once, you'll become an addict" (pp. 436-437). Linnemann (2016, p. 43) similarly found that methamphetamine was portrayed as causing very fast addiction and that addiction rendered the person incapable of being a functioning member of society.

The final category of harms that methamphetamine was said to be doing to the individual were a range of physical health problems. Jenkins (1994, p. 17) found that methamphetamine was said to cause substantial health harms including overdoses and other conditions requiring emergency room admission. Roach (2012, p. 71) also found frequent references to health problems. Ayres and Jewkes (2012) note that methamphetamine is portrayed by the media as a drug that will cause unattractiveness or sickliness through the use of before and after images of methamphetamine users. Keune (2014) found claims that methamphetamine use led to physical ailments like meth mouth. Howell (2015) found that mothers who used methamphetamine were specifically described as having "poor personal hygiene, irregular and poor diet and weight loss" (p. 150). During the mid-1990s panic, the media published claims concerning methamphetamines link to AIDS that they did not have any empirical evidence to back up (Jenkins, 1999, p. 118). Surveying the later time period from 2000 to 2002, Roach (2012), also found HIV and AIDS to be listed as a problem that methamphetamine caused or aggravated (pp. 71-72). Thus, the media associated a wide range of negative physical problems with methamphetamine use.

Possibly the most prevalent of the social problems that methamphetamine was said to be causing were harms to children. Jenkins (1994, pp. 17-18) found methamphetamine

to be attributed as causing harm to children and infants; including babies being born addicted to the drug. This was supported by later research by Roach (2012) and Weidner (2009) who both reported finding articles portraying methamphetamine as a threat to children. Chenault (2012, p. 25) found child abuse to be mentioned in 4.5% of articles and a further 5.3% of articles mentioned the collateral consequence of children in homes where methamphetamine was used. This was further supported by Armstrong (2007, p. 434) who found methamphetamine is presented as a danger to children in that users are claimed to be poor parents by social workers in some news articles. Even more dramatically, he found articles that claimed that "meth babies" were being born with severe developmental problems. A claim that is not supported by any evidence (Lewis, 2004). Similar was found by Keune (2014) who found references to the harm pregnant mothers were doing to children by using methamphetamine and Howell (2015, p. 146) who specifically found that mothers who used methamphetamine were inherently seen as bad mothers.

This threat was not always portrayed as being specific to children. Sometimes the harms of methamphetamine were said to be more broadly effecting families and communities. For instance, Armstrong (2007) found that there were claims that it was a drug that crossed socioeconomic boundaries and that even 'good suburban white families' may be at risk (p. 17). Boyd and Carter (2010, p. 228) also found methamphetamine to be portrayed as a general threat to otherwise peaceful communities and families. As did Keune (2014) who found that 15% of articles portrayed methamphetamine as being harmful to society in some manner which often included reference to methamphetamine "break[ing] up families" and "devastating communities" (pp. 52-56).

The final problem frequently linked to methamphetamine was that it was a cause of crime. Sometimes this involved methamphetamine simply being shown to have an association to crime in some way. However, often it was explicitly stated that methamphetamine was a cause or even the greatest cause of crime. While the range of crimes were broad, including a range of acquisitive crimes and drug related offences, violent crime was particularly prominent. This was first found by Jenkins (1994, p. 18) who notes that methamphetamine was portrayed as a large cause of violent behaviour. During the mid-1990s panic, this went even further with stories implying a strong

causal link between methamphetamine and some extremely violent and bizarre crimes (Jenkins, 1999, pp. 134-137). Roach (2012, p. 69) found that of all the social problems mentioned, one of the most frequent was that methamphetamine was said to cause crime or that it was mentioned in the context of crime. This was further reinforced by articles implying strong links between gangs and methamphetamine. Keune (2014, pp. 52-56) found that in addition to being portrayed as a cause of violent crime, methamphetamine was said to cause sexual crimes like rape.

A final facet of hostility is the construction of folk devils. Much of this revolves around the already discussed aspects of violence, irrationality, and physical unattractiveness that methamphetamine use is said to cause. Boyd and Carter (2010) found methamphetamine users were portrayed as "dangerous, out of control" (p. 220). Interestingly, when it came to ethnicity methamphetamine was portrayed differently to other drugs. Research in the United States has found that compared to other drugs that are often associated with African Americans, methamphetamine tends to be associated with White Americans, particularly the white working class (Jenkins, 1999; Linnemann, 2016). However, this was a dynamic that could vary based on socio-historical context. For instance, in South Africa, Howell (2015, p. 150) found that 'coloured' individuals and those in poverty were constructed as the stereotypical methamphetamine user. The construction of users as folk devils has gone so far on some occasions as to portray users being turned into zombies by the drug and rarely as casual, function users. (Jenkins, 1994; Linnemann, 2016, p. 27). The overall, construction of the methamphetamine using folk devil is perhaps best summed up by Keune (2014) who found users to be described as "drug crazed", "committing violent and sick crimes" and "zombies" (pp. 58-59).

One important aspect of the construction of folk devils, and hostility more broadly, is that it tends to rely on pre-existing imagery and beliefs rather than building completely new ones. For instance, Jenkins (1994) found that the news media used links to scares around crack cocaine to build up the size and harm of the methamphetamine problem. Hall et al. (1978) refer to this process as *convergence* whereby two activities are linked together "so as to implicitly or explicitly draw parallels between them" resulting in amplification in the perceived threat (p. 223).

Consensus

Goode and Ben-Yehuda (2009) require that there is general agreement between groups in society that the subject of a panic poses a threat. This is an element that has resulted in some difficulty in application based on how wide the dissent can be. However, most research has found general agreement that methamphetamine presents a significant problem to society and that the majority of sources used tend to be 'official sources' like police and politicians. Jenkins (1994), in the 1989-1990 panic, found that politicians competed against each other as none wanted to seem as though they were "soft on crime". Jenkins (1999) observes that during the mid-1990s panic, politicians tried to make the problem appear as perilous as possible and then claim that they were the only one able to solve it. Jenkins (1999, p. 110) believes these politicians are therefore classic examples of moral entrepreneurs. Armstrong (2007, pp. 432-433) also found consensus in the fact that politicians and the media were near unanimous that methamphetamine posed a serious problem. He found an important part of creating consensus was by framing methamphetamine as a threat to children as no politician wanted to be seen as anti-children. Some research has found a broader consensus beyond criminal justice figures and politicians to include drug treatment and other health professionals (Weidner, 2009). However, the research has not always found consensus on the extent of the methamphetamine problem or the correct solutions to it. Linnemann (2016, p. 43) notes that even law enforcement occasionally mentions the importance of treatment and education, but still largely see law enforcement means as the best way to address the problem. Disagreement from law enforcement on the scope of the problem is most evidently shown by Jenkins (1994) who notes that the DEA stood to benefit from added resources from the panic yet even they expressed scepticism about the severity of the methamphetamine problem.

Disproportion

The final element of Goode and Ben-Yehuda's (2009) model of moral panics is disproportion. This element requires that the coverage methamphetamine receives be out of proportion with what an objective examination of the evidence would suggest in a number of ways. Goode and Ben-Yehuda view this as crucial stating that "the concept of the moral panic *rests* on disproportion." (p. 41). As mentioned above, Goode and Ben-Yehuda have several criteria for disproportion. However, these did not seem to satisfactorily cover the ways in which the research on methamphetamine had found

disproportion. Instead, they are grouped in the following paragraphs based on the common ways that each piece of research found disproportion. The focus now turns to the ways in which past research has found the news media's methamphetamine coverage to be disproportionate in terms of: the concern being disproportionate to harm, changes in concern not being related to changes in harm, exaggerated and misleading claims, and ignoring other contributors to harm.

A first way in which past research has shown the news media coverage to be disproportionate is that the concern over the drug is disproportionate to the overall harm caused. Often methamphetamine received large amounts of coverage yet was actually a relatively small problem for society. Jenkins (1999) demonstrates this type of disproportion during the mid-1990s panic where claims were made by law enforcement that the size of the methamphetamine problem saying that the methamphetamine 'epidemic' was so large that it made the previous crack cocaine epidemic look small by comparison. This despite the fact that methamphetamine prevalence at the time was low and lower than that for crack cocaine. Similar was found by Linnemann (2016, p. 9) and Boyd and Carter (2010) who report that the media portrayed methamphetamine as a problem of epidemic proportions but given the low rates of methamphetamine use, this was completely inaccurate. Jenkins (1994) notes a specific manifestation of this type of disproportion during the 1989-1990 panic, where methamphetamine use was essentially localised to Hawaii. Despite this news media coverage claimed that the drug was already a large and nationwide problem. Similarly, during the mid-1990s panic, the problem at the time seemed to be localised to Arizona and Nevada and yet the news media claimed that it was sweeping through the country (Jenkins, 1999).

A second way in which past research found coverage to be disproportionate occurred when the large increases and subsequent decreases in media coverage were not related to any underlying changes in the prevalence or harm caused. This is demonstrated by Jenkins (1999, p. 111) who found that during the mid-1990s panic, available evidence on overdoses and admissions to hospital linked to methamphetamine were declining. Similar occurred during the 2000s panic, where there was a large increase and decrease in concern whilst hospitalisation figures did not change (Armstrong, 2007, p. 431).

The *routinisation of caricature* encompasses two aspects of disproportion. The first is that the harms of methamphetamine are caricatured. The harms are played up to

extreme levels and the degree to which causation can be attributed to methamphetamine is overstated. Secondly, this is made routine by portraying it as the "typical" experience of methamphetamine use or at least a common experience. One way that this has been manifest in research is shown by Weidner (2009, p. 229) who notes that statistics show lifetime use to be approximately five times higher than past month use. This high level of discontinuation of use undermines frequent claims that using methamphetamine on a single occasion will likely lead to a lifetime of addiction. Similar can be said for a wide range of harms attributed to methamphetamine from psychological problems to violent crime. Whilst these problems are linked to methamphetamine the media portrays this as a strong causation with little possibility for someone to be a casual user.

The final aspect of disproportion from the past research and probably the most common one was the extent to which other contributors to harm were ignored. Reinarman and Levine (1989, p. 559) argue that to understand a drug scare you must look beyond the drug scare itself to wider social, political and economic circumstances. These wider circumstances of harm related to methamphetamine are something that the news media frequently ignore. Reinarman and Levine (1997) refer to the notion that the psychological and social problems associated with use are caused directly by drug use and nothing else as *pharmacological determinism* (pp. 8-13).

The wider social scope of the problems associated with methamphetamine use are perhaps best addressed by Armstrong (2007) who observes that at the same time as the 2000s panic targeted white working-class methamphetamine users, they had been facing declining socio-economic conditions including employment prospects. Focusing on methamphetamine as a problem allowed these more abstract hardships to be ignored. Instead, it allowed the simplistic narrative that it was the actions of the "rural white underclass" that were leading to their poor standard of living and thus nothing should be done to help (pp. 438-439). The finding that methamphetamine use is used as a scapegoat for wider structural issues is supported by Roach (2012, pp. 74-75) and Howell (2015) who argues that the news media "oversimplify a complex socio-political, economic and historically rooted phenomenon" when they attribute widespread hardship to methamphetamine use alone (p. 137).

In this section, it has been demonstrated that past research into news media coverage of methamphetamine has frequently met the elements for a moral panic. Methamphetamine has been a topic of concern in the United States and several countries. This concern has been volatile as it has often only existed for months or at most a few years at a time. The coverage of methamphetamine has been overwhelmingly hostile worldwide, with methamphetamine users portrayed as typical folk devils albeit with some attributes that reflect local context. There has generally been agreement between the sources that news articles cite that methamphetamine is a problem although there can be some disagreement on the solutions to the problem. Furthermore, the sources that the news media use to create this consensus tend to be official sources, particularly politicians and police who often have a vested interest in the creation of a moral panic. Finally, the coverage of methamphetamine both in terms of the amount that it receives and the way methamphetamine is portrayed tends to lack proportion with what evidence suggests is the real scope of the problem. Thus, the applicability of the moral panic framework for studying the news media coverage of methamphetamine in the United States and some other countries has been established. Whether the theory is applicable to the New Zealand context will now be determined by examining its consistency with existing research.

Methamphetamine Panics in New Zealand

Moral panic theory has been used to examine a range of different events in New Zealand history. This work has covered periods as far back as the 1860s and topics as diverse in range as 'brain drains' to youth crime to gang violence (Davenport, 2004; Shuker, Openshaw & Soler, 1990; Kelsey & Young, 1982). In this section, the findings of research on news media coverage of methamphetamine in New Zealand will be presented in the context of Goode and Ben-Yehuda's (2009) five elements of a moral panic. Due to a smaller amount of research conducted on moral panics surrounding drugs in New Zealand, there will be occasional discussion of moral panic research on other topics. However, the focus will be on that which deals with the New Zealand news media's coverage of methamphetamine. Firstly, a brief introduction to the key pieces of moral panic research that will be covered in this section. One is Wallace (2006) who performed a content analysis of the New Zealand print news media's coverage of methamphetamine between 1998 and 2004. She argues that all of the key elements of a moral panic surrounding methamphetamine were displayed by the media during this

period. The other is Carton (2016), who performed a discourse analysis on the New Zealand print news media coverage of methamphetamine between 2009 and 2010. He found some evidence of a moral panic surrounding methamphetamine during this time although not all elements were measured.

Concern

Similar to the previous section, research into the news media's coverage of deviance in New Zealand has frequently found measurable concern. News media coverage has shown high levels of concern on topics like gangs and home invasion (violent burglaries) in the past (Kelsey and Young, 1982; Matthews, 2002). In terms of the research examining methamphetamine in New Zealand, there has been some evidence of concern found. Wallace (2006) notes that there appeared to be an increase in concern from law enforcement as the police stated that the number of methamphetamine laboratories discovered were increasing at "alarming rates" (p. 77). Wallace argues that 2003 represents the peak of methamphetamine concern at the time and that articles generally state that the problem is getting worse. Unfortunately, Wallace does not offer a count of the news articles which would fully establish the claimed increase in media concern. Carton (2016) also does not sufficiently demonstrate an increase in concern as no attempts are made to systematically measure changes in coverage over time in any manner. Thus, while it has been established that there have been periods of increased concern about some issues in New Zealand, there is no current literature that has definitively shown methamphetamine concern has increased in New Zealand.

Volatility

Several pieces of past research have found the New Zealand news media coverage of a topic to be volatile to varying degrees. Kelsey and Young (1982) and Matthews (2002) found short-lived panics that lasted for at most several months. On the other end of the continuum Davenport (2004), found that coverage on the 'brain drain' increased and disappeared again over the course of several years. Wallace (2006) notes that coverage of methamphetamine was nearly non-existent before 1998. It gradually increased for a few years before rapidly increasing in the second half of 2002 and peaking in early 2003 before declining substantially in the following months. However, Wallace's evidence is limited as it is not made clear how articles are sampled. This means that it cannot be said with certainty that the volume of articles increased and decreased during this

period. This provides the only current evidence for volatile coverage of methamphetamine in the New Zealand news media as Carton (2016) does not attempt to measure it.

Hostility

In terms of hostility, the research in New Zealand has been largely consistent with the findings in the United States and elsewhere. Similar to the research from the rest of the world, the hostile coverage will be divided into the categories: framing as a crisis, claiming that the problem is increasing, claiming that the problem is responsible for a wide range of harm, and turning a group into a folk devil.

Similar to the consistent findings from other countries, the New Zealand news media has framed methamphetamine as a crisis. Wallace (2006) found consistent evidence that methamphetamine was framed as a catastrophe in New Zealand between 2002 and 2003. This was emphasised by the frequent description of methamphetamine use as an "epidemic" and the use war like imagery in referring to it as a "battle" (pp. 61-62). This was highlighted with a quote from a police officer saying, "we are surrounded by an epidemic of... a drug that causes normal sane human beings to act totally irrationally" (p. 66). Carton (2016) lent further support to the finding of the use of a crisis frame for methamphetamine with the media employing the imagery of natural disasters like "flood" and "invasion" (p. 101). It is clear then that the New Zealand news media has framed methamphetamine as a crisis or catastrophe in the past.

Compared to the research in other countries, less of the New Zealand based moral panic research has commented on the extent to which a problem is specifically said to be increasing. However, it has still been found in two studies. Kelsey and Young (1982) demonstrated that especially in the build up to the 1979 gang-panic, the number of gang members was said to be increasing at a rate that was overwhelming police resources. In relation to methamphetamine, Wallace (2006) found that rates of use were said to be increasing and that methamphetamine was said to be taking over the drug scene or becoming the "drug of choice" (pp. 57-58). Additionally, both Carton (2016) and Wallace found that methamphetamine was said to have pervaded all parts of society including traditionally safe spaces like middle class neighbourhoods, a finding consistent with the United States research on methamphetamine and crack cocaine (Jenkins, 1999).

One of the most consistent findings from international moral panic research was that panics result in the attributing of a wide range of harms onto the object of the panic. Past research in New Zealand has found similar. Wallace (2006) identified this aspect of hostility from the start of methamphetamines emergence as an issue in 1998, when a judge labels methamphetamine a "new social evil" (p. 53). Throughout the course of the ensuing panic in 2002 and 2003 articles frequently link methamphetamine use to psychosis and violent behaviour especially related to a series of high profile crimes (p. 56). In addition to this, mundane but more common acquisitive crime was often blamed on methamphetamine (p. 70). Carton (2016) noted this as part of a broader framing of methamphetamine as being extremely harmful. Carton also notes that users are portrayed as quickly becoming addicted and losing all self-control. However, Wallace does not find that addiction is mentioned by the news media which is curious given its frequent appearances in international panics surrounding methamphetamine.

Another key theme from the past research that is found by Carton (2016, p. 100) but not Wallace (2006) is mention of the harms done to those viewed as "innocent victims" especially children. Carton found that the image of children was used particularly strongly when contrasted with methamphetamine users who were made into folk devils creating a powerful binary of good and evil. The creation of folk devils has been shown in other research in New Zealand. Kelsey and Young (1982) found that gangs and gang members were constructed as folk devils as they were frequently described in terms of highly negative stereotypes. These included being "violent... lazy, irresponsible and selfish." (p. 1). In addition to this they were said to be noticeably different from the rest of society based on their "dirty and distasteful clothing" (p. 1). Wallace (2006) demonstrates that consistent with other countries, panics in New Zealand have used folk devil imagery to build drama. From the early stages of the panic, Wallace finds articles heavily link methamphetamine to gangs and note the large quantities of money gangs are making from the drug (pp. 54-55). This clearly links the 2002-2003 panic surrounding methamphetamine back to the 1979 panic surrounding gang violence and provides evidence of Hall et al.'s (1978) notion of convergence where the perceived negativity is amplified by associating it with established negative imagery. Carton (2016) found that as of 2010, this association of methamphetamine with gangs continued to occur.

In addition to this, Wallace (2006) notes that a new folk devil was created in the form of the methamphetamine user. They were described in pejorative terms like "speed freaks" and were said to be suffering from hallucinations and committing especially violent crimes (p. 61). While Carton (2016) does not mention methamphetamine users as folk devils, he does find a new folk devil in the form of the 'foreign' gang. These gangs were linked to Asia, particularly China and Carton argues that the language used tends to have racist undertones like "invasion" and can be linked to a more general push-back against Asian immigration (p. 100). Potentially, this may reflect a concern particular to the New Zealand context as it was previously shown that HIV/AIDS was most strongly linked to methamphetamine in South Africa and Latino immigrants were most strongly linked to methamphetamine in the United States (Howell, 2015; Roach, 2012).

Consensus

Consensus is an element of moral panics that has been consistently replicated in the New Zealand based research. Kelsey and Young (1982) offer the most in-depth examination of the extent to which there is consensus and the tension between various groups. They found that the media, police, judiciary and politicians were all in "agreement on the basic point of the gang issue." (p. 136). Past research into methamphetamine in New Zealand has also found it to be a topic that is covered with consensus and that official sources are featured prominently. Whilst not going into detail, Wallace (2006, p. 77) found that there was consensus in that the police and the judiciary described methamphetamine as a threat and this was not questioned by other sources or the media itself. Additionally, articles tended to rely heavily on official sources especially the police and judiciary, whom often made bold claims about the scope of the methamphetamine problem without evidence to back it up (pp. 57-58). In examining the way police sources are covered, Wallace (2006) provides support to Cohen and Young's (1973) observation of the symbiotic relationship between the media and the police. At times, this message consists of the need for greater resources for the police or a greater emphasis on law and order similar to past research in the United States (Jenkins, 1994). Carton (2016) also notes consensus surrounding the issues without going into detail about which sources the consensus is between. However, Carton additionally finds articles that provided some balance to the negative and dramatic framing of methamphetamine. These articles called for a more realistic view of methamphetamine and sought alternative solutions to the drug war (pp. 100-101).

These articles do not violate the consensus element of a moral panic because Goode and Ben-Yehuda's (2009) definition allows for some disagreement about the right approach to address the problems. The New Zealand media has generally shown consensus between groups on the extent of past moral panics particularly surrounding methamphetamine but also allows for some disagreement on the causes and solutions.

Disproportion

Finally, a wide range of the past research conducted in New Zealand has shown various aspects of it to be disproportionate given what the evidence actually suggests. Kelsey and Young (1982) found evidence of disproportion as the news media coverage increased dramatically and then subsided without any evidence of actual changes in the prevalence of gangs or gang-related crime. They suggested that this pattern seemed to be more closely related to media interest and later disinterest in the topic. Similarly, Wallace (2006) found that the content of articles frequently mentioned methamphetamine as a large and growing problem without evidence to back them up (pp. 57-58).

When it comes to the extent to which the New Zealand media has exaggerated the harms, Kelsey and Young (1982) found that the "significance of their activities was both exaggerated and misrepresented and that the reaction to them, particularly by the media, was highly inflated." (pp. 3-4). Similar was found by Shuker et al. (1990) who conclude that "initial reports were characterised by a general inaccuracy of detail." (p. 53). These inaccurate claims were found for methamphetamine by Carton (2016) who notes that the claims of methamphetamines addictiveness and the extent of the destruction it causes were disproportionate.

A final component of disproportion that was found repeatedly in past research concerning methamphetamine was the extent to which other harmful conditions were ignored especially when it came to crucial psychosocial context. Wallace (2006) found that articles made claims that normally sane people would act irrationally and violently on methamphetamine. This would later be demonstrated to be false with some of the key offenders shown to have extensive histories of violence. More broadly, Wallace (2006) found that by focusing exclusively on the role of methamphetamine itself, wider socio-economic problems were ignored. Carton (2016) notes that tenuous connections to methamphetamine are often played up by the media but structural factors are not

seen as an important part of the causative picture. These findings in regard to methamphetamine are an example of what Reinarman and Levine (1997) labelled pharmacological determinism. It is not just that the New Zealand news media is saying that methamphetamine is *a* factor but that it is possibly the *only* important factor in causing crime, and similar effects will likely be experienced by anyone who takes the drug.

Overall, previous research has demonstrated instances that possessed several or all of Goode and Ben-Yehuda's (2009) elements of a moral panic making the theory one that is clearly applicable to New Zealand society. Importantly, Wallace (2006) demonstrates all the key elements of a moral panic for methamphetamine between 2002 and 2003 although some of them to a limited extent. Carton (2016) also found some of the key aspects of a moral panic particularly hostility but did not establish concern or volatility. This research will aim to provide a more complete evaluation on the extent to which coverage might constitute a moral panic.

In this chapter, it was established that the rate of methamphetamine use in New Zealand has remained stable since 2011 with around 1% of the population using the drug in a given year. The immediate effects of methamphetamine use include euphoria, increased focus, and improved cognitive functioning. The effects of frequent use over the long term are subject to greater debate. There is a relationship between methamphetamine use and harms ranging from individual, in terms of physical and psychological health, to social harms in the form of crime. However, the causation is questionable and a range of other psychosocial factors are important in explaining problematic methamphetamine use. When it came to methamphetamine coverage in the media, past research has found Goode and Ben-Yehuda's (2009) five elements of a moral panic as offering a compelling description in New Zealand and several other countries. This thesis is primarily interested in whether a moral panic occurred in New Zealand concerning methamphetamine between 2010 and 2017. To establish this, there will need to be evidence of each of Goode and Ben-Yehuda's (2009) five elements. In the next chapter, each element will have research questions developed around it. These will then be operationalised into measurable units and a process for coding and analysing them will be developed.

Methodology

As set out at the end of the previous chapter, the key question for this research is: did a moral panic, relating to methamphetamine, take place in New Zealand in recent years? Even with the research question established, there were still a number of decisions that needed to be made and research tools tested before useable results would be available. This chapter goes through each of the steps taken to convert the research question into relevant data. Firstly, the broad research question is broken down into assessable sub-questions. It will then be shown why this led to a decision to use both quantitative and qualitative content analysis. The strengths and weaknesses of this research's chosen method of content analysis are then explored. Next, the sub-research questions are operationalised into elements that can be coded from the text into categories. Following this, the data must be collected by building a search query and storing the information retrieved. Then the process of testing the content analysis developed on a small sample of this data is discussed. Changes made to the pilot coding scheme to optimise the final study are explained.

Research Questions

As outlined in the literature review, the primary research question is: has a moral panic occurred surrounding methamphetamine in New Zealand in recent years according to the elements defined by Goode and Ben-Yehuda (2009)? This can be divided into a number of smaller research questions (RQs); pieces that together should amount to a moral panic. This section will go through each of research question, pertaining to: concern, volatility, hostility, consensus and disproportion and divide them into smaller measurable components.

RQ 1 Is there evidence of concern?
Concern requires that interest and attention be paid to a group or phenomenon. As mentioned in the literature review, Goode and Ben-Yehuda (2009) set out five spheres where concern can be felt and expressed. These are: the media, the public, politicians, social movements and law enforcement. However, Goode and Ben-Yehuda (2009) argue that only one sphere needs to be analysed to show that a moral panic has occurred.

Because of this and the greater resources required to examine a panic in all five spheres most studies have not examined more than one sphere, with most studies focusing on the media and sometimes the public. Similar to past research, this thesis only focuses on the media and public although it is acknowledged that value could arise in future from examining the other three spheres. Thus, RQ 1 can be divided into two parts:

RQ 1.1 Is there concern in the print news media?

RQ 1.2 Is there concern among the public?

RQ 2 Is there evidence of volatility?

Volatility as defined by Goode and Ben-Yehuda (2009) requires that a panic appears and then disappears over a short period of time. These periods of time should be measured in days, weeks, months or at most a few years rather than decades. Thus, volatility for both the news media and the public can be further divided into:

RQ 2.1 Does concern appear quickly in the news media?

RQ 2.2 Does concern disappear quickly in the news media?

RQ 2.3 Does concern appear quickly among the public?

RQ 2.4 Does concern disappear quickly among the public?

RQ 3 Is there evidence of hostility?

According to Goode and Ben-Yehuda (2009) the subject of a moral panic needs to be portrayed as a threat. The literature review identified a number of key parts to the portrayal as a threat. A first part is that most articles portray methamphetamine in a negative manner with it being rare for positive coverage. A second is the frequent use of crisis framing and associated language like 'epidemic' and 'scourge'. A third is that methamphetamine use is said to be increasing usually at a dramatic rate. Additionally, methamphetamine is said to cause a number of individual and social ills. These include: addiction, psychological and physical health problems, and a wide range of social problems like violent crime and harm to children (E.g. Jenkins, 1994; Carton, 2016). Finally, methamphetamine users have regularly been portrayed as folk devils. Each of these five findings can be measured. Thus, the five questions for hostility are:

RQ 3.1 How are methamphetamine or methamphetamine use framed in general?

RQ 3.2 Is methamphetamine use framed as a crisis?

RQ 3.3 Is the rate of methamphetamine use said to be changing?

RQ 3.4 Is methamphetamine said to cause a range of social or individual effects?

RQ 3.5 Are any groups framed as folk devils?

RQ 4 Is there evidence of consensus?

The fourth element of a moral panic according to Goode and Ben-Yehuda (2009) is that consensus should exist between societal groups that the subject of the panic poses a threat. To measure consensus, first the proportion at which the media uses each source needs to be determined. Then each source type will be checked to determine whether they agree on the nature and scope of a threat. Finally, past research has shown that some groups like police and politicians play a particularly strong role in creating a moral panic due to perceived benefit and are referred to as moral entrepreneurs (Jenkins, 1999). Finding out about these aspects of news coverage should not only determine whether there is consensus but also illuminate the underlying dynamics of it. Thus, the research questions concerning consensus are:

RQ 4.1 Which sources do the print news media use?

RQ 4.2 Is there consensus between sources as to the nature and scope of methamphetamine-related issues?

RQ 4.3 Do any of the sources meet the criteria for moral entrepreneurs?

RQ 5 Is there evidence of disproportion?

According to Goode and Ben-Yehuda (2009) a moral panic must be disproportionate in that the way that it is treated by the media and public is out of all proportion with the evidence on the objective nature and scope of the issue. As demonstrated in the literature review, disproportion has been found in a number of ways. The first occurs when the size of concern around an issue is much larger than is proportionate to the harms it is causing. Secondly, changes in the level of attention paid to the issue are unrelated to actual changes in the nature or scope of the problem. Thirdly, there is a routinisation of caricature, whereby rare problems are emphasised and made into the typical instance. Fourthly, there is a lack of proportion in comparison to the ways other harms in society are treated. This will be determined based on the extent to which other structural harms may be ignored in comparison to methamphetamine. However, there is an alternative examination of this in terms of methamphetamine receiving coverage that is disproportionate to other harmful drugs such as alcohol. This could form an

important part of showing disproportionality. However, it would be too time consuming to perform an analysis of equal size concerning alcohol in the New Zealand news media making this one type of disproportion that is not examined. Therefore, the research questions for disproportion are:

RQ 5.1 Is the concern disproportionate to the size of the problem?

RQ 5.2 Are changes in coverage related to actual changes in the size of the issue?

RQ 5.3 Are the problems attributed to methamphetamine exaggerated, misleading or completely untrue?

RQ 5.4 If harm is mentioned, are potential contributing factors given proportionate weight?

Answering these questions should allow for a determination to be made as to whether or not a moral panic occurred. Having firmly established what the research questions are, this thesis will now discuss the chosen method of content analysis and the advantages and disadvantages of doing so.

Content Analysis

Content analysis is a tool for systematically assessing any textual material (Hseih and Shannon, 2005). It is a flexible method and incorporates approaches from impressionistic analyses through to strict textual analyses. With such a range in potential approaches to the technique, decisions must be made on how content analysis will be implemented in any given analysis based on the topic being studied and the research projects theoretical underpinnings (Weber, 1990). This section will discuss the key reasons for choosing content analysis: specifically, the use of both quantitative and qualitative.

Quantitative content analysis is a "systematic and replicable examination of symbols of communication, which have been assigned numeric values." (Riffe, Lacy & Fico, 2014, pp. 8-9). Text is coded based on text elements into explicit categories and then statistics are used to describe them (Riffe et al., 2014, pp. 114-115). By contrast, qualitative content analysis is defined as research that "focuses on the characteristics of language as communication with attention to the content or contextual meaning of the text." (Hsieh & Shannon, 2005, p. 1278). It should go beyond mere counting of words to

examine the language for meaning. During qualitative content analysis, text data is systematically classified to identify themes or patterns. (Hseih & Shannon, 2005, p. 1278).

This study will use a specific type of qualitative content analysis referred to by Hseih and Shannon (2005), as directed content analysis. It is useful when there is pre-existing theory and research as a guide and is a more structured approach than other types of content analysis (Hseih & Shannon, 2005, p. 1281). This is the case for this research as Goode and Ben-Yehuda's (2009) moral panic theory and the past research into the coverage of methamphetamine by the news media can be used to develop initial coding categories. However, given that much of the research examined was conducted in other countries or more than a decade ago, directed content analysis still provides sufficient flexibility to create new codes for aspects of the text that did not fit into the initial scheme (Hseih & Shannon, 2005, p. 1281). The key weakness of directed content analysis is that researchers may approach their research with a bias which makes them more likely to refute or support a theory (Hseih & Shannon, 2005, p. 1283). Key to preventing this is structuring research questions are created before the research has commenced and that they are not phrased in such a way that they make a certain outcome more likely.

Numerous advantages exist for content analysis as a method in regard to this thesis. One is that it is replicable. This is especially true of the quantitative content analysis but by making the qualitative content analysis systematic and transparent, it can allow for attempts to replicate it. Quantitative content analysis in particular allows for the coverage of large data sets with ease (Riffe et al., 2014). Increasing the size of the dataset increases the reliability of the findings as it will not be impacted much by sampling error. This was seen as useful as some past research had found the size of the data collected to be large (Hughes et al., 2011). With the basics of content analysis explained, attention now moves to how the content analysis for this research was developed to answer the research questions posed.

Operationalisation

This section will develop the research questions set out earlier into elements that can be coded for in the text of an article. A key consideration for the elements for which articles were coded in the quantitative analysis was concurrent validity. This type of validity occurs when a measure used is similar to one from an existing study. Not only does using measurements successfully used in past research provide greater certainty that they will be a valid, but they should also allow for a comparison to the research that has utilised them. The examination of differences when it came to these measures allowed for the potential detection of differing underlying dynamics. This section will cover the development of the text elements and coding categories for this research. This will be done for each of the research question posed above. The next section will then cover how the data was collected for analysis.

Concern

Two types of concern are to be measured in this research: concern of the print news media and the public. Past research had found media concern to be one of the easiest aspects of a moral panic to measure especially since the rise of online databases as this information can easily be used to determine whether there is an increased number of articles published on the issue. To determine whether there was media concern then, requires simply a count of the number of articles published across time (Armstrong, 2007; Chenault; 2012). If the number of articles increases by a large proportion, then media concern will be demonstrated.

Public concern can be more difficult to determine and as a result many past studies have not attempted to measure it. Those that have measured it tended to use public opinion surveys (Beckett, 1994; Reinarman & Levine, 1989). Unfortunately, there are no regular surveys on the extent to which the New Zealand public view methamphetamine (or any other illicit drugs) as an issue. However, public opinion surveys are not the only way to measure public concern. Google Trends is a web-based tool that provides data on how frequently certain search terms have been entered in the Google search engine. It uses a random sample of Google's data and returns the popularity of the term for selected time periods and locations. The data received is normalised based on time and location. This means that it corrects for the fact that the number of searches people make has

increased in recent years and that some locations have larger populations and thus more searches than others. The data is indexed to 100, meaning that the period with the highest interest will be listed as 100 (Rogers, 2016). Google Trends has been used in a variety of research in recent years. For example, it has been used to successfully predict influenza occurrences in a population and found to be a better predictor of consumer purchasing behaviour than consumer surveys (Ginsberg et al., 2009; Vosen & Schmidt, 2011). Gamma, Schleifer, Weinmann, Buadze and Liebrenz (2016) even used Google Trends data to predict methamphetamine use, possession and supply in several European nations with some success. Whilst Google Trends data does not have the detail that public opinion surveys have, the level of public interest across time will be visible.

Volatility

To determine whether interest has appeared and disappeared quickly, the same data used for concern can be utilised. Instead of being examined based on the height of concern, it will now be examined based on how long it lasted for. Past research has already measured volatility based on the extent to which interest changes over time in terms of the news media (Chenault, 2012; Armstrong, 2007; Davenport, 2004). However, doing the same thing with Google Trends data should be equally useful to determine the volatility of public concern. Sharp peaks and troughs that only last for weeks or months are what should be expected if volatility is met.

Hostility

Each of the research questions pertaining to hostility developed earlier in the chapter can be measured using quantitative content analysis, qualitative content analysis or both. Hostility and the subsequent two elements will only be measured based on the media portrayal compared to the previous questions additional focus on the public. Overall, hostility is an element of a moral panic that can be more subjective than concern or volatility. However, past research indicates that there are specific elements of text that can be coded to show hostility in a relatively objective manner.

RQ 3.1 How are methamphetamine and methamphetamine use framed in general? Past research would predict that methamphetamine would be heavily mentioned in a negative fashion and in the context of crime, especially during a period of moral panic (Armstrong, 2007). To measure this, the same text elements coded for by Hughes et al.

(2011) were used. This research will measure two things: one is the overall tone as to whether the article was describing good news or bad news. The other is the moral evaluation that the article gave to methamphetamine as to whether it was good, bad or neutral.

RQ 3.2 Is methamphetamine use framed as a crisis?

To determine whether methamphetamine was framed as a crisis issue, a yes or no measure was taken based on that used by Hughes et al. (2011). This required that methamphetamine "issues are framed as requiring immediate or urgent government attention or community awareness." (p. 287). To be categorised as a crisis frame an article needed to portray methamphetamine not just as a problem but a large or severe one. Use of emotive or catastrophe language found in past research such as 'epidemic', 'crisis' or 'scourge' can be seen as a strong indicator that an article was using the crisis frame. This is an example of hostility being more subjective to determine compared to concern or volatility as some articles may present methamphetamine negatively without reaching the extent of crisis. Any text of the article that will be coded in the quantitative analysis of a crisis frame will additionally be coded in the qualitative analysis to determine the similarities and contexts in which this frame was applied.

RQ 3.3 Is the rate of methamphetamine use said to be changing?

This was coded using a multi-choice option and an article could either claim that methamphetamine prevalence was: increasing, decreasing or not changing. If it did none of these it was coded as "not mentioned". This is a novel measure as past research, has not quantitatively measured claimed changes in drug prevalence.

RQ 3.4 Is methamphetamine said to cause a range of social or individual effects?

To determine the extent to which individual and social harms are mentioned and the certainty with which methamphetamine was said to be causing them, a range of measures will be used. One measure involves recording the topic of the news article. This measure was based on Hughes et al. (2011) and their initial coding categories are used in the pilot study. The primary topic of an article is defined as what made methamphetamine news on a particular day. Options include: law enforcement and harms, among others. A second measure categorises the implied consequences of being involved with methamphetamine in anyway. This could involve being the consequence of methamphetamine use but also included those that were involved in the supply or

distribution or were affected by a user's actions in some way. For example, they faced legal troubles or there were social harms. The final measure examines specifically what effects methamphetamine is said to cause the user. This is a more direct measure than the previous two measurements as it required that methamphetamine was explicitly said to have led to a problem for someone who used it. E.g. methamphetamine use led the user to commit crime. All of these effects are coded in the qualitative data is well which creates a detailed picture of exactly what methamphetamine was said to be causing and the language used.

RQ 3.5 Are any groups framed as folk devils?

Determining whether any groups were portrayed as folk devils requires greater subjective judgement than the other research questions pertaining to hostility. This is because it relates to a range of the other hostility-related measures and the extent to which they built up methamphetamine users as a deviant group that caused a range of social ills. Goode and Ben-Yehuda (2009) define folk devils as "an evil party responsible for the event, the behavior, or the phenomenon" (p. 91). Additionally, Cohen (2002) states that the physical appearance of folk devils is important as it is important to be able to easily identify the folk devils. It was decided that the folk devil could be decided based on which groups were said to be responsible for negative behaviours and had negative stereotypes surrounding physical appearance. Thus, these elements were coded for in the qualitative analysis for example if a methamphetamine user's appearance was mentioned.

Consensus

As mentioned above, determining consensus can be broken down into three parts. Each of these parts will now be developed into a useable measure in turn.

RQ 4.1 Which sources do the print news media use?

To determine the sources that were being consistently used by articles, a list of check boxes was used based on past research (Keune, 2014; Hughes et al., 2011). These allowed for a box to be checked each time a certain source was quoted or paraphrased in an article. For example, police, politicians, judges.

RQ 4.2 Is there consensus between sources in terms of the nature and scope of methamphetamine-related issues?

This research question examines the uniformity of views expressed in regard to the measures of hostility. This involved qualitatively coding the text of each source by theme and then comparing whether different sources agreed on the nature and scope of the problem. For instance, if a police offer says that methamphetamine use is increasing, the piece of text will be coded with police as the source, on the topic of rates of use and stating that that the rate is increasing. By doing this for a number of sources on a range of topics, a clear picture of what the dominant media narratives are will be created. Additionally, it will show consensus if sources tend to agree on the size and nature of methamphetamine issues.

RQ 4.3 Do any of the sources meet the criteria for being moral entrepreneurs?

Goode and Ben-Yehuda (2009) define moral entrepreneurs based on the extent to which they fuel the panic and stand to benefit from it in some way. Like RQ 3.4, this question can be answered by making a judgement based on the findings of several other measures. In particular, it is similar to the previous question. This is because if a group shows, based on the qualitative analysis of the data in RQ 4.2 that they consistently frame the methamphetamine issue in a threatening manner and suggest that they be given power or resources to stop it, it may demonstrate that they are moral entrepreneurs.

Disproportion

Disproportion cannot be determined by examining news media coverage alone. Instead, it is determined by comparing some aspect of the news media coverage of the issue with external measures of the same aspect. The literature review went into significant detail as to the extent of methamphetamine use in New Zealand and its effects. To fully determine disproportion, this empirical evidence will be compared to the results from this research.

RQ 5.1 Is the concern disproportionate to the size of the problem?

To determine whether concern was disproportionate to the size of the problem, the size of the media concern found in RQ 1.1, will be compared to what the evidence said in terms of the prevalence of methamphetamine in New Zealand in the Literature Review. This can be thought of as whether the concern shown was proportionate or not.

RQ 5.2 Are changes in coverage related to actual changes in the size of the issue?

To determine whether the changes in coverage correspond to changes in the size of the problem, the changes over time seen in Figure 1 will be compared with the changes in rates of coverage that were gathered to determine volatility. If there are large changes in coverage but there is little or no change in the actual size of the problem, then disproportion will be demonstrated.

RQ 5.3 Are the effects attributed to methamphetamine exaggerated, misleading or completely untrue?

To determine whether the effects that methamphetamine was portrayed as having are proportionate, two aspects must be observed. Firstly, were the claims of the effects of methamphetamine as displayed in RQ 3.3 realistic based on comparing them to what has been found in the scientific literature on the subject? Secondly, to what extent are these claims portrayed as typical? If effects that are in reality only potentially associated with methamphetamine, but articles claim that they are a common experience then disproportion will be demonstrated.

RQ 5.4 If harms are mentioned, are potential contributing factors given proportionate weight?

Finally, it was determined in the Literature review that when negative effects of methamphetamine are expressed those that are affected tend to also be affected by other psychological or socio-economic issues. The past research showed that while these factors are important in causing negative effects related to methamphetamine use, news media coverage tends not to mention them (Boyd & Carter, 2012; Reinarman & Levine, 1997). To examine whether these contributing factors were given proportionate weight, their mention in news media articles will be coded in a multiple-check box. Options include mention of mental illness and unemployment among others.

A Content analysis protocol was developed to set out clear guidelines for the coding of data. Having the protocol allows for increased reliability, transparency and replicability. It sets out exactly how the process of coding should be conducted and how to make decisions on what categories a certain piece of text can fall under. The content analysis protocol can be found in Appendix C. Finally, a coding sheet was also developed to allow for information to easily be coded. The coding sheet was constructed using Google

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Forms and contained multiple choice and check box options to select for each of the aspects mentioned above.

Data Collection

With methods and coding categories established, decisions must still be made on gathering the data. Practical limitations on data availability can alter the ability to cover all the data desired. This section will proceed through each step of the process of gathering data. Firstly, decisions will be made on the news sources to be covered. A decision on which online database to be used will then be made based on which one contains the desired sources and appears to provide the most useful tools for collecting data. Next, search terms must be developed to successfully get as much relevant content as possible and exclude as much irrelevant content. Finally, the data itself must be collected and securely stored in a manner appropriate for later analysis.

News Source Selection

New Zealand's mainstream news media space is dominated by two corporations: Fairfax and NZME. In the year to 30 June 2017, circulation for New Zealand's four newspapers with greater than 25,000 daily circulation were: The *New Zealand Herald* (NZME): 119,000, the *Press* (Fairfax): 50,000, the *Dominion Post* (Fairfax): 49,500 and the *Otago Daily Times* (Allied Press): 32,900 (New Zealand Audit Bureau of Circulations, 2017). NZME and Fairfax also own the two largest news websites in New Zealand. Their main websites, Stuff (Fairfax) and NZ Herald (NZME) have Alexa rankings of 8 and 9 respectively in September 2017. This puts them behind only major international websites like Facebook, Google and YouTube. When combined into parent companies, Fairfax and NZME place 4th and 5th respectively in unique monthly website viewers in New Zealand with 2.2 million and 2.1 million views (Keall, 2017). All publications from these two companies are included in this research.

The focus of this research will be on print news media because it is a type of media that is easy to access, store and analyse. Additionally, previous research has found that newspapers and news websites play an important role in setting the agenda that other sources follow (Cushion, Kilby, Thomas, Morani & Sambrook, 2016). Only analysing the print news media as collected from a database creates several limitations. Firstly,

despite recent declines in viewership, television news remains a popular source for news information (Nielsen, 2016). However, it is not analysed in this research because it would be more difficult to access and would require new tools of analysis to be developed. Secondly, no information is collected from social media, which recent research has shown can be an important source of information and can have effects on the way readers interpret the news (Bakshy, Messing & Adamic, 2015). As will be mentioned in the next chapter, this does somewhat limit the generalisability of this study, but a substantial part of the New Zealand news media is still being covered.

Database Selection

To acquire the articles for analysis electronically the use of a database is required. Databases store both online news articles and online versions of print articles from a range of news sources throughout the world. Database selection can be important as there are often multiple databases to choose from and each may have its own strengths and weaknesses, and there can be inconsistencies between the articles displayed in different databases (Riffe et al., 2014). Additionally, some content is stripped away and edited from articles before they are archived and appear on databases (Riffe et al., 2014, p. 164). This is important as it means some articles gathered from databases may be different from the way they appeared to readers in newspaper form.

The use of an online database does create several important limitations to this research. Firstly, online databases tend not to save photographs. Ayres and Jewkes (2012) argue for the importance of images in conveying news messages and building up a powerful imagery. Secondly, by not analysing the text as it sits in a newspaper, important context of other articles may be removed. Some past research has found that the context of other stories that are printed nearby can create certain impressions on a reader (Roach, 2012). Finally, there may be errors in the database, in that some articles may not be transcribed properly or at all. While these are important limitations to note, they are relatively minor compared to the benefits of being able to collect and analyse such a large data set. However, future research could definitely add further to the picture by gathering news articles straight from their physical print form.

Past content analyses on the news media's coverage of methamphetamine have used a range of databases including: InfoTrac (Armstrong, 2007), LexisNexis (Armstrong, 2007: Weidner, 2009: Keune, 2014), NewzText (Wallace, 2006) and Factiva (Hughes et

al., 2011). Unfortunately, InfoTrac and LexisNexis do not index any news sources from New Zealand, so they are unsuitable. Both NewzText and Factiva contain access to the news sources that are of interest. However, Factiva will be used because its search engine allows for easier use of logical operators, the importance of which is explained below. This is consistent with the fact that it was used by Hughes et al. (2011) and Kaefer, Roper and Sinha (2015), two studies which were comparable in size and design to this project as both performed content analysis on hundreds of articles. However, it would be interesting to replicate this research using the NewzText database in future to determine whether there are any differences between the results of the two databases and whether this has an impact on the results.

Database Search Construction

Past research has noted the importance of spending time constructing the search terms used to gather material for content analysis (Riffe et al., 2014). While search engines allow for the quick access of large amounts of material, they still require caution to be used effectively as using a sub-optimal search can result in relevant material being excluded or irrelevant material being included. To prevent this from being a substantial problem this research built up the final search query using trial and error, as recommended by Riffe et al. (2014, p. 166).

Firstly, a New Zealand Police webpage was used to gather synonyms for methamphetamine to make sure that all relevant material would be included. It stated that in addition to methamphetamine, colloquially used names included: "speed, pure, P, burn, goey, crank, meth, crystal, ice and yaba" (New Zealand Police, n.d.) "P" was identified as the colloquial term for the drug that could potentially cause problems as the results should not contain every word with a "p" in it. The Factiva search query form allowed for the search to only include "p" with no letters on either side. The terms "burn", "ice" and "crystal" brought in large quantities of articles not related to methamphetamine. They were therefore excluded from the final search query. Similar to Armstrong (2007), it was required that a synonym of methamphetamine be present in either the headline or lead paragraph. This was done to ensure that only articles where methamphetamine is a main topic were included. The final search query can be found in Table A1.

Selection of Time Frame

A benefit of content analysis is that it can implemented with a longitudinal design by collecting articles over a sustained period of time (Riffe et al., 2014, p. 30). The key period of interest for this research was 2011-2017 as the news media coverage of methamphetamine in New Zealand over this time period had not been examined by existing research. However, if the data was available, it would have been of interest to examine the same periods studied by Wallace (2006) and Carton (2016) to attempt to confirm their findings. However, initial searches found a large increase in results between 2007 and 2008. Upon examination, this appeared to be due to changes in the cataloguing of articles from some of the smaller regional papers rather than a real increase in coverage. Due to the piecemeal and inconsistent nature of database information before 2009, material from before that point was excluded. This resulted in the final sample time frame between 1 January 2009 and 30 September 2017.

Data Retrieval and Storage

The final search query was run in Factiva as shown in Table A1. It returned 7841 articles. These were downloaded in html format and saved to a hard disk. As Factiva provided the data in files of 100 articles, the data was separated for analysis. This was achieved by reading the files into the statistical software R 3.4.3 using RStudio. Computer code was written to automatically divide each article into its own file thus creating a database of individual articles to randomly select a sample from to analyse.

Data Analysis

This section will cover the final processes that the data went through before it could be coded. Firstly, it will mention the software's that were used in the process. Next, the way in which the samples were generated will be examined. Finally, the results of the pilot study of the content analysis will be discussed including the minor changes that were made before the final analysis.

Software

 NVivo 11 was chosen to store and analyse the data from the qualitative content analysis. NVivo allowed for large quantities of data to be efficiently coded and to examine themes in the data. Google Forms was used to create a content analysis sheet

that could be used to code each text element from articles into appropriate categories. The data created in Google Forms was downloaded and saved as a csv file. This data file was then loaded into RStudio which was used to create various exploratory plots and statistical analyses.

Sampling

Preliminary examination of the data showed that 22 irrelevant articles had been erroneously included (for full details see Appendix B). Once these articles were excluded, 7819 articles remained. Analysing each of these articles would be unnecessary and inefficient as research has shown that stratified-random samples can be used to get reliable and efficient results from content analyses of the news media (Riffe, Lacy, Nagovan & Burkum, 1996). In a stratified-random sample, data is divided into strata and a sample is taken from each. Rather than arbitrarily selecting the strata they have been selected based on the results relating to concern and volatility. If a time period demonstrated the heightened concern or volatility typical of a moral panic, it would be especially selected for a more focused examination. As explained in depth in the Results and Discussion section, the initial data indicated that twelve strata would be useful to answer the research questions. For full details on the strata for the final study see Table 1. From each stratum, a simple random sample of 40 articles was taken as past research indicated that this was a sufficient size to get a reliable sample of a time period (Lacy, Robinson & Riffe, 1995).

Pilot Study

In content analysis, it is recommended that a pilot occurs where the techniques for analysing articles are tested on a sample of the data. Past research has recommended a sample of at least 30 articles is sufficient for a pilot study (Lacy & Riffe, 1996). As some articles might still have had to be excluded a sample of 60 articles was taken for the pilot. Of these, 92% of the articles met the standard for inclusion by containing methamphetamine in the header or lead paragraphs (n = 55). Based on the pilot study, a number of changes were made to the content analysis instruments. Some of the most notable changes from the pilot study included: the addition of a topic of methamphetamine contamination which appeared in 7.3% of the pilot sample (n = 4). Three text elements that were coded for in the pilot study were removed from the main study as they produced information that was deemed not particularly useful on top of what the other text elements were already suppling and increased the amount of time

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required to code each article. Two other text elements were coded for in a simplified manner in the full study to make the results more reliable.

Exclusions

The pilot study revealed some articles where methamphetamine was mentioned but only tangentially. For the full study, two conditions for exclusion were developed. The first excludes articles that return a single use of methamphetamine where the rest of the article was not related to the subject. The second excludes articles where the 'article' was in fact multiple short articles with only one related to methamphetamine. Overall, these exclusions resulted in the initial sample for the full study of 480 being reduced to 413.

Ethical Consideration

As noted previously, a key advantage of content analysis of extant sources of data is that it is unobtrusive. Whilst this prevents many of the ethical issues that can arise when dealing with human participants, I still wanted to ensure that this study did not harm anyone. This could have been an issue as many of the articles named people. Given the illegal nature of methamphetamine use in New Zealand and the fact that many of the articles gathered were about people appearing before the courts, use of their names in this research would likely make their personal information more accessible in future search engine indexing. Thus, I decided that in the results and discussion, only the full names of public figures like politicians, judges and others that seemed to voluntarily appear in articles were named. I especially do not use the full name any person appearing in an article in relation to methamphetamine-related crime.

This chapter has described how the research questions were developed into textual elements and categories that an article could be coded for. Each step in the process presented a number of decisions with unique advantages and disadvantages. Whilst these disadvantages result in limitations, the content analysis as set out could still gain substantial, important information. The pilot study conducted demonstrates that the procedures developed were suitable to use in the final analysis, with only a few minor changes. The next chapter will present the results of the final research before turning attention to whether they provide evidence of a moral panic.

Results and Discussion

As outlined in the previous chapter, this research aimed to determine whether a moral panic surrounding methamphetamine occurred in New Zealand between 2009 and 2017 according to the five elements set out by Goode and Ben-Yehuda (2009). This chapter will proceed by examining each of the elements in turn. The first of the elements to be covered will be concern. It will be discussed using evidence from the changes in the number articles on methamphetamine over time and Google Trends interest. It will be shown that there are two periods where concern is noticeably raised. Secondly, examination of the same data will be used to show that these periods of concern appeared and disappeared in a volatile manner. These initial findings will be used to construct twelve strata to randomly sample as explained in the Methodology.

The final three elements of a moral panic will then be assessed in terms of their overall traits and how these changed across the twelve strata observed. A number of these will be shown to align in a manner consistent with a moral panic. Each of the three elements will be addressed based on the research questions posed in the Methodology. The first of these to be addressed will be hostility. It will be demonstrated that methamphetamine was frequently portrayed in a negative manner and was associated with a range of negative effects. Additionally, it will be examined whether folk devils were created in relation to methamphetamine coverage in the print news media.

Next, the moral panic element of consensus will be addressed. To do so, a number of different sources that were used in the news media coverage of methamphetamine will be assessed. Emphasis will be placed on the extent to which they agreed or not on methamphetamine's status as a threat to society. Looking further into the sources to see what they are suggesting will also occur in order to see if any of the sources the media use fit the criteria of moral entrepreneurs. This analysis will show substantial disagreement between sources at some points, resulting in a lack of consensus and potentially indicating that at least one period is at least not a typical moral panic.

Finally, the element of disproportion will be discussed. This element is different from the other four in that it requires a greater reliance on secondary sources. The information, gained from the examination of concern, volatility, hostility and consensus will be compared to available evidence discussed in the literature review. This will

demonstrate that several aspects of the print news media coverage examined were disproportionate to what an objective evaluation of the empirical evidence can support. Once each individual element of a moral panic has been discussed, attention will turn to whether the evidence taken as a whole suggests that one or more moral panics occurred. Two periods will be shown to feature many of the essential aspects of a panic but not all of them. Details of each panic will be examined to determine why they might have occurred. Finally, limitations to this research and suggestions for future research will be made.

Concern

Concern was the first of Goode and Ben-Yehuda's (2009) elements of a moral panic that was measured. This occurred first because moral panics tend to only last for a short period of time. By dividing the sample time frame up into smaller segments during periods of time where a moral panic might have occurred would potentially result in enhanced detail during the crucial periods of panic. This section will examine concern from the perspectives of two of the five spheres of panic given by Goode and Ben-Yehuda (2009): those of the media and the public. As mentioned in the previous chapter, the other three spheres (politics, law enforcement and social movement) will not be examined due to limitations in data availability.

Media Concern

Concern in the media sphere is a crucial element for studies of a moral panic. To determine whether there had been any periods of increased concern over the study time frame, the rate at which articles used methamphetamine or other terms for the drug in the article headline and lead paragraphs was examined (see Methodology for further details). Figure 2 plots the number of print news articles published each month about methamphetamine in New Zealand between 1 January 2009 and 30 September 2017. It shows that between January 2009 and October 2014, there were approximately 40 to 100 articles published per month with some variation from month to month but no clear trends. However, starting from late 2014 and throughout 2015 there was a gradual increase in the number of articles and increased variation from month to month. From the start of 2016, the number of articles started to increase further reaching a peak in June 2016 of 209 articles. Coverage then decreased slightly over the

next few months before recording the highest peak in October 2016 with 226 articles published. Following this, the number of articles drops off sharply during the last few months of 2016 but generally still remained higher than the 2009 to 2014 average.
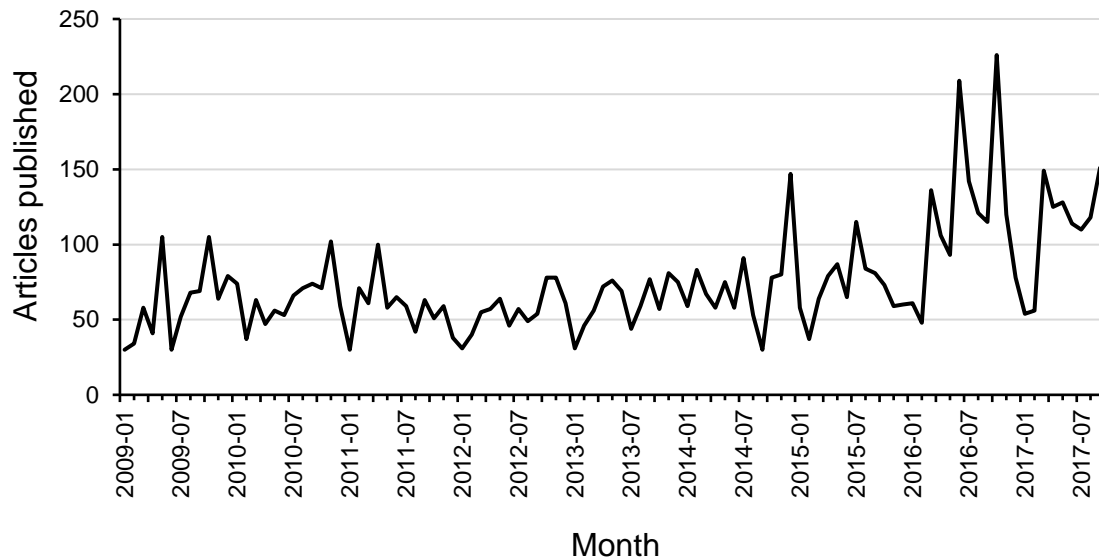

Figure 2. Methamphetamine-related articles published by month.

Public Concern

A second sphere of concern where a moral panic can be displayed, according to Goode and Ben-Yehuda (2009), is among the public. In the Methodology, it was decided to use Google Trends data to demonstrate this in absence of consistent public survey data. Google Trends data shows the relative search frequency for a topic using the Google search engine over time (for full search information see Table A2). Figure 3 shows that the trend line is similar to that found for the print news media articles on methamphetamine (Figure 2). Firstly, from 2009 until the end of 2012 there is a mean around 25 with some variation but no visible trend. Starting from early 2013, interest began to gradually increase, a pattern that continued until late 2015. At the beginning of 2016 there was a steep increase in interest which reached a peak in June 2016 before quickly subsiding. Note that even the diminished interest after June 2016 averaged around 60, which is substantially higher than for most months prior to 2016.
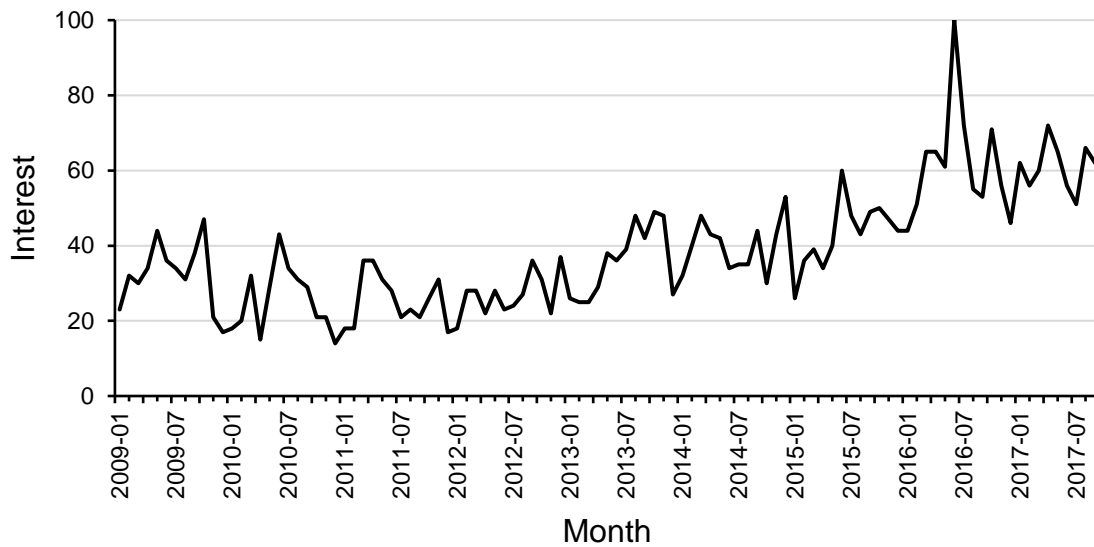
Figure 3. Google Trends interest in methamphetamine in New Zealand by month.

Figure 4 was produced to determine the extent of the relationship between media and public concern. It appears to confirm a correlation between both types of concern. One point where they notably diverted from each other is in October 2016 where a high of 229 news articles was published but Google Trends interest was only at 71. To ensure that there was a relationship between the variables a Pearson's Correlation test was conducted. It found extremely strong evidence of a relationship between articles published and public interest ($p < 0.001$). Cohen (1992) defines a large effect size for social science research as a Pearson's correlation of greater than 0.50. The estimated correlation for the relationship between media and public concern was 0.72 indicating a strong relationship between the variables.
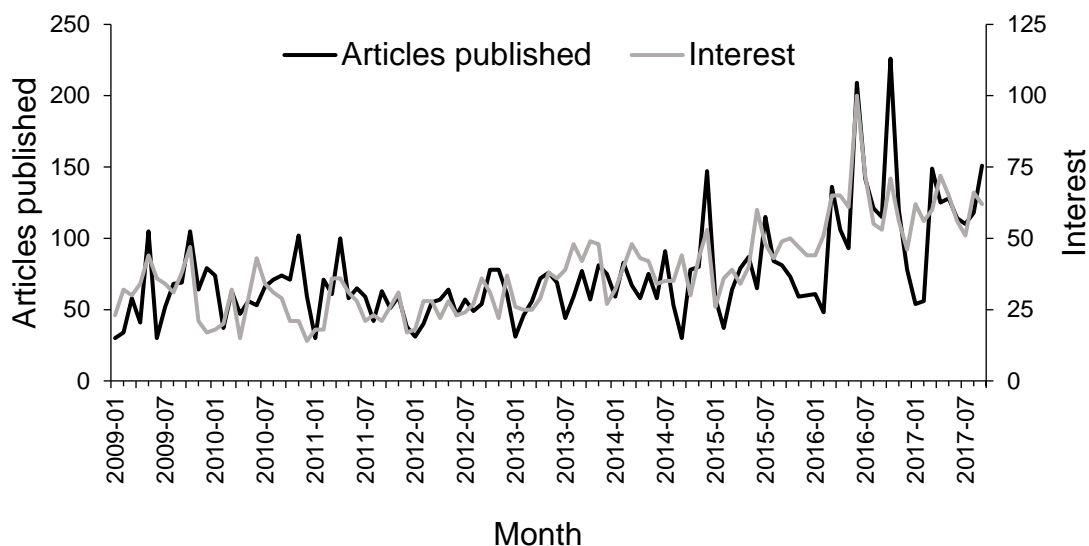
Figure 4. Comparison of methamphetamine-related articles published and Google Trends interest in New Zealand by month.

Now that the size of news media and public interest surrounding methamphetamine have been demonstrated, it is necessary to assess whether these show a sufficient level of concern. Goode and Ben-Yehuda (2009) state that for concern to be met there must be a heightened level of interest in a topic that can be "manifested or measurable in concrete ways" through the media and the public (p. 37). At the height of media interest in October 2016, the media were creating over seven articles per day on methamphetamine. RQ 1.1 asked if there was concern in the print news media, in this section it has been shown that there was, particularly during June and October 2016. RQ 1.2 asked if there was concern among the public. While the absolute magnitude of public interest in methamphetamine could not be measured, it certainly was heighted at certain points throughout the study, particularly in June 2016. Therefore, it can be said that there was concern among the public. Thus, concern surrounding methamphetamine in New Zealand at certain periods of time has been demonstrated.

Volatility

For a moral panic to be volatile, requires that the period of panic emerges quickly and dissipates just as quickly, although there may be underlying factors that exist for a much longer period (Goode & Ben-Yehuda, 2009). It was of interest whether concern in the print news media and the public both appeared and disappeared quickly. As Figure 4 showed, both the number of articles published and Google Trends interest underwent

large changes in 2016. This is especially true of two months: June 2016 where both media and public concern were high and October 2016 where media concern reached its highest level and public concern was also moderately high. Following October 2016, both public and media concern decrease by approximately a half in just a few months. The data then shows two large changes in the level of concern within a period of just over six months. This falls well within the range of time periods concerning past drug panics, which have tended to range from a couple of months to a couple of years (Jenkins, 1999; Wallace, 2006). Thus, the research suggests that changes in media and public concern were volatile. Having identified these periods where rapid changes occurred, it was necessary to analyse the data accordingly. The next section discusses the process of constructing strata that were used to more closely examine the data.

Stratifying the Data

The large changes in the concern for methamphetamine in New Zealand led to the use of a stratified-random sample. As noted in the Methodology, stratified sampling involves dividing a population into subpopulations and taking a random sample of each. This allows researchers to be able to precisely measure smaller groups. Figure 4 showed concern and volatility at two points in 2016 which suggested moral panics may have occurred then. The decision was made to create a stratified sample that examined this time period more closely than others by creating several strata for it. Based on Figure 4, the decision was made to divide the data up into twelve periods based on the extent to which they demonstrated concern and volatility. Periods that did not show much change in concern were analysed in strata that covered up to a year. While periods where rapid change occurred were examined on a monthly basis.

The final twelve periods that were selected are displayed in Table 1 along with some summary data on each period. The first seven periods were simply the individual calendar years from 2009 to 2015. This is because both the media and public concern data showed little fluctuation across these years compared to later years. The mean number of articles published each month across these seven periods ranged between 55.8 for Period 4 (2012) to 71.8 for period 7 (2015). Sampling each year still meant that any patterns that occurred across years could be observed.

Table 1

Summary Strata Information

Period	Start date	End date	Articles	Months	Mean articles per month
1	1/01/2009	31/12/2009	735	12	61.3
2	1/01/2010	31/12/2010	773	12	64.4
3	1/01/2011	31/12/2011	697	12	58.1
4	1/01/2012	31/12/2012	670	12	55.8
5	1/01/2013	31/12/2013	743	12	61.9
6	1/01/2014	31/12/2014	879	12	73.3
7	1/01/2015	31/12/2015	862	12	71.8
8	1/01/2016	31/05/2016	444	5	88.8
9	1/06/2016	30/06/2016	209	1	209.0
10	1/07/2016	30/09/2016	378	3	126.0
11	1/10/2016	31/10/2016	226	1	226.0
12	1/11/2016	30/09/2017	1203	11	109.4
Total	1/01/2009	30/09/2017	7819	105	74.5

The first period that was divided into a block of less than one year was Period 8 (January to May 2016). This was done because these five months showed an increase in the mean number of articles published per month but also because they are the months just before the first large noticeable peak. June 2016 was its own stratum as it showed evidence of both media and public concern. Period 10 included the three months from July until September 2016. During this time there was a decrease in both articles published and interest compared to June 2016, though it remained relatively high with a mean of 126 articles published per month. October 2016 was also separated into its own stratum. This period was of particular interest because it followed relatively soon after the previous period of high concern in June 2016. Additionally, it presented the point of greatest divergence between media and public concern. The final period examined (Period 12) were the 11 months from November 2016 to September 2017, which showed a decrease from the high concern of October 2016 but was still higher than most months before 2016.

From the total sampling frame minus initial exclusions of 7819 articles, the stratified sample consisted of 480 randomly chosen articles. This included 40 articles from each of the twelve periods. Once articles that did not fit the study criteria were excluded, 413 articles remained (for details on why articles were excluded see Appendix B). Each article was analysed using content analysis consistent with that in the Methodology. In

brief, this consisted of reading the article, coding the article for themes and sources of information, and finally coding for nine text elements covering things like the topic, tone and sources used by articles. In the following three sections, the findings from this analysis will be presented grouped by the remaining three criteria of Goode and Ben-Yehuda's (2009) moral panic model: hostility, consensus and disproportionality.

Hostility

Goode and Ben-Yehuda (2009) state that for there to be hostility, the topic must be portrayed as a threat to a portion of society or society as a whole. For this to occur, there must be claims made of the harms and threat that is posed to society and this must be targeted towards a certain group. In the methodology, five research questions pertaining to hostility were outlined. These were broken down into eight text elements that were coded for. Firstly, to demonstrate general use of a negative frame, the primary topic, overall tone and moral evaluation of methamphetamine was coded for. Secondly, the extent to which an article portrayed methamphetamine use as a crisis was recorded. Thirdly, it was noted whether the rate of methamphetamine use was said to be changing in an article. Fourthly, any individual or social problems that methamphetamine was said to be associated with or cause were coded for. Finally, information from these previously coded elements and qualitative data were used to assess the extent to which methamphetamine users were constructed as folk devils by the print news media.

Primary Article Topic

The primary topic of an article was defined as what the key aspect was that made the event one that required coverage by the media. In total ten different topics were coded for representing a range of subjects from court proceedings to policy proposals. As Figure 5 shows, three of the four most common topics were related to crime. Between them they made up nearly two-thirds of the total (n = 274). The largest of these were articles on court proceedings which made up 36% of articles (n = 149). These articles covered the range of appearances one might have in court for a methamphetamine related crime; from the first court appearance to trials and final sentencing. Articles where the topic was law enforcement, were the second most common, making up around one-in-five articles (n = 83). These articles focused on drug raids, seizures, arrests and other actions conducted by law enforcement (usually the police) to enforce

drug laws. Articles that concerned crime but where the topic was not court proceedings or law enforcement were classified as other crime reports. Among other things, these articles included victims telling their story or an article about a crime that did not specifically focus on the court room or come from a law enforcement perspective and made up 10% of articles (n = 42).
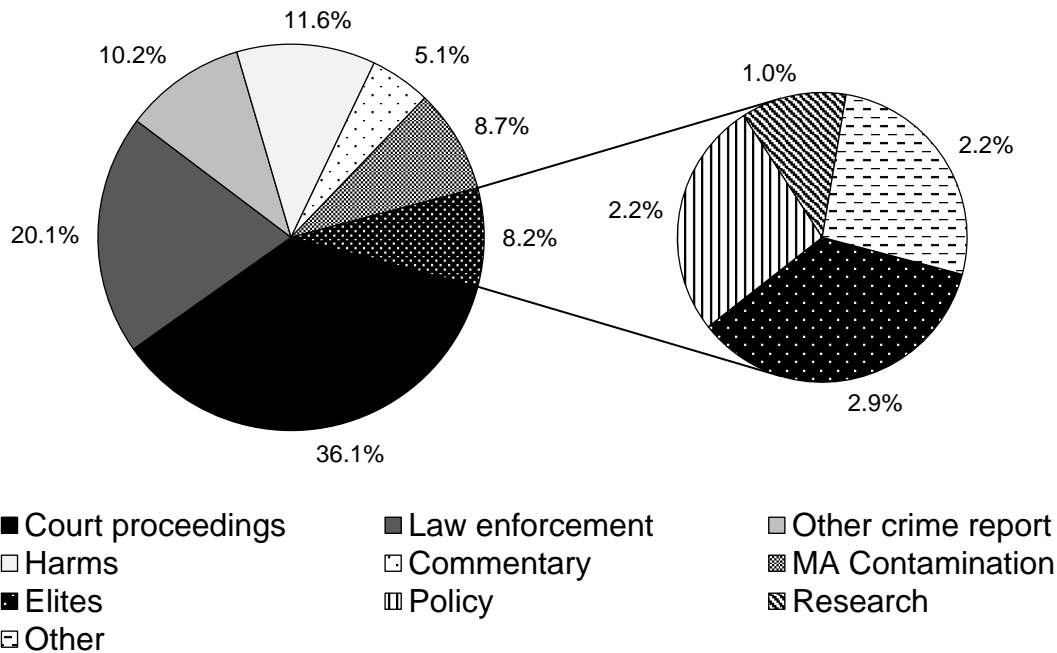

Figure 5. Primary article topic.

The third most common primary topic were articles on methamphetamine-related harms, which made up 12% of articles (n = 48). These articles were slightly more diverse in terms of what they covered ranging from the harm that methamphetamine was said to be broadly causing the community to personal stories from former methamphetamine "addicts". Another significant primary topic of articles were commentary pieces which made up 5.1% of articles (n = 21). They presented the opinion of an author on methamphetamine, often proposing solutions to the methamphetamine problem.

Of all the primary article topics coded for, methamphetamine contamination (labelled MA contamination in Figure 5) was the only one that was not part of the pilot study as it had not appeared in the past research examined. In the final study, this topic was the fifth most common as it encompassed 8.7% of articles (n = 36). These stories dealt with the potential problem of houses being hazardous to human health due to past

methamphetamine use or production in them. All other primary articles topics made up less than five percent of total articles each (for descriptions of them see Table C1).

In addition to the overall proportions of primary article topics, the extent to which these changed over time was of interest. This is because moral panics can be highlighted by changes in the attributes of the content and not simply the volume. To do this, the proportions of article topics were compared for all twelve periods. Figure 6 shows that the percentages of articles on each topic, changed substantially over the study period. This was supported using a Pearson's chi-squared test which found strong evidence that the proportion of article topics varied by period (χ^2 = 199.62, df = 99, p < 0.001). Articles on court proceedings showed some of the largest variation. Its proportion of articles increased from 36% in Period 1 to 60% in Period 5 (n = 12 and n = 21 respectively). From there it decreased, reaching a low at Period 11 of 11% (n= 4). However, it is important to note that the change in the actual number of monthly articles being published was substantially smaller as the average number of articles published in Period 11 was 3.7 times greater than during Period 5. Thus, court proceeding articles were making up a smaller percentage of a greater number of articles.
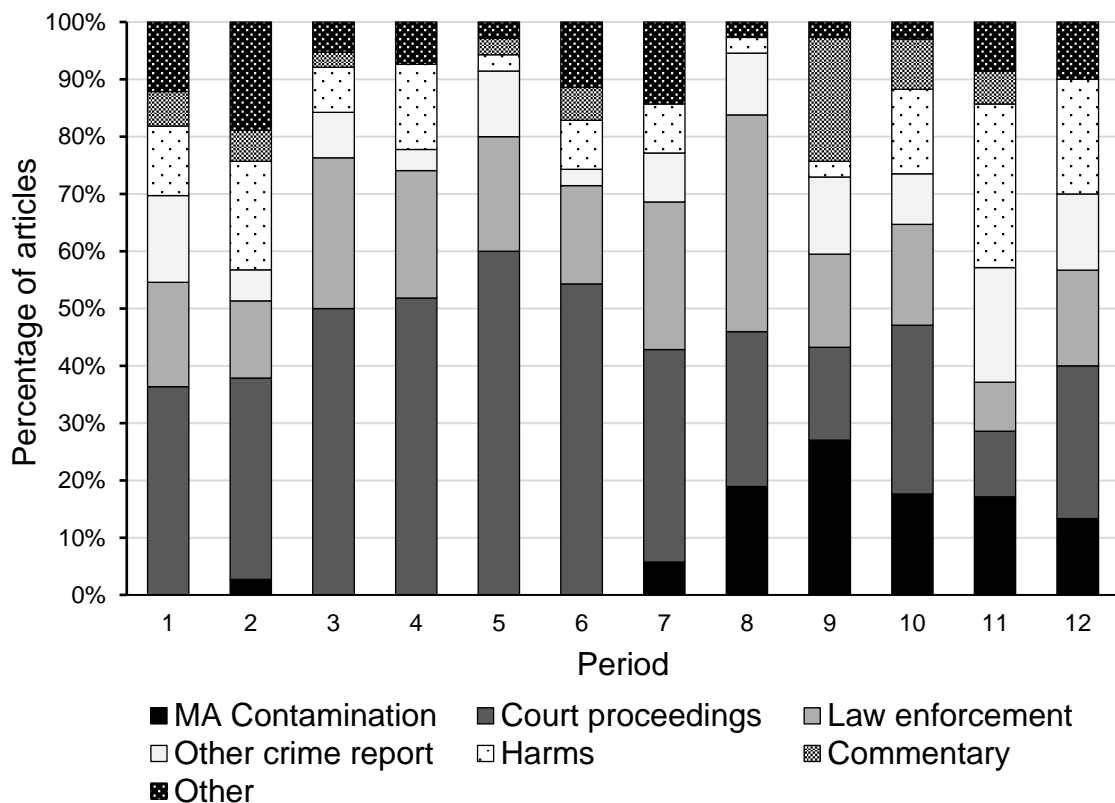

Figure 6. Primary article topic by period.

The percentage of articles with the primary topic of harms was another that varied greatly across periods. Notably, it reached a peak during Period 11 (October 2016) where it made up the greatest proportion of all articles at 29% (n = 10). In contrast to court proceedings articles, this percentage underestimates the change in the average monthly number of articles as its highest percentage is also during the month with the highest number of articles. The estimated number of articles published with harms as a topic during period 11 is 65 which is more than ten times the mean of 6.1 articles per month between Periods 1 and 9.

A final change of note, in primary article topic across periods occurred for the methamphetamine contamination topic. For the first six periods (from 2009 to 2014) there was only a single article related to this topic, meaning it made up less than half a percentage of total articles during these periods. Its proportion then rapidly increased in Periods 7 and 8. The percentage of methamphetamine contamination articles peaked in Period 9 (June 2016) where it was the largest primary topic, making up 27% of articles (n = 10). Like articles on harms, this understates the size of the change as Period 9 had the second highest average number of articles across all twelve periods. This considerable change in the proportion of articles on methamphetamine contamination especially around the time of increased concern in Period 9, indicated what further analysis would confirm: that a potential moral panic occurred surrounding it. As will be shown below, it followed its own dynamics that were separate but related to those of other topics. For this reason, it is the subject of its own section later on in the chapter but will be largely ignored from other sections.

Overall Tone

The overall tone of an article was based on whether methamphetamine was making news for positive or negative reasons. An article could be coded as: positive for a "good news" story, negative for a "bad news" story, "mixed" for an article that expressed aspects that were both positive and negative, or "neutral" for an article that was a simple factual account of events. As Figure 7 shows, 75% of articles displayed a neutral tone (n = 311). This was because, many of the law enforcement and court proceedings articles (which, as Figure 5 showed, made up a total of over half of all articles sampled) tended to be factual reports of events. This result aside, articles were much more likely

to be negative (13%) than positive (4.1%); an average of 3.2 articles with a negative tone for every article with a positive tone (n = 55 and n = 17 respectively).

These figures are similar to those found by Hughes et al. (2011). They examined the print news media in Australia and found that 84% of articles were neutral in tone, compared to 14% negative and 1.0% positive (p. 288). Although it is important to note that their study covered all illicit drugs and they did not provide figures for methamphetamine alone. On several other measures where they do report data for methamphetamine by itself, it tends to receive more negative coverage than other drugs. Thus, the overall article tone for methamphetamine coverage in New Zealand is broadly consistent with that found in Australia.
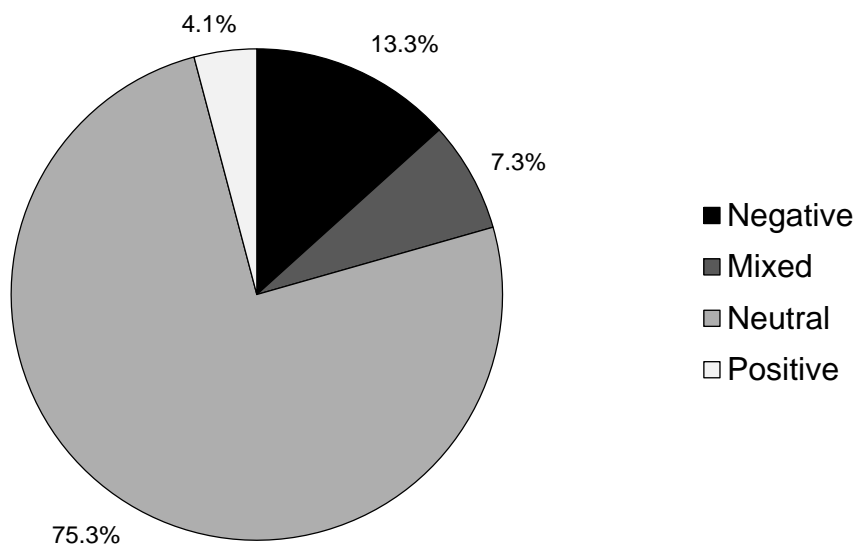

Figure 7. Overall article tone.

An important point to note is that examining this quantitative data in isolation does not reveal the full picture when it comes to the overall tone of articles. This is because most of the articles that were positive were reporting that something had occurred (often a police raid) that had reduced the prevalence of methamphetamine. Thus, these articles still tended to view methamphetamine itself negatively.

A Pearson's chi-squared test, found statistically significant evidence that overall article tone varied by period (χ^2 = 57.2, *df* = 33, *p* < 0.01). Of interest, articles with a negative tone increased from 5.7% in Periods 5 and 6 to a high of 22% in Period 9 (n = 2 and n = 8 respectively). The proportion of articles with a negative tone then decreased slightly

with the second equal highest point occurring in Period 11, of 17% (n = 6). These peaks of bad news stories about methamphetamine coincided with the changes in primary topic previously discussed including increases in articles on harms and methamphetamine contamination.

Moral Evaluation of Methamphetamine

A third hostility related text element that was coded for measured the moral evaluation of an article. The moral evaluation consisted of the attitude to methamphetamine or methamphetamine use implied by an article. A good moral evaluation would imply that the impression conveyed was that methamphetamine use was fun or beneficial. A risky evaluation suggested that there was a risk of harm associated with drug use but did not necessarily condemn it. A bad moral evaluation implied that methamphetamine use causes problems and is not acceptable. As Figure 8 shows, the majority of articles (51%) did not provide a moral evaluation of methamphetamine (n = 209). However, bad moral evaluations (45%, n = 186) were only slightly less common than articles not expressing an evaluation. Articles that expressed a bad moral evaluation used a range of terms with negative connotations to convey the evaluation. These included calling methamphetamine use "dangerous", "pernicious", "vile", "toxic" and "nasty". They described methamphetamine as causing "widespread misery" and being responsible for "destroying lives" (Savage, 2016; "Fight Against Scourge", 2012). No articles in the sample expressed a good moral evaluation of methamphetamine.

Comparing this to the previous result shows that moral evaluations were substantially more negative than the overall tone of articles. This was probably because many articles that were overall neutral in their tone tended to still evaluate methamphetamine use as bad. These proportions are similar to those found by Hughes et al. (2011) who found 49% of articles expressed a negative evaluation of methamphetamine. While approximately 45% of articles had neutral framing and less than 1% of articles gave a positive moral evaluation (the exact proportions for neutral and positive articles is not reported) (pp. 289-290).
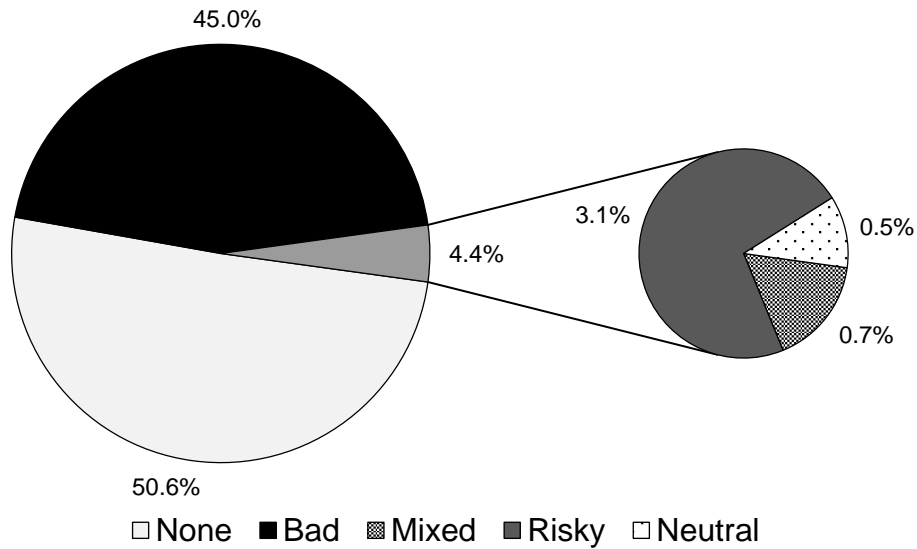
45.0%

3.1%

0.5%

4.4%

0.7%

50.6%

□ None ■ Bad ▨ Mixed ▦ Risky □ Neutral

Figure 8. Moral evaluation of methamphetamine.

A Pearson's chi-squared test found statistically significant evidence that moral evaluation varied by period (χ^2 = 64.9, *df* = 44, *p* < 0.05). Across periods, there were several fluctuations with no clear trend. Importantly, the period with the highest proportion of articles with a bad moral evaluation was Period 11 where 71% of articles evaluated methamphetamine as morally "bad" (n = 25). This further highlights the previous two results in indicating that Period 11 was a site of a potential moral panic.

To recap what has been established so far about the hostility of the news media coverage of methamphetamine: firstly, it has been shown that nearly two-thirds of the primary methamphetamine-related topics linked methamphetamine to crime in some way. Secondly, while the majority of articles were neutral in tone, negative articles dominated positive ones by a ratio of over three-to-one. Finally, while a narrow majority of articles gave no moral evaluation of methamphetamine, 45% of articles portrayed it as morally bad with none portraying it as good. Taken together these results provide an answer to RQ 3.1, as it has been established that the print news media constructed methamphetamine in a negative manner. The next subsection examines a second aspect of hostility: framing methamphetamine use as a crisis.

Crisis Framing

The text element of crisis framing, measured whether methamphetamine use was portrayed as a significant threat to society requiring urgent action. An article's use of the crisis frame could often be determined by the use of sensationalistic language and catastrophe allusions. Only 13% of articles framed methamphetamine as a crisis issue

compared to 87% of articles that did not (n = 53 and n = 360 respectively). This finding is similar to that of Lancaster et al. (2011, p. 288) who reported that 18% of Australian news articles used a crisis frame for methamphetamine coverage.

The qualitative analysis of the data revealed that, when the crisis frame was used, the size of the methamphetamine problem was said to be of "epidemic" (or occasionally even "pandemic") proportions (Fallon, 2017). It was explicitly said on occasions that methamphetamine was a "crisis" and language was used to link it to natural disasters (Laing, 2015). For example, articles implied that methamphetamine use was a tsunami, including referring to supposed increases in prevalence as a "wave" or "surge" (Brunton, 2016). Additionally, language invoking pestilence was used, including calling methamphetamine a "plague" and a "scourge" ("Man Who Stole P", 2010; "Joint Effort on Fighting P", 2010). The comparison to a natural disaster was also used to show that institutions were overwhelmed. One headline read "P-drug tide swamping police, courts" (Laxon, 2009). The use of the disaster terminology is particularly similar to what Jenkins (1994) found as the methamphetamine panic that he observed was named 'the ice age'. All of this language use is consistent with what past research has found during moral panics (Reinarman & Levine, 1989; Jenkins, 1994; Armstrong, 2007).

The crisis was not said to be restricted to law enforcement either as there was evidence of what Reinarman and Levine (1989, p. 543) called the *vocabulary of attrition* whereby drugs are said to be damaging or destroying all parts of society. Methamphetamine was reported to be having a "huge impact" on services "from Women's Refuge to... schools, the health system and mental health services." ("Meth Cash Good News", 2016). The inability for health services to cope was mentioned in another headline reading: "Addiction situation 'critical'; Centre needed to deal with meth surge - counsellor" (Long, 2016). Furthermore, claims were made about the extent to which methamphetamine can affect anyone in society regardless of age or where they live. One article stated that methamphetamine "was affecting all levels [of society], and increasingly children and young people" ("A Two-pronged Attack", 2017). Some articles expressed shock that methamphetamine use was permeating small towns and rural communities. A member of the public is quoted in one article saying that the raid of a methamphetamine lab is "a bit of a shock in a quiet town like this" ("Drug Crime Fight Hots Up", 2010).

It is important to note that the use of the crisis frame varied considerably based on article topic. The 66% of articles that were crime-related tended not to refer to methamphetamine use as a crisis issue. For instance, only 1.3% of court proceeding articles used a crisis frame. Articles where the primary topic was commentary or harm were substantially more likely to employ the crisis frame at 29% and 46% of articles respectively. Even more important is that use of the crisis frame changed considerably across the twelve periods. As displayed in Figure 9, from Periods 1 to 9 between 0% and 10% of articles used the crisis frame. This increased in Period 10 where 21% of articles used a crisis frame (n = 7). During Period 11, use of the crisis frame reached its peak with 40% of articles employing it (n = 14). A Pearson's chi-squared test found extremely strong evidence that use of the crisis frame varied by period (χ^2 = 40.94, df = 11, p < 0.001). This is consistent with Lancaster et al. (2011) who argued that media sensationalism surrounding drugs was generally lower than previously suggested and that sensationalism would be most likely to occur "during particular episodes or periods of heightened public concern." (p. 290). Importantly Period 11, recorded by far the highest use of the crisis frame. It was shown earlier in this chapter that this was the month (October 2016) where the greatest volume of print news media coverage occurred and differed from the other time periods in terms of topic, overall tone and moral evaluation.
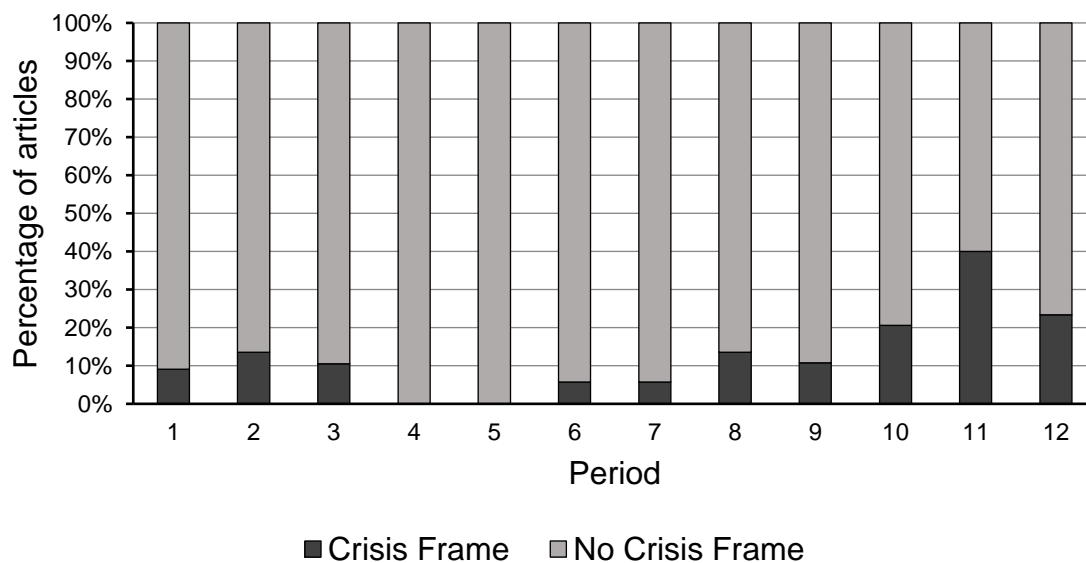

Figure 9. Crisis framing by period.

In this subsection, it has been established that while most articles do not mention methamphetamine as being a crisis, this tends to be because many articles are simply neutral reports on the proceedings of the court system. Articles that provide commentary on methamphetamine or discuss it in broader societal terms tend to quite frequently portray methamphetamine as a crisis. Use of crisis framing was not stable over time as it was used much more frequently from Periods 10 to 12. This adds further support to the possibility that a moral panic occurred during Period 11. Thus, in response to RQ 3.2, while methamphetamine was not framed as a crisis in general, there were specific instances where the crisis frame was frequently employed. The following subsection examines the extent to which the news media portrayed methamphetamine use as changing.

Changes in Methamphetamine Prevalence

It was of interest whether the print news media was portraying methamphetamine use as changing. As outlined in the Literature Review, past research has found that during a moral panic the news media claims that drug use is becoming more prevalent (Armstrong, 2007). Whether articles about methamphetamine use in New Zealand mentioned changes in the population rate of use was measured to determine if this occurred during the sample time frame.

As Figure 10 shows, 89% of articles did not mention if rates of methamphetamine use were changing (n = 367). However, of those that did mention changes, significantly more articles mentioned that the rate of methamphetamine use was increasing (8.0%) compared to 1.0% of articles that mentioned the rate of use decreasing (n = 33 and n = 4 respectively). This created a ratio of 8.3 articles claiming an increase to each claiming a decrease. In addition to this, 1.5% of articles provided a mixed picture on prevalence by stating that some sources thought there was a change with others disagreeing (n = 6).

Consistent with the patterns mentioned above, there were statistically significant changes in the proportion of articles mentioning a change in prevalence across time (χ^2 = 66.9, df = 44, p < 0.01). Specifically, a peak was reached in Period 11 where 20% of articles mentioned an increase in use (n = 7) while none mentioned a decrease in use. Qualitative analysis of articles that mentioned methamphetamine prevalence revealed that the key source for such claims were police. This was done in the context of the police claiming that they were succeeding in making methamphetamine harder to

acquire through their enforcement of drug laws. This point will be discussed further in the consensus section.

Articles that claimed that methamphetamine use was increasing, often used neutral language to describe increases including "widening use" (Laing, 2015b), and "steadily increasing" (Long, 2016). However, other articles were more dramatic and used the language previously mentioned above when discussing crisis framing like "surge". In the disproportionality section, how these claims compare to the evidence concerning changes in methamphetamine use in New Zealand will be assessed. For now, it has been established that while most articles do not mention if rates of use are changing, those that do overwhelmingly claim that methamphetamine use is increasing. Thus, consistent with past research, the answer to RQ 3.3 is: when mentioned methamphetamine use is portrayed as increasing.

Figure 10. Changes in the prevalence of methamphetamine use.

To summarise what has been established in this section concerning hostility so far, methamphetamine was portrayed in generally negative terms. During certain periods it was the subject of a higher proportion of stories on harms caused. During these periods it was often described as a crisis with rates of use increasing. This demonstrates that methamphetamine has been treated in a hostile manner. The key question remaining is: what is it about methamphetamine that leads to the news media typically portraying it

in a negative light? The proceeding subsections will examine what it is that methamphetamine is said to be doing that made it the subject of such negative coverage.

Implied Consequences of Methamphetamine

The effects of being in some way associated with methamphetamine were coded into categories. This text element included both the portrayed consequences of methamphetamine use but also consequences from associating with methamphetamine in anyway. Thus, this measure also included involvement in the drug trade. It set out to answer the question: what effect has interacting with methamphetamine had on the people in this article? This does not necessarily mean that the article stated that methamphetamine caused this problem. An article could fall into one or more of these categories so the percentages in Figure 11 do not add up to 100.

As shown in Figure 11, by far the most common set of consequences that were associated with methamphetamine were legal problems which were mentioned in 71% of articles (n = 294). This category encompassed both drug crime like distribution or possession and crimes that were said to have resulted from use. This is consistent with the result for primary article topic which found nearly two-thirds of articles to be crime-related. The second most common implied consequence was social harms and costs which were mentioned by 35% of articles (n = 146). These articles mentioned the harm that use or distribution of methamphetamine was broadly having on society including violent crime, child neglect and the monetary costs thereof. For example, one article quotes a Police officer saying, "dealers of methamphetamine cause extreme hardship to our communities and families" ("Meth Cash Good News", 2016). In another, a Judge describes methamphetamine as "a scourge in communities" (Conchie, 2010). This category was often linked to legal problems as violent crime often resulted in legal consequences for the offender and harm to society.
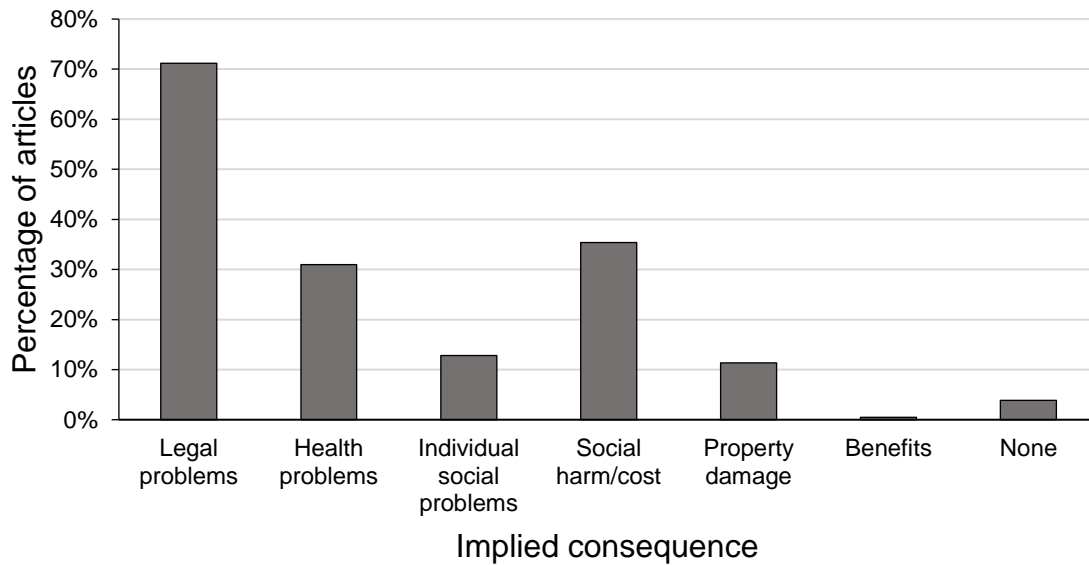
Figure 11. Implied consequences of methamphetamine (n = 686).

Some articles linked methamphetamine to the social harms of child neglect and abuse. Descriptions included "the effect of meth on children was often unseen, but "it shows up later in life"" and "meth ruins people's lives, it ruins families, it takes parents away from children and children away from their parents." (Brunton, 2016; "My Mum Was a P-addict", 2016). This is consistent with the work of Roach (2012) and Carton (2016) who note that articles on methamphetamine tend to mention children as being "innocent victims". This allows the creation of a contrast between the innocence of children and the evil of methamphetamine. This has been termed the "bifurcation process" (Ayres & Jewkes, 2012). Occasionally, rather than qualitatively describing the harm caused by methamphetamine, articles would provide the monetary cost. Some of these articles looked broadly at the cost of methamphetamine to society by claiming that it was "caus[ing] harm to the country estimated at up to nearly $50 million." (Leask, 2011). In other articles, a specific part of the financial cost of methamphetamine to society was focused on. For instance, one article looking at the cost of meth mouth to the dental bill of prisons was titled "Meth Drills Out $1m Dentist Bill in Prisons" (2016).

The third most common set of consequences implied were health problems which appeared in 31% of articles (n = 128). Health problems mentioned included a wide range of problems from the psychological (addiction, psychosis, paranoia) to the physical (tooth decay and weight loss). These will all be examined in greater detail in the next subsection. Two other consequences were implied by around 10% of articles. The first of these was individual social problems which were mentioned in 13% of

articles (n = 53). This consequence was implied when an article mentioned that an individual was alienated from friends, family members or partners as a result of becoming involved with methamphetamine. The second were references to property damage which appeared in 11% of articles (n = 47). This topic will be discussed in greater depth below as it was strongly linked to methamphetamine contamination. Finally, benefits of methamphetamine use were only mentioned twice in the sample meaning they comprised just 0.5% of articles. Such rare mention of positive effects in the context of the frequent mentions and vivid descriptions of the negative consequences associated with methamphetamine, resulted in the construction of an image of a drug with numerous, severe negative consequences with essentially no benefit.

Figure 12. Implied consequences of methamphetamine by period (n = 686).

To determine whether the implied consequences of association with methamphetamine changed over time, a Pearson's chi-squared test was performed. It revealed statistically significant evidence that the implied consequence varied by period (χ^2 = 120, *df* = 77, *p* < 0.01). As Figure 12 shows, consistent with the previous results of this study, there are changes particularly from Periods 8 to 12. As those results would suggest, the proportion of articles mentioning legal problems is at its lowest point during Period 11. At the same time, mentions of health problems and social harm reach their highest

point. Thus, it has been established that methamphetamine was heavily associated with a number of negative outcomes including: legal, health and social problems. However, it has not been addressed whether methamphetamine was seen as linked to them or was a specific cause. The next section will examine the extent to which the media makes claims about methamphetamine being the cause of these problems and whether any other individual or social factors are portrayed as contributing to these negative outcomes.

Effects of Methamphetamine Use and Other Contributors to Harm

The final text elements that were coded for related to hostility, looked at the extent to which methamphetamine was said to be a cause of harms and the extent to which other factors contributed. The first measure looked specifically at what news articles stated the effect of taking methamphetamine had on the user. The second measure examined whether any other factors were said to have contributed to negative outcomes. In terms of the effects of methamphetamine use on individuals, six responses were measured. Before examining these results, it must be noted that 63% of articles did not mention an effect of methamphetamine on the user (n = 262). These were most frequently articles from the court proceedings topic which simply reported events in a court rather than necessarily attributing anything to methamphetamine. These have been excluded from Figure 13 to make the scale clearer for the other categories.

The most common effect that articles attributed to methamphetamine use was that it caused crime which appeared in 21% of articles (n = 86). Sometimes it was described in broad terms as "a major driver of crime" (Rudman, 2017). Methamphetamine was especially said to cause violent crime with one article saying it was "fuelling violent offending" and is the cause of "horrific, random assaults" (Keith, 2017; "Abusing P and State", 2016). Overall, having more than one-in-five articles stating that methamphetamine use caused crime created a strong link between the two.
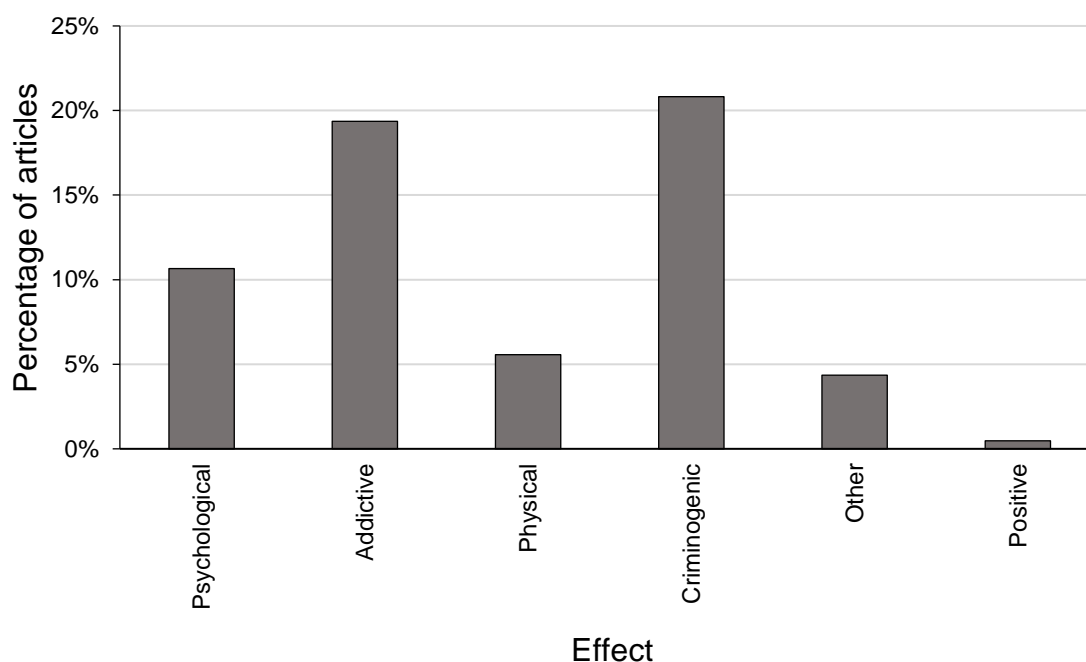
Figure 13. The effects of methamphetamine on the user (n = 253).

The second most frequently mentioned effect of methamphetamine on users was that it caused addiction which was mentioned in 19% of articles (n = 80). These articles did not simply claim that methamphetamine posed a risk of addiction as other drugs do but that it was highly or extremely addictive. The strength of the addiction was sometimes reinforced by citing former users with one saying, "once you are on it, it has you in its grip and won't let you go." ("My Mum Was a P-addict", 2016). The claims of addictiveness sometimes went so far as to state that it was almost impossible to use methamphetamine and not become addicted as demonstrated by one article that claimed, "P was by far the most addictive drug on the market, with nine out 10 users hooked after their first or second use." (Fea, 2011). The extent to which these claims can be considered accurate are discussed in the section on disproportionality below.

Articles which claimed that methamphetamine caused psychological problems made up 11% of articles (n = 44). A wide range of psychological problems were attributed to methamphetamine. These included: "irrational behaviour", "compounding paranoia, psychosis and extreme mood swings" and suicide attempts ("Drug Bust Fallout", 2016; "Methamphetamine is a Member", 2010; "Phoebe's Story Dancing", 2009). Other commonly mentioned psychological effects included: "very unstable, aggressive, unpredictable [behaviour]." (Vance, 2011). Often an article described multiple negative psychological effects of methamphetamine use. For instance, one article described

"aggression, psychosis, mania… slower reaction times and a lack of inhibition."
(Brunton, 2016). Some mentions of methamphetamine-induced psychological problems
were slightly more implicit. For example, one person is said to have "known people to
dramatically change in as little as a year" due to methamphetamine use (Long, 2016).
On top of these aggressive, irrational and psychotic behaviours, claims were made that
suggested methamphetamine users experience changes to brain structure or brain
damage. One article claims that speaking to a frequent methamphetamine user is like
"talking to a wall" and that even "infrequent use can cause changes to the brain."
(Brunton, 2016). Clearly, the image of methamphetamines effect on mental health was
that it was the cause of severe negative outcomes.

Physical health problems were mentioned more rarely but still made up 5.6% of articles
(n = 23). There were a number of health problems that methamphetamine was said to
cause with a range of seriousness. Some articles stated that users were in life
threatening danger. For example, the daughter of a person formerly addicted to
methamphetamine said that she "thought her mother would die", whether due to an
overdose, murder or suicide ("My mum was a P-addict", 2016). Another physical health
problem mentioned is that users experience severe tooth decay, commonly called meth
mouth. Methamphetamine users with meth mouth were described as having
"blackened, stained or rotting teeth" ("Meth drills out", 2016). As mentioned earlier, one
article stated that the cost of meth mouth was said to be in excess of a million dollars in
the prison system. Consistent with the implied consequences of methamphetamine,
only 0.5% of articles mentioned a positive effect of methamphetamine on a user (n = 2).
The overwhelming portrayal of methamphetamine in the print news media was that it
had severe, negative consequences for the user.

To determine whether the portrayed effects of methamphetamine varied across time, a
Pearson's chi-squared test was performed. It found statistically significant evidence that
the effects mentioned in articles varied by period (χ^2 = 90.78, df = 66, p < 0.05). In
particular, Period's 11 and 12 showed notable increases in mentions of both addiction
and criminogenesis. During Period 11, addiction and criminogenesis were effects noted
in 31% and 34% of articles respectively which was higher than their mean across
periods (n = 11 and n = 12 respectively).

It has now been firmly established that methamphetamine was frequently deemed a cause of criminogenesis, addiction, psychological problems and other physical health problems in users by the print news media. Additionally, methamphetamine was blamed for a wide array of harms and costs to society especially in the forms of violent crime and neglect of children. However, just because methamphetamine is said to be part of the cause does not mean it is the sole cause. The media could have shown methamphetamine as a cause but also noted psychosocial factors that might lead to these problems. To determine this, a measure of whether other contributors to harm were mentioned in articles was taken. It coded for economic problems, social problems and any other problems mentioned. If no such mention was made it was recorded as none. Note: this section does not analyse changes between the time periods as some of the expected cell counts for the Pearson's chi-squared test were less than one making it unreliable. Figure 14 shows that 85% of articles did not discuss any other contributor to the problem mentioned (n = 137). That is, the crime, psychological, social and health problems were implied to be caused by methamphetamine alone in 85% of articles.

Figure 14. Contributing factors to negative effects (n = 162).

For the 15% of articles that did mention another factor contributing to the problems described, there was no consistent contributor used. Of those that were specifically coded for, Mental illness and social factors were the most frequently mentioned at 3.7% each (n = 6). Articles, that mentioned mental illness tended to report that users had existing mental health issues that contributed to the negative effects experienced. The

social factors mentioned involved the death of family members or separation from family. No other individual contributing factor was mentioned in more than one percent of articles. Importantly, even when contributing factors were mentioned, they were usually given secondary and often minor blame for the problems that occurred. That is, methamphetamine was seen as a primary cause of harm but some other factors were viewed as potentially playing a part. This is a much more cautious portrayal of these factors compared to the role that methamphetamine was said to play earlier in this section.

A crucial aspect to the framing of these contributors to harm is that they were framed as being individual problems. For instance, the articles that mentioned economic hardships as contributing causes to someone's problems presented these as unfortunate personal circumstances. There was no context provided to wider structural forces at play. Thus, the media portrayal of these problems was very rarely linked to wider socio-economic issues in any way. This is consistent with Boyd and Carter (2010, pp. 228-229), who argued that by making only brief mentions to "social and personal factors that would contextualise… the social and psychological complexities of drug users' lives are either simply erased or minimally considered, leaving only drug use as the central difficulty that affects their lives." Reinarman and Levine (1997) labelled this pharmacological determinism, whereby a drug is made into a scapegoat by obscuring other important factors that are known to cause negative conditions like psychosis or crime. Furthermore, they suggest that the framing of drugs in this manner has the effect of focusing attention towards law and order rather than socio-economic solutions.

Overall, this subsection has shown that methamphetamine use was portrayed as a cause of a wide range of individual and social problems. Users were said to suffer from severe psychological issues and cognitive impairment. The drug itself was said to be highly addictive potentially to the point that almost no one could casually use the drug. These problems did not only affect the user but resulted in them committing violent crime. However, the news media still could have provided further context. It could have been stated that existing mental illness and negative life events play an important part in the way a user experiences a drug. Instead, contributing factors were largely ignored and methamphetamine use was seen as sufficient for these negative effects to be produced.

In response to RQ 3.4, this subsection has shown that the print news media portrayed methamphetamine as a substantial cause of individual social problems.

Folk Devils

Before determining whether Goode and Ben-Yehuda's (2009) criteria for a moral panic of hostility has been met, one final part of creating hostility will now be discussed: the construction of folk devils. Since Cohen's (1972) initial research on the Mods and Rockers, folk devils have been a common subject of moral panic research. They are the group that is treated with hostility because they are viewed as the cause of the threat posed to society. It was of interest to see whether a group linked to methamphetamine could be said to amount to folk devils. In the qualitative analysis, groups that were associated with methamphetamine in articles were coded for.

Gangs were a frequently mentioned group in past research. References to organised crime lay on a continuum from the vague "drug ring" to explicitly naming the gang including the Mongrel Mob, Black Power and the Head Hunters as well as some local gang factions. This is consistent with both Wallace (2006) and Carton (2016) who had found methamphetamine panics were strongly linked with local level gangs. Local gangs have been a key part of moral panics in New Zealand for over 35 years (Kelsey & Young, 1982). However, they were not the focus of enough articles to be generally seen as folk devils. Instead, their invocation in articles appeared to add to the broad negative image of methamphetamine. This is related to Hall et al.'s (1978) concept of convergence whereby the process of constructing a panic is made easier by linking it to existing folk devils. The frequent mention of methamphetamine in the presence of gangs, a group that have already been constructed in highly negative terms over a long period of time appears to successfully do this.

A group that may have better fit the role of folk devils in articles were methamphetamine users. As already explained in detail, methamphetamine users were said to be highly addicted to the drug and experienced psychological problems like psychosis and hallucinations as a result. Their paranoid and aggressive behaviour was said to lead to them committing violent crime. Use of the drug over long time periods was said to show physically in users by severe weight loss and tooth decay. This was taken to an extreme by an article that described a user as a "zombie" (Harris, 2017). This heavily stereotyped and negative behaviour that users are said to display, makes it

clear that they are folk devils. This supports the findings of previous research in New Zealand which also found methamphetamine users to be constructed as folk devils (Wallace, 2006). The finding of articles that go to the length of describing users as zombies is also consistent with research that has previously been conducted in the United States (Linnemann, 2016). Therefore, in response to RQ 3.5, it can be said that methamphetamine users were framed as folk devils by the print news media.

In this section, five research questions have been addressed. Firstly, while a large portion of articles framed methamphetamine in a neutral manner, those that did not, overwhelmingly framed it in a negative manner. While overall, only a sizable minority of articles went to the extent of framing methamphetamine as a crisis issue, this was not consistent across time. Periods during 2016 and 2017, especially October 2016, framed methamphetamine as a crisis at a high rate. Adding to the sense of crisis, despite it being uncommon for articles to mention whether prevalence was changing, the vast majority of those that did, claimed that it was increasing. Prevalence was said to be especially increasing during October 2016. When it came to the effects and consequences that methamphetamine was said to have, they were overwhelmingly negative including effects on psychological and physical health, causing widespread harm to communities. Finally, there was little mention of individual or structural factors that might have contributed to these effects. These findings show that methamphetamine was generally framed negatively, but do they show hostility? Goode and Ben-Yehuda (2009), argue that for the element of hostility to be met, a condition must be portrayed as threatening and harmful to society (p. 38). During Period's 1 to 7, the coverage might be said to be negative but not fully hostile. However, between Periods 8 to 12, there were sizable increases demonstrated in the extent to which methamphetamine was portrayed as threatening and harmful. Thus, in response to RQ 3, there was hostility in the print news media coverage between 2016 and 2017. With hostility established, three of the five elements of a moral panic have now been demonstrated. Attention now turns to the fourth element: consensus.

Consensus

The fourth element of Goode and Ben-Yehuda's (2009) moral panic model is consensus. It requires agreement between societal groups that the drug poses a threat. This section

will commence by examining the frequency with which a range of sources are used by the print news media. This will demonstrate that the media rely heavily on official sources, particularly police. What each source generally said in articles will then be addressed to examine whether consensus existed. While there was disagreement between sources, this analysis will show general agreement on the nature and scope of the methamphetamine problem in New Zealand. Finally, the extent to which the sources used in news articles could be considered moral entrepreneurs will be explored.

Sources Cited

Every source that was either directly quoted or paraphrased in an article was categorised by type. In total, over 25 different types of sources were found across the sample. The main sources that were found are displayed in Figure 15. These include police, judges, lawyers, health workers, politicians, methamphetamine users and methamphetamine contamination industry (MCI) sources. In total, 17 of the 25 sources used are not displayed in Figure 15. This is because the frequency of each source cited was less than 5% and there would not be sufficient space to clearly display them all. In total, 656 sources were cited across the 413 articles at a mean of 1.6 sources per article. Most of articles in the sample (81%) cited at least one source (n = 333).
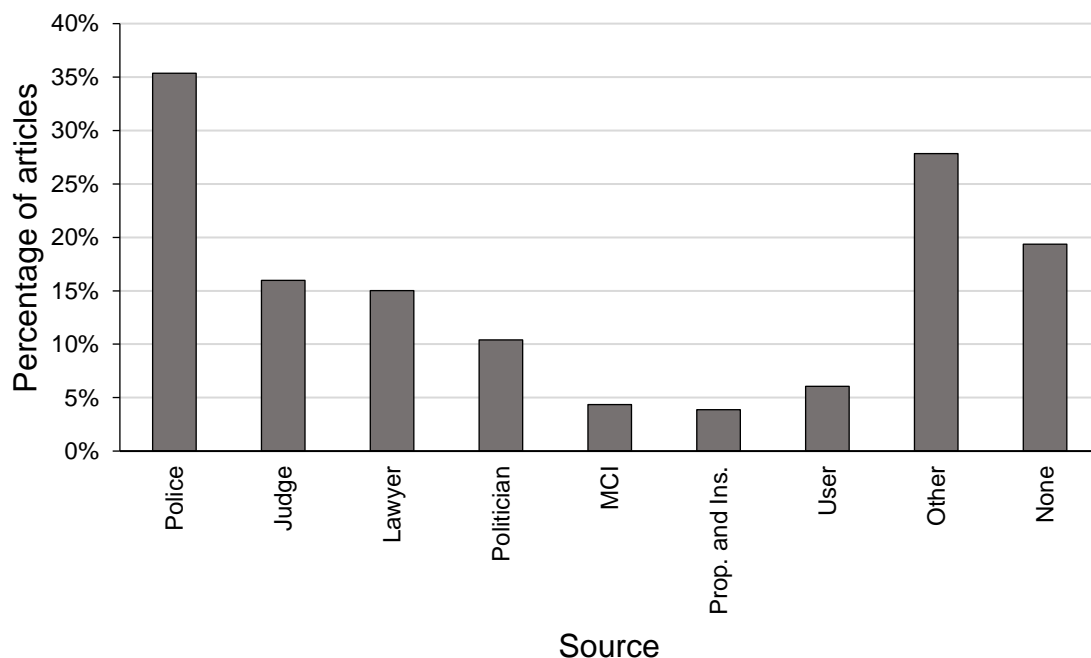

Figure 15. Sources cited in articles (n = 656).

By far the most common source cited were police who appeared in 35% of articles (n = 146). This included police from all levels, from constables to detectives to

superintendents. Police were used as sources in a wide range of articles but were particularly prominent in those concerning law enforcement, where they tended to report on their own operations. The second most common source were judges who were cited in 16% of articles (n = 66). Note that they were cited less than half as frequently as the police, reinforcing the importance of police sources in the news media. This was followed by lawyers who appeared in 15% of articles (n = 62). Thus, in total criminal justice sources were cited in 66% of total articles. The only source not related to the criminal justice system that were cited in more than ten percent of articles were politicians who appeared in 10% of articles (n = 43). As politicians are also official sources, it highlights the reliance of the news media on them (Jenkins, 1999). The only non-official source used in more than five percent of articles were methamphetamine users who appeared in 6.1% of articles (n = 25). Two other sources of interest were those from the methamphetamine contamination industry and the property and insurance industries (Prop. And Ins. in Figure 15). They appeared in 3.9% and 4.4% of articles respectively (n = 16 and n =18). They were strongly linked to articles on methamphetamine contamination so will be discussed further in that section. For now, the focus will be on the other key news media sources: police, judges, lawyers, politicians and users.

Analysis revealed large qualitative differences in the statements that different source types made and the primary article topics they tended to appear in. Police most frequently appeared in law enforcement articles. Unsurprisingly then, they were often cited providing details of their own operations and the apprehension of offenders. However, police sometimes made remarks that did more than simply report factual events. Two key statements were made by police that at first may appear contradictory. I named these two statement types "claiming success" and "requesting resources". Police statements that were categorised as claiming success generally reflected positively on an operation that had taken place. They stated that law enforcement efforts had successfully reduced the problem of methamphetamine and had made the community safer. These articles tended to mention the size and value of drugs and property confiscated which included mentions of drug raids being "record-breaking" and often estimated the value of the seizures to be in the hundreds of thousands or millions of dollars ("Arrests on big $170m", 2016). Occasionally these stories would note how powers with which the police had recently been vested had helped them

achieve this outcome. This was particularly true of Periods 1 and 2, near the start of the study where the Criminal Proceeds Recovery Act 2009 had recently been passed allowing police to seize and sell property of those associated with drug crime in some situations. Articles claiming success tended to be positive in tone and were often some of the very few articles that mentioned a decrease in the size of the methamphetamine problem. These features taken together appeared to have the effect of legitimising these powers by implying that without them these large quantities of methamphetamine would not have been seized and instead would have caused social harm.

Conversely, in the articles labelled requesting resources, police tended to portray methamphetamine as requiring urgent attention. In these articles, police sources claimed that methamphetamine use was on the rise and even though the police were working hard, they were being overwhelmed by methamphetamine-related crime. These articles tended to imply that new powers or funding for police were required. Sometimes the police explicitly stated that they required "new measures and expanded powers" (Stewart, 2017). Police sources in these articles referred to the methamphetamine problem as increasing and widespread, and linked methamphetamine to crime. The crisis frame was often employed when doing this. Combined, these features had the effect of urging the reader to support the measures that were being proposed. Importantly, it was not the case that the police were simply requesting new powers and were then satisfied with them as articles claiming success and requesting resources sometimes appeared during the same period. This indicated to that these changes in the framing of the problem from police were more likely due to the desire to get across a certain message rather than simply informing the public about changes in methamphetamine prevalence. This is consistent with the findings of past research including Cohen and Young's (1973) observation of a "symbiotic" relationship between the police and the news media. However, Becker (1966) described this dynamic most clearly stating that:

> enforcement organizations, particularly when they are seeking funds, typically oscillate between two kinds of claims. First, they say that by reason of their efforts the problem they deal with is approaching solution. But, in the same breath, they say the problem is perhaps worse than ever (though through no

fault of their own) and requires renewed and increased effort to keep it under control. (p. 157)

The police displayed behaviours similar to those Becker (1966) notes; expressing both that they are currently effective, while at the same time suggesting greater resources are required for continued success, claiming success but also that the problem is becoming worse despite their best efforts and so they require further funding" (p. 157). This finding then fits consistently into the body of existing research on police and news media relations.

The comments made by lawyers differed substantially depending on whether they were a defence of prosecution lawyer. Defence lawyers tended to emphasise the addictive effects of methamphetamine and used this as an argument for a judge to show leniency in sentencing. Prosecution lawyers often discussed methamphetamine more broadly as causing harm to society. For instance, Crown Solicitor Simon Moore is quoted in one article as saying that methamphetamine had produced "a massive and extraordinary effect on crime." ("The Drug That Changed", 2009). What both types of lawyers had in common was that they emphasised the negative effects of methamphetamine. Defence lawyers had motivation to do this as it appears to lessen the culpability of the defendant. On the other hand, prosecution lawyers had motivation because methamphetamine being viewed as harmful legitimised the resources they used for prosecuting methamphetamine crime. In this sense, the remarks of prosecutors can be viewed as similar to those of the police discussed above.

Politicians were most frequently used as sources in articles where the topics were harms and occasionally law enforcement. They were rarely in court proceedings as it would likely violate sub judice and the separation between parliament and the court system (Office of the Clerk of the House of Representatives, 2015). In articles about harm, Members of Parliament (MPs) often stated that methamphetamine was a cause of social harms, noting the effects particularly in terms of violent crime and the effects on children. This is consistent with the findings of Armstrong (2007) who noted that no politician would want to be seen as not being in favour of child welfare. However, similar to lawyers, the specific points made by a politician tended to vary substantially based on whether they were part of the government or opposition. Opposition MPs were more likely to claim that the methamphetamine problem was increasing and

causing significant harm to communities. In doing so, they often used crisis framing. Much of this is on display in one paragraph in an article about new funding to address methamphetamine use which states:

> The need was extreme, [Opposition MP, Kelvin Davis] said. The police were under-resourced, and the drug was having a huge impact on a range of services, from Women's Refuge to CYF, schools, the health system and mental health services. It was also clear that Corrections' drug rehabilitation programmes were not working well. ("Meth Cash Good News", 2016)

As the above paragraph shows, on top of methamphetamine posing a substantial problem, opposition MPs tended to suggest that the current approach was not working and that insufficient resources were available. The solutions proposed by the opposition mostly comprised a mixture of increased funding for police and health services. In contrast, government MPs, whilst acknowledging the harm methamphetamine caused communities, argued that current policies were already succeeding in 'fighting' methamphetamine. Instead, their comments in articles usually praised current policies similar to the way that police claimed success. It is clear that self-interest could be at play here. Opposition MPs have motivation to portray crime as an increasing problem and to suggest that they have the solutions to prevent it. Government MPs have motivation to portray the crime rate as steady or decreasing and to note how their policies have helped achieve this. It should therefore not be a surprise that such different claims were made by politicians as to the nature of the methamphetamine problem.

The only source that was not part of the criminal justice system or official sources that appeared in more than 5% of articles was methamphetamine users. Almost all of the users cited were not casual users but 'addicts' or 'former addicts'. These articles tended to have the primary topic of harms and commonly listed the effects of methamphetamine as addiction and psychological problems. Articles that used 'addicts' as a source often took the format of telling the reader the journey taken towards recovery. Unsurprisingly for people that were addicted to the drug, they usually described methamphetamine as extremely addictive. Additionally, the severe psychological problems that users experienced while on the drug were detailed. What these stories almost entirely left out was the voice of the majority of users that did not

become addicted. This led to further reinforcement of the notion that a single use of methamphetamine will very likely lead to addiction and experiencing the psychological effects associated with it.

Now that the proportion of sources used and what each source generally said has been presented, it is necessary to determine whether any of them constitute moral entrepreneurs. One final piece of evidence to assist in this decision is statistical analysis on the changes in source use over time. A Pearson's chi-squared test found statistically significant evidence that source proportions varied by period (χ^2 = 179.39, df = 132, $p <$ 0.01). Notably, Period 11 (October 2016) featured a marked increase in the proportion of politicians used as sources. As mentioned, politicians were cited in 10% of articles across the sample period but this more than tripled in Period 11 to 34% (n = 12). As has been noted several times in this chapter, Period 11 is potentially the site of a moral panic. The fact that politicians were much more frequently cited during this period combined with the fact that politicians generally portrayed methamphetamine as a significant issue means that there is a case for them to be labelled moral entrepreneurs. As far back as Cohen (1972), moral panic research has identified politicians as moral entrepreneurs, those that "push for a given cause" and often stand to benefit from a moral panic in some way (Goode and Ben-Yehuda, 1994, p. 20). Politicians have been shown to build up the fear of a problem among the public and identify themselves as the people that can provide the solutions (Jenkins, 1999). In response to RQ 4.3, MPs, particularly opposition MPs, clearly displayed these traits during October 2016 and so they can be said to be moral entrepreneurs. Additionally, the police's constant cycle of attempting to portray the problem as an increasing and at the same time that they are successfully stopping the problem further shows them to be moral entrepreneurs.

To conclude this section, it must be decided whether the element of consensus has been met. This section has shown that the views expressed in regard to methamphetamine were negative from all the major groups cited in articles. There were degrees to which different groups presented the scope of the problem and proposed different solutions to it (notably for politicians). However, there was at the very least a wide consensus that methamphetamine caused a range of harms to both individuals and society. In response to RQ 4.2, it is therefore concluded that there was consensus on the nature and scope of

methamphetamine-related issues. Attention now turns to the final of Goode and Ben-Yehuda's (2009) elements of a moral panic: disproportionality.

Disproportion

In this chapter so far, it has been established that the New Zealand news media coverage of methamphetamine has displayed four of the five elements required for a moral panic according to Goode and Ben-Yehuda (2009). Concern, volatility, hostility and consensus were each displayed and all during Period 11. Thus, it has been established that there was a brief period of raised concern where groups agreed that methamphetamine was a worsening threat. However, to successfully demonstrate that what occurred was a moral panic, it must be shown that it was not in proportion to what empirical evidence would dictate, or as Hall et al. (1978) put it, "which a sober, realistic appraisal could sustain" (p. 16). This section will examine the extent to which the image of methamphetamine that was built up over the concern, volatility, hostility and consensus sections accurately appraised the evidence concerning methamphetamine. This will be done by examining the four research questions posed pertaining to disproportion in the Methodology. The first of these examines whether the concern was disproportionate to the actual size of the problem. Secondly, the extent to which changes in concern from both the public and the news media are related to actual changes in methamphetamine prevalence will be explored. Next, it will be discussed whether the news media coverage attributed effects to methamphetamine that were exaggerated, misleading or entirely inaccurate. Finally, the extent to which other contributing factors were given proportionate weight as causes of individual and social problems will be addressed. Each of these will be done by comparing the print news media's claims with available empirical evidence from other sources.

The first measure of disproportionality that was measured, related to the problem being portrayed as larger than it actually was. This was determined by comparing the actual size of the problem as supported by empirical evidence to the size that the news media made it out to be. As demonstrated earlier in the chapter, across the periods examined there were claims that methamphetamine use was a crisis. Terms like "epidemic" and "disaster" were used to describe the methamphetamine problem in New Zealand.

However, as discussed in the literature review, the data does not support this. The Ministry of Health (2017b), showed that the rate of methamphetamine use was around 1% of the population per year. Does this constitute an epidemic? The Centers for Disease Control and Protection (CDC) (2012), define an epidemic based on two key features. One is "an increase, often sudden, in the number of cases" (CDC, 2012). This is clearly not the case in New Zealand as Figure 1 in the Literature Review showed, there was no evidence of an increase in the rates of methamphetamine use between 2009 and 2017. The second feature of an epidemic is that it is at a level above "what is normally expected in that population" (CDC, 2012). Given that the rate of methamphetamine use remained stable over the course of the nearly nine years covered by the sample, it seems inaccurate to describe the level as above what is normal. Thus, the news media's portrayal of the size of the methamphetamine problem was disproportionate in its portrayal of the size of the problem.

A second measure of disproportionality is that changes in media coverage over time do not relate to changes in the size of the problem. If a moral panic has occurred, the amount of media coverage may increase dramatically but there will be a lack of evidence to suggest the size of the issue has changed. This was determined by comparing changes in the rate of methamphetamine use with the quantity of articles published, and articles claiming that methamphetamine use was increasing. As shown in Figure 1, during the sample period the prevalence of methamphetamine use remained stable with approximately 1% of the population using methamphetamine at least once per year. However, as was discussed in the concern subsection, coverage of methamphetamine changed dramatically across the sample period. Similarly, articles consistently asserted throughout most of the period's observed that methamphetamine use was increasing. A regression analysis found no relationship between methamphetamine use according to the Ministry of Health (2017) and either the quantity of articles published (p = 0.23) or the proportion of articles claiming that methamphetamine use was increasing (p = 0.24). As noted in the literature review, there were increases in the quantity of methamphetamine found in border seizures but there was also was a decrease in the number of methamphetamine labs found in New Zealand (Gilbert, 2016). Thus, it is likely to be a result of supply chain changes rather than an increase in methamphetamine use. This is consistent with the findings of several past pieces of research which found a lack of proportion between media claims

of changes of drug prevalence and what an objective assessment reveals (Armstrong, 2007; Reinarman and Levine, 1989). Overall, while large changes in coverage occurred throughout the study period, there was no evidence of any changes in methamphetamine use making the relationship a disproportionate one.

A third way in which coverage may be disproportionate, is based on the extent to which hostile claims made by the media are not supported by reasonable evaluations of the evidence. When looking broadly at what has been found in regard to methamphetamine, a typical picture of what might happen if you try the drug could be the following: you will very likely become addicted, experience a range of negative psychological and physical effects and it is highly probable that you will end up committing crime, either acquisitive crime to fund your addiction or violent crime due to your heightened levels of aggression. However, what this portrayal ignores is the experiences of the overwhelming majority of methamphetamine users. As established in the Literature Review: 80-90% of users do not become addicted to methamphetamine (Ministry of Health, 2010). Of those 10-20% of users that do become addicted, effects like severe psychological problems and committing violent crime are rare. Articles often asserted that methamphetamine was highly addictive as evidenced by the fact that no articles in the sample of 413 reported that most users do not become addicted. Thus, the effects that the vast majority of articles made to look typical of methamphetamine use were the exception rather than the rule. Reinarman and Levine (1997), call the process of making an outlier occurrence into the typical experience the routinisation of caricature. This phrase accurately summarises the manner in which the most extreme and rare events related to methamphetamine use were portrayed by the news media as the typical case while the experiences of the vast majority of users were ignored. Thus, the effects attributed to methamphetamine were at best exaggerated and misleading but at worst completely unsubstantiated, making them disproportionate.

A final way that coverage can be disproportionate is if it is compared to other conditions that are causing similar harm. Past research has shown that illicit drugs often receive greater news coverage for the harm they cause compared to licit drugs (Forsyth, 2001). This might be thought of as an external comparison as it compares the harms and coverage of one drug to another. An alternative to this might be thought of as an internal comparison whereby contributing factors to a harmful event can be compared

based on the media coverage they receive. Instead of comparing the harms of methamphetamine to other drugs, the non-methamphetamine contributors to harm were compared to the external evidence of harm due to these causes. As the subsection on the effects of methamphetamine and other causes of harm showed: articles claimed that methamphetamine was the cause of a wide variety of harms including: crime, health harms and psychological problems. Rarely were other causes of harm like unemployment, existing mental illnesses or troubles in a user's social life mentioned. This is in contrast to the wide body of research discussed in the literature review which established that those who experience problems with their methamphetamine use, usually have existing psychological and socio-economic issues. For example, whilst the research is not unanimous, experiencing negative psychological effects of methamphetamine is at least strongly linked to having underlying mental health problems. Yet only 3.7% of articles mentioned an underlying mental health problem in any way related to the negative effects being experienced. Thus, methamphetamine use was attributed a contribution to a user's problems to the extent that it was often seen as the exclusive cause. Because this so clearly ignores other conditions in a user's life that are likely substantially contributing to these effects the media's claims of methamphetamines culpability meet this criterion of disproportion. Thus, psychosocial issues were given a disproportionately small weighting in news media articles compared to what research indicated is their contribution to harms experienced.

There were numerous other instances in which New Zealand's news media coverage of methamphetamine was disproportionate, presenting claims that were inconsistent with available evidence but there is insufficient space to provide exposition to all of them. Furthermore, it is unnecessary, as Goode and Ben-Yehuda (2009) do not require coverage to be completely disproportionate in every way. Instead, simply some components of coverage have to be out of proportion with the available evidence. In this section, it has been shown that methamphetamine was disproportionately covered in all four ways that were set out in the research questions. Firstly, the size of the problem as a crisis or epidemic was not proportionate with the relatively low and steady prevalence of methamphetamine. Secondly, large changes in news media coverage occurred without any corresponding changes in rates of methamphetamine use. Thirdly, the highly negative effects attributed to methamphetamine were often misleading or exaggerated and in cases totally inaccurate. Finally, the extent to which

other negative social, economic and psychological factors contributed to individual and social effects were not given proportionate attention. Therefore, there were at least four ways in which the news media coverage of methamphetamine was disproportionate. Before coming to a conclusion on the extent to which a moral panic might have occurred, it is necessary to examine one topic that has been excluded from much of the discussion so far: methamphetamine contamination.

Methamphetamine Contamination

Methamphetamine contamination was an unexpected article topic that appeared in the pilot study, as numerous past studies into the news media coverage of methamphetamine had not found it. However, as was demonstrated above, methamphetamine contamination turned out to be a relatively large proportion of articles at 8.7% of the total. Additionally, it was the topic that displayed the largest change in prominence over time. Further analysis revealed that methamphetamine contamination differed from other topics in several key respects. It is for this reason that methamphetamine contamination will now be discussed separately from other articles. Due to the substantial changes in coverage of methamphetamine contamination over time this section will put greater emphasis on temporal changes. The goal of this section is twofold: firstly, to establish how coverage of methamphetamine contamination emerged and evolved over time. Secondly, to determine whether it meets each of the five elements of a moral panic.

As Figure 16 displays, there was a large change in the proportion of articles written about methamphetamine contamination across periods. A Pearson's chi-squared test found extremely strong evidence that the proportion of methamphetamine related articles varied by period ($\chi^2 = 44.67$, $df = 11$, $p < 0.001$). Only one article on contamination was found in the first six years of the study between Periods 1 and 6 (2009 and 2014), meaning that it made up only 0.5% of topics. This increased slightly in Period 7, where it was the primary topic in 5.7% of articles (n = 2) and then increased substantially in Period 8 to 19% (n = 7). Articles on methamphetamine contamination peaked in Period 9 (June 2016) where it was the primary topic in 27% of articles, making it the most common article topic during this period (n = 10). As noted in the section on concern, Period 9 was also where public and media concern reached their

highest and second highest points respectively. This makes the changes in the total number of articles published on methamphetamine contamination even more dramatic. In Periods 10 to 12, the prominence of methamphetamine contamination decreased slightly although it continued to be the primary topic of 10-20% of articles during this time. Clearly, there were pronounced changes in the proportion of articles covering methamphetamine contamination and public interest in them.
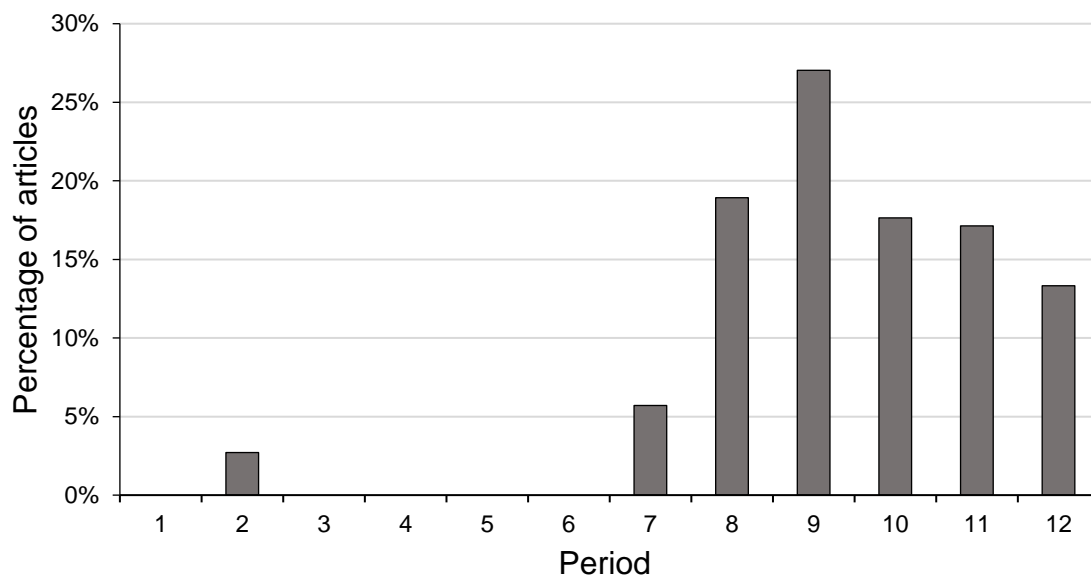

Figure 16. Methamphetamine contamination articles by period (n = 36).

These substantial changes in the proportion of coverage were reflected in changes in how methamphetamine contamination was covered. Analysis of the quantitative and qualitative data revealed four distinct phases. Phase 1 contained Periods 1 to 6, where there was little to no coverage of the topic. Phase 2 contained Periods 7 and 8, where there was growing concern surrounding methamphetamine contamination. Phase 3 was simply Period 9, the time during which coverage reached its peak. Finally, Phase 4 covered Periods 10-12, where there was reduced coverage of methamphetamine contamination. The following paragraphs will describe how articles covered methamphetamine contamination during each of the four phases.

Phase 1 ran from 2009 until 2014, during which time almost no articles were published with methamphetamine contamination as a primary topic. However, while it was very rarely the primary topic occasionally an article would state that following a raid on a drug laboratory, the premises needed to be decontaminated. These stories generally had law enforcement as their primary topic. Methamphetamine decontamination was described as something that only needed to occur if a house was revealed to have been

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used to manufacture the drug. This is because manufacturing methamphetamine requires the use of toxic chemicals, which remain present at a location even after manufacturing has stopped. There was no suggestion that this was a problem that public needed to be worried about more broadly.

This changed in Phase 2, where articles on the topic of methamphetamine contamination started to appear at an increasing rate. Articles on the topic first began to consistently appear in Period 7 (2015) and then increased in prominence in Period 8 (January to May 2016). These articles reported that methamphetamine contamination was becoming a problem. For instance, one article used the headline: "Meth Cleanup Cost Rising" (Hunt, 2015). The article goes on to report that the number of state homes that had been decontaminated for methamphetamine "has skyrocketed in the past two years." This and other articles present methamphetamine contamination as a growing problem and one that should be taken seriously due to the potential for health problems. By early 2016, the threat was being taken more seriously and the crisis frame began to be invoked more frequently as demonstrated by an article titled "P-riddled Homes a Disaster" (2016). The article mentions that the number of contaminated homes was rising and that "almost 400 Housing NZ properties are uninhabitable as a result of P." It mentions that tenants were being evicted from housing and that most of the evicted tenants "were solo mothers with small children, including [one mother with] four toddlers under two years old." Overall, these articles noted that methamphetamine contamination was now a large and growing threat to health and housing.

One subtle but hugely important change occurred between Phase 1 and 2, related to the type of methamphetamine contamination that was being discussed. In Phase 1, it was only homes that were known to have been methamphetamine laboratories that posed a threat to human health and needed to be decontaminated. In Phase 2, the focus expanded to include properties where methamphetamine had only been used. This clearly, represents an increase in the number of homes that methamphetamine contamination could potentially affect, as the number of homes that have had methamphetamine used in them was certainly greater than those in which it had been manufactured. This change was most likely the result of a substantial change in sources used between Phase 1 and 2. During Phase 1, on the rare instances that methamphetamine contamination was mentioned in an article, the source tended to be

police. However, during Phase 2, the use of MCI sources increased massively, as they appeared in 44% of articles related to contamination during this phase (n = 3). They were treated as authorities on the topic and the assertions they made about the size of the problem and threat that it posed to human health went almost completely unchallenged. Because they were largely the only source used in articles, this tended to present the topic as a matter of consensus.

In Phase 3 (June 2016), concern surrounding methamphetamine contamination reached its peak in both the public and the news media where it comprised the highest proportion of topics during this time. During this phase there were also several important shifts in the nature of the coverage compared to Phase 2. The most significant of these is that the consensus that contamination posed a substantial threat to human health in New Zealand was challenged. This was the result of another change in the sources that articles used. The percentage of MCI sources remained high, although dropped slightly as they appeared in 30% of contamination articles (n = 3). However, there was a notable rise in the use of two other sources: researchers who appeared in 30% of articles and property and insurance sector sources who appeared in 60% of articles (n = 3 and n = 6 respectively). The addition of these sources altered the extent to which methamphetamine contamination was viewed as a problem.

The researchers the articles cite were: Leo Schep, a toxicologist and Nick Kim an environmental scientist. In the articles, they argue that Ministry of Health standards had previously been misused to justify labelling properties where methamphetamine had only been used as contaminated. This is because the standards had been developed for the decontamination of sites that had been methamphetamine labs. Their application to properties where someone had merely used the drug was not appropriate as it did not pose any plausible risk to health. This is reflected in an article with the headline "Residual Meth 'Not a Big Worry'" (Harris, 2016). In another article Schep states that while problems may exist for those living in dwellings that were formerly laboratories, the risks of health effects from someone using methamphetamine in a house was "'similar for people who live in a house that had previous dwellers who smoked cigarettes or marijuana.'" (Goodwin, 2016). This is summarised by Kim in an article called "P Contamination of Homes Set 'Too Low" (2016) where he states that the standards have been "inaccurately applied" resulting in millions of dollars having been

wasted for houses that were safe to live in. The researchers were challenging the narrative promoted in Phase 2 by MCI sources.

Additionally, Phase 3 saw the rise of sources from the property and insurance sectors. As fear surrounding methamphetamine contamination had grown, the cost to them of clean ups, vacant properties and insuring for contamination was increasing. They were dismissive of the health threats of methamphetamine contamination. For instance, one insurance industry source stated that there was "a degree of "paranoia" about the safety of meth-contaminated property." (Fulton, 2016). Some articles told the story of the high costs that landlords had faced in decontaminating their properties. These sources clearly presented a further challenge to the narrative that had been constructed during Phase 2. While, MCI sources continued to feature prominently, their remarks were often defensive of the claims they made during Phase 2 and their business practices more broadly. For example, the director of a methamphetamine testing company stated that the level of concern "about the number of meth labs and properties contaminated by smoking was not a beat-up" (Fulton, 2016). This controversy surrounding the issue led to government MPs announcing in late June 2016 that a review was to be conducted to examine the possibility of creating new testing requirements.

It is apparent that during Phase 3 where the level of concern was at its peak, there was actually disagreement about the extent to which methamphetamine contamination was a threat. In addition to the changes in sources, there was actually a slight decrease in the frequency of articles that used a crisis frame compared to Phase 2, which is not what would be expected during a panic. However, use of the crisis frame was still higher than it was for several of the earlier periods as shown in Figure 9 above. Phase 3 also showed the most negative overall tone use across the sample time frame as 22% of stories presented methamphetamine as 'bad news' during this time (n = 8). Unsurprisingly, the implied consequences of methamphetamine that increased during this time were property damage and health problems. Overall, during Phase 3, methamphetamine contamination was a highly popular topic and the coverage was generally negative although not surprisingly so given the overall rate of hostile coverage. However, it is the large disagreement between groups during this time that may prevent it from being a moral panic as will be discussed in the next section.

Phase 4 demonstrated waning interest in the topic of methamphetamine contamination but while the proportion of articles decreased, it still remained above 10% of total primary article topics. Following the events of Phase 3, the coverage tended to be substantially more sceptical of the notion of methamphetamine contamination and of the MCI in particular. This presented a significant change in the way the topic was covered over the course of just a few months. This newfound scepticism was expressed by Consumer NZ Chief Executive Sue Chetwin who described the contamination testing industry as a "cowboy industry" and noted that some businesses also provided clean-ups meaning they had a vested interest in finding contamination ("Meth Testing a 'Cowboy", 2017). Similar sentiment was expressed in the same article by a rental property owner saying that the MCI was "taking total advantage of people's fear." Some commentary pieces during this phase were particularly scathing in their opinions on what had happened. One commentary article was titled "Tenants' Lives Ruined by Cavalier State Landlord" (2016). It demanded "justice for Housing New Zealand tenants kicked out of their houses and flats after wrongfully being accused of manufacturing methamphetamine" and described the MCI as "opportunist". However, it appeared that some lingering fear of contamination still remained. One article declared that methamphetamine contamination was the "biggest concern facing residential property investors" (Harris, 2016). Another cited Federated Farmers who specifically addressed the topic and what farmers could do about it. (Hutching, 2016). Phase 4, therefore presented a period that while certainly no longer in panic over methamphetamine contamination appeared to show some lasting effects of the concern.

This section has examined the large increases in coverage of methamphetamine contamination during the latter part of the sample time frame. Over the course of a year or so, contamination went from being almost non-existent as a primary topic to the largest primary topic. It then faded substantially after June 2016. In this sense, the coverage demonstrates the moral panic element of volatility. Furthermore, during Phase 3 it is estimated that there were 56 articles published on the topic in a single month and public concern reached its highest recorded point. Thus, there was concern surrounding the topic. While coverage portrayed contamination in a generally negative manner, the period that displayed contamination as the greatest threat was actually Phase 2 before the height of concern. During Phase 3, much of the focus of articles had shifted to whether methamphetamine contamination was actually a threat at all. In

terms of consensus, again there was a shift between Phase 2 and 3. In Phase 2, articles were in agreement that contamination was a threat, but this occurred largely because few other sources were used apart from MCI sources. In Phase 3, there was significant disagreement between researchers and property and insurance sector sources on the one hand and MCI sources on the other. Finally, was the concern around methamphetamine contamination disproportionate? As earlier cited, the risk to health from the use of methamphetamine in a home is no higher than that of tobacco. Given the vast majority of contaminated homes are not former laboratories then the widespread concern can be said to be disproportionate in that manner. Additionally, a period can demonstrate disproportion if one cause of harm is given substantially more coverage than another threat that causes equal or greater harm. When it comes to housing in New Zealand, the threat posed by poor quality housing such as mould and asbestos cause substantially greater harm in terms of sickness and death (Macdonald, 2017). Despite not being part of this research, it seems highly unlikely that mould or asbestos were portrayed as such a substantial threat to health. Thus, coverage was also disproportionate in this manner. In the next section, a final determination on whether these results constitute a moral panic will be made. Following this, explanations will be proposed as to why the issue of methamphetamine contamination developed the way it did.

Two Moral Panics?

All of the individual results have now been assessed in terms of Goode and Ben-Yehuda's (2009) elements of a moral panic. In this section, a final determination will be made on whether one or more moral panics occurred. Firstly, the potential panic of October 2016 concerning methamphetamine use will be looked at. It will be shown that this potential panic demonstrates all of Goode and Ben-Yehuda's elements except that there was only moderate public concern. Secondly, the potential panic of June 2016 concerning methamphetamine contamination will be assessed. It will be argued that this appears to fit all of the five elements at some point, but concern, hostility and consensus are not temporally aligned.

Table 2

Summary of the Two Moral Panics

	Methamphetamine Use	Methamphetamine Contamination
Media Concern	Yes	Yes
Public Concern	No	Yes
Peak Concern	October 2016	June 2016
Volatility	Yes	Yes
Hostility	Yes	Partially
Consensus	Yes	Partially
Disproportion	Yes	Yes
Moral Panic	Potentially	Potentially

Methamphetamine was a common topic for news articles throughout the entirety of the sample period with the lowest number of articles related to methamphetamine published in a year being 670. However, there was a clear increase in concern in October 2016. This change was volatile as it only lasted for approximately a month before coverage decreased substantially. During October 2016, the coverage was hostile, with a higher proportion of articles referring to methamphetamine use as a crisis and describing a range of negative impacts it was said to have. There was general consensus as most of the sources used agreed that methamphetamine use was a threat. This coverage was disproportionate in a number of ways demonstrated above. However, while there was a peak in news media concern in Period 11 with 226 articles being published, this did not translate to a particularly high level of public interest, with Google Trends data showing an interest score of 71. This was reflected when a Pearson's correlation test was conducted as this was the data point where the media and public concern had the greatest divergence. So, there was substantial concern displayed by the media but this did not appear to be reciprocated by the public.

This raises an intriguing question for moral panic theory: can a period be referred to as a moral panic if it does not particularly concern the public? As previously discussed, Goode and Ben-Yehuda (2009), require only that there is panic in at least one sphere of interest. Furthermore, many past pieces of research have focused exclusively on media coverage and not looked at other spheres. It seems then that what might have occurred could be described as a failed panic. Jenkins (2009) argues that the vast majority of attention in moral panic research has gone into "successful" moral panics. Little

attention has been given to topics that appear to have many of the features that are found in moral panics but do not become full moral panics themselves. This appears to be an apt way to describe what occurred during October 2016. However, the reasons Jenkins lists for why a panic might not occur focus on the topic being either highly technical and thereby not an easy topic to sensationalise or that powerful groups do not have an interest in creating a panic on a topic. These two reasons do not seem to apply in the case of methamphetamine use as past panics have shown it to be a topic susceptible to moral panics (Wallace, 2006). This may be because Jenkins' attention when it comes to moral panics not materialising is on the media and other powerful groups rather than the public.

Alternatively, I propose two reasons why this moral panic failed to fully raise concern among the public. The first revolves around the temporal closeness to the concern surrounding methamphetamine contamination. There were less than four months between these periods. Past research has demonstrated the importance of novelty in promoting a panic as a new threat that the public should be interested in (Hall et al., 1978, p. 6). Having focused so much attention on methamphetamine and its prevalence in New Zealand just a few months early, it may not be surprising that the public were not particularly receptive to articles portraying methamphetamine as a novel threat. The second possible reason why the panic did not materialise among the public is related to the fact that the concern surrounding methamphetamine contamination turned out to be misguided. It is therefore possible that increased public scepticism towards the media particularly when it came to their reporting of methamphetamine led to the public not buying into the urgency that the articles in October 2016 were trying to convey. This fits in to a larger pattern globally of increased distrust of the media (Edelman, 2018). It may require a greater period of time to pass or an element of novelty to get the public concerned about methamphetamine again.

In the case of methamphetamine contamination, the problem is different compared to methamphetamine use. The public clearly were interested in methamphetamine contamination as their interest reached its high point in June 2016. Instead the problem surrounds the timing of the various elements. For methamphetamine use, all aspects of the media coverage pointed to Period 11 as a time with both the highest level of concern as well as greatest hostility, consensus and disproportion. However, for

methamphetamine contamination, Phase 2 demonstrated the greatest hostility, consensus and disproportion but the highest level of concern came in Phase 3 where there was lower hostility, no consensus and reduced disproportion. It then might be said that while the coverage of methamphetamine contamination can be considered a moral panic, it certainly does not present a typical case study of one. The next section discusses possibilities for why the methamphetamine contamination panic occurred and why it was atypical in nature.

Why Contamination?

Despite numerous previous studies on the news media coverage of methamphetamine, none had found methamphetamine contamination to be an important topic. This is a fact which requires some explaining. I will now present three potential causes of the methamphetamine contamination scare and why it progressed in the manner it did. The first of these focuses on the importance of industries and their interests. In particular the print news media, the methamphetamine contamination industry and the property and insurance industries. The second and third explanations look more closely at the public. Firstly, at the extent to which the lengthy period of hostile coverage of methamphetamine may have resulted in the public being generally fearful of anything related to methamphetamine. Secondly, how the emphasis on housing may have resonated with other fears of the New Zealand public. These explanations are by no means mutually exclusive and it may be the case that all of them contributed to the moral panic surrounding methamphetamine contamination.

There were several interested parties that influenced the development of the methamphetamine contamination panic in the print news media. One of these was the news media itself, who have an interest in publishing articles that are sensationalistic to increase sales and web traffic (Wallace, 2006, pp. 84-85). A story which purports to show that there is a grave threat to potentially thousands of New Zealander's lurking invisibly in their homes that they do not even know about, seems like a story that the public would be interested in. It is unsurprisingly then, that they were willing to publish such articles initially and that the public appear to have been receptive to them. Overall, Brown (2016) evaluated the media's role in the contamination panic negatively stating:

Time and time again, "experts" who are not experts and who have an obvious conflict of interest have been quoted by journalists who should have known better. Instead of revealing a grossly under-regulated industry, they consistently gave that industry credibility it did not deserve.

This leads to the second key group: the methamphetamine contamination industry. They had a clear vested interest in promoting methamphetamine contamination panic as the result would likely be an increase in revenue through increased testing and decontamination work. These two interested industries were those that appear to have started the methamphetamine contamination scare as few other sources were cited during Phase 2. However, two rather different groups eventually came to act in opposition to this moral panic as it emerged: researchers and those in the property and insurance sectors. It was scientists, that first stated in the media that the concern had been unnecessary and based on the application of standards in situations where they were patently not intended to be used. However, it was not until members of the property and insurance sectors became concerned that considerable pushback emerged in the media. Both insurance and property groups have a clear interest to diffuse the level of concern. For Insurance groups the number of claims made to them for methamphetamine contamination related damage to property increased by as much as 500% between 2015 and 2016 (Edmunds, 2017). On the other hand, Landlords were being affected negatively in several different ways including: increased insurance premiums, property damage not covered by insurance and properties not bringing in rent whilst they were decontaminated. It is unsurprising then that these groups publicly were opposed to the level of concern being expressed as it was extremely costly.

The fact that it was not until the panic affected powerful groups that the media started to introduce balance to their articles is particularly revealing when it is considered who the panic was affecting negatively before June 2016. As concern was rising surrounding contamination in 2015 and early 2016, the primary group effected was those living in state housing. As a result of testing confirming contamination of state houses, tenants were being evicted for violating the terms of their tenancy agreement. Additionally, substantial government spending went into the problem with over $90 million being spent by Housing New Zealand between 2013 and 2017 (Harrowell, 2018). I consider this to be an effect on the tenants more broadly because of the substantial opportunity

cost incurred. The $52 million spent in the 2016/2017 financial year represented 10% of Housing New Zealand's maintenance and repair budget (Macdonald, 2017). At the same time, thousands of hospitalisations and even deaths were caused by diseases linked to cold, damp and overcrowded housing which at least anecdotally effect those living in state houses at higher rates (Johnston & Knox, 2017). Thus, the invisible effect on tenants of state houses was likely substantially higher than just those evicted from their homes.

There are three possible reasons as to why the methamphetamine contamination panic was able to grow whilst heavily effecting state housing tenants. One is that spending on methamphetamine contamination justified reduced government involved in state housing. Since contamination reflects poorly on the tenants, it offers an explanation as to why the government should not spend more on improving state housing as the housing will likely be damaged by tenants. Secondly, because contamination can be blamed on state housing residents it reduces the governments culpability for those that they are unable to find state housing for. In comparison to the housing crisis more broadly where there was no evidence that it was being blamed on contamination, articles did cite methamphetamine contamination as a cause for the large number of people on the waiting list for state homes. For instance, one article cited Social Housing Minister Paula Bennett as saying, "every house that needed decontaminating was a place vulnerable people could have been using." (Hunt, 2015). Finally, when considering why the panic grew to such a great extent in state housing it is important to consider the relative power of the groups being targeted. When it was vulnerable groups of state tenants that were dealing with the harms of the contamination panic in terms of being evicted from housing, the media provided little coverage to the topic or when they did in Phase 2, they generally promoted the panic to a wider audience and gave it credibility. It was not until the powerful interest groups of property investors and the insurance industry began to suffer from the panic, that the news media coverage began to be more critical. This shows some of the limitations to the work of McRobbie and Thornton (1995) who argued that the groups effected by panics had an increased ability to fight back. The treatment of the panic whilst it effected state tenants suggests that not all groups are able to mount an effective campaign to counter a panic.

It is important to consider why the methamphetamine contamination panic appeared to resonate with the public to the extent that many people got their private homes tested and spent thousands or in some cases hundreds of thousands of dollars on decontamination. Research into how humans perceive risk offers a plausible explanation. Lichtenstein, Slovic, Fishoff, Layman and Combs (1978), found that people are systematically biased in their evaluation of risks. They demonstrated that people ranked causes of death that were more dramatic, memorable and more frequently reported by the news media as more likely. For example, people judged death from asthma as only slightly more likely than death from botulism despite being over 900 times more frequent (p. 555). Additional research has revealed the *affect heuristic*, whereby risks are judged as higher when they "evoke feelings of dread" (Slovic, Finucane, Peters & MacGregor, 2007, p. 1342). Given the portrayal of methamphetamine use as documented in this thesis, it would not be surprising to find that the term "methamphetamine" evokes feelings of worry and a set dramatic imagery. Research in New Zealand has shown that the public have a highly negative view of methamphetamine (UMR, 2009). Thus, when someone is told that their house is contaminated by methamphetamine, they may intuitively judge the risk to their health to be high despite a lack of any scientific evidence to support it. Added to the fact that the other word in the name is contamination which connotes negative imagery in itself and this helps explain why the public was concerned in absence of evidence suggesting a threat to human health.

Another broad fear that methamphetamine contamination may have successfully taped into is that of housing. New Zealand at the time was going through a housing 'crisis'. House prices went up substantially, as did reports of homelessness, and home ownership rates went down (Howden-Chapman, 2015). Matthews (2002) argued that the moral panic surrounding home invasion in New Zealand in the late-1990s was related to a general societal sense of unease. She states that a crucial background to the fear was due to a recent economic crash. Thus, methamphetamine contamination might have been a scape goat for the housing crisis, a way for people to channel their unease towards the precarious nature of housing at the time. However, this hypothesis is not well supported by the evidence. While there was mention of the fact that it was unfortunate that housing was uninhabitable during the housing crisis, no articles implied that it was methamphetamine contamination that was causing the crisis.

However, given that this was not something that was specifically coded for in this study, it might be worth investigating in future research.

Thus, I hypothesise that these three forces led to the methamphetamine contamination panic and the eventual scepticism towards the industry. Firstly, from 2009 to 2014, methamphetamine received extremely negative coverage from the news media in that it was frequently associated with crime, psychological and physical health problems. This resulted in highly negative public attitudes towards methamphetamine (UMR, 2009). Those that were part of the methamphetamine contamination industry, acting in the interests of their businesses knew that a wide range of properties would test positive for contamination under the standards they were using. When provided the opportunity by the media, they warned of the growing threat of contamination. They stood to benefit from the story as it was one that would likely interest the public. The presentation of the threat of methamphetamine contamination was not questioned because there were no powerful interest groups that it immediately conflicted with. Due to the previous priming for fear of methamphetamine and existing anxieties, the public and Housing New Zealand become concerned about methamphetamine contamination and spending increased dramatically. However, as the cost of methamphetamine contamination started to be felt by landlords and those insuring houses, they began to dispute the threat of the problem. This dismissal of the panic gained traction because it was supported by researchers. The resulting lack of consensus might have prevented the moral panic from continuing for longer or effecting long-term policy changes. Media coverage began to unveil the extent to which fears of methamphetamine contamination were disproportionate and the public and media became more sceptical of the methamphetamine contamination industry.

Limitations and Future Research Suggestions

Now that the main research questions have all been addressed, this section will discuss some limitations and directions for future research. Firstly, the most important limitations on this research will be addressed along with how future research might be able to avoid these limitations. This includes limitations to measuring concern, the types of media covered and comparative disproportion. Then thoughts will be offered on

changes that could be made to the moral panic framework to solidify its conceptual base and improve its ease of use in empirical study. Finally, whether consensus is a necessary part of a moral panic in the contemporary world will be discussed.

Firstly, one limitation of this study is related to the measure for public concern. While Google Trends interest appeared to be a useful measure, public surveys or interviews would provide a richer understanding of views towards drugs and how they change over time. This could especially have been useful to gain greater insight into why the concern in the media during October 2016 was not reciprocated by the public.

Secondly, while the vast majority of New Zealand's print news media was covered, other important media sources were not. Most importantly, television news, an important source of information for many was excluded (Nielsen, 2016). This exclusion is important because it is possible that methamphetamine contamination and use did not receive substantial coverage in the television news during June or October 2016. The heavy use of images could also result in a portrayal of methamphetamine that is different to this analysis of print news text. Social media platforms like Facebook could also offer a different perspective on methamphetamine coverage. Particularly given the ability for users to comment on news articles on the platform, it could result in a presentation of the news that is less uniform than has been found in this study. Analysis of both of these forms of media would be of future use and add to the external validity of this work. Additionally, this research ignored the three other spheres of concern completely. Examining law enforcement activity, political action and social movements would provide greater confidence in the extent to which a moral panic might have spread throughout societal groups.

A third limitation of this research pertains the moral panic element of disproportion. Goode and Ben-Yehuda (2009), suggest that one way to determine disproportion is comparing it to other societal causes of harm. Some research has done this by comparing the extent to which the media distorts and disproportionately covers death due to different drugs (Forsyth, 2001). This could have been done in two separate ways that would have complimented this research. The first would include the examination of the news media coverage of alcohol. Alcohol is a drug that has been rated on scientific drug harm indexes as being of a similar addictiveness and harmfulness as methamphetamine (Nutt, King, Saulsbury & Blakemore, 2007). Thus, disproportion

could be demonstrated if research were to show that alcohol receives more favourable coverage despite being a problem of substantially greater size in New Zealand (Slack, Nana, Webster, Stokes & Wu, 2009). The second comparison that could be made in future research is to investigate coverage methamphetamine contamination received compared to New Zealand's poor quality of housing which results in a range of negative health issues and deaths (Howden-Chapman, 2015). Problems associated with poor quality housing almost certainly contribute to substantially greater health problems than methamphetamine contamination and yet it seems likely that the coverage of methamphetamine contamination is more frequent and portrays it as a greater threat to health.

In addition to these limitations and improvements which could be made to similar research projects in future, conducting this research has suggested some broader theoretical and empirical improvements can be made. Rohloff and Wright (2010), note that despite being widely used since its conception, moral panic theory has not made particular theoretical and empirical progress. This is emphasised by the fact that some researchers in recent times have largely ignored more recent developments in favour of using Cohen's (1972) model due to Goode and Ben-Yehuda's (2009) model being imprecise in description and potentially containing conceptual problems (Critcher, 2003). Having implemented Goode and Ben-Yehuda's (2009) model in this research, I agree that some aspects of it are problematic. These are likely due to two related problems which I have named 'fuzziness' and orthogonality.

Goode and Ben-Yehuda's (2009) model is 'fuzzy' in terms of empirical utility as the definitions they offer are sometimes unclear and confusing. For example, their definition of concern begins with the following passage:

> First, there must be a heightened level of concern over the behavior of a certain group or category and the consequences that that behavior presumably causes for one or more sectors of the society. Such concern can be engendered by a range of factors, including the media, but if it is felt, we can feel confident that we have a moral panic on our hands. (p. 37)

This definition of concern can be difficult to conceptualise in two ways. Firstly, because they define the term primarily by using the term itself without reference to any

synonyms or further exposition of what concern is. Secondly, their description does not entirely make it clear whether concern simply encompasses an increase in attention or whether this increase in attention has to be seen as fearful or anxious as well. The problem only increases because if concern is meant to encompass fear or anxiety, it begins to overlap in its definition with hostility which requires a topic to be framed negatively and as a threat. This lack of clarity meant that at times it was difficult to translate into discrete measurement categories. Thus, what might underlie this conceptual fuzziness is a lack of orthogonality.

Orthogonality is a concept from statistics, whereby the best model to describe a phenomenon is the model where all the components are independent. If there is overlap between factors then they are not orthogonal (Papoulis & Pillai, 2002). This problem is most pronounced when the element of disproportion is examined. According to Goode and Ben-Yehuda (2009, pp. 44-46), there are five indicators of disproportion. The first two: "figures exaggerated" and "figures fabricated", differ from each other only in that the latter is a more extreme version of the former and separating them provides no additional explanatory or descriptive power and is less parsimonious. "Inaccurate figures" would sufficiently cover both. However, it is the fifth indicator which creates the greatest problem for the orthogonality of Goode and Ben-Yehuda's indicators of disproportion. The "changes over time" indicator requires changes to have occurred over time that are not related to actual changes in the phenomenon itself. This criterion appears to overlap significantly with the moral panic elements of concern and volatility. Essentially, it requires that the concern and volatility displayed are not proportionate to the realities of the phenomenon. This problem could be avoided if disproportion was seen as a frame of reference for the other elements of a moral panic to be compared to. For example, concern, volatility, consensus and hostility as they are portrayed in the media could be compared to what the evidence suggests about these elements. This may seem like a minor change but could make the elements more conceptually coherent and potentially easier to use in empirical research.

A final finding of this research, which could have wider implications, surrounds the lack of consensus during the June 2016 contamination panic. This supports the contention of McRobbie and Thornton (1995) that the element of consensus may be increasingly obsolete in a social world where there are diverse interests with platforms available to

pursue their interests. It is therefore important to ask whether consensus is still frequently present in moral panics in the 21st century and more over whether it needs to be present. The moral panic surrounding methamphetamine contamination still managed to replicate a large proportion of the previous results surrounding moral panics and appears to have the essence of a panic without finding consensus. Potentially, future research could focus on whether a period displays disproportionate concern, volatility, and hostility, whilst focusing less on whether or not there is agreement between a wide range of societal groups.

In summary, this research has found two moral panics surrounding methamphetamine in New Zealand: one in June 2016 and one in October 2016. The June 2016 panic focused on the novel topic of methamphetamine contamination whilst in October 2016 the focus was on methamphetamine use. Both presented imperfect examples of a moral panic with the earlier panic not displaying all of the five elements at the same time with concern out of sync with hostility, consensus and disproportion. The October 2016 panic might more accurately be labelled a failed panic, as it did not achieve a particularly high level of public concern and faded without influencing politicians to act in accordance. The final chapter will summarise these key findings in greater depth and demonstrate the importance of further moral panic research.

Conclusion

This thesis set out to determine whether a moral panic concerning methamphetamine occurred in New Zealand between 2009 and 2017. Consistent with past research, Goode and Ben-Yehuda's (2009) five elements (concern, volatility, hostility, consensus and disproportionality) were used to determine whether a moral panic had occurred. It was decided that a quantitative and qualitative content analysis of the print news media would provide the best means to do this. The first two elements that were assessed were concern and volatility. They showed that there were two potential periods when a moral panic may have occurred, both in 2016.

The first potential methamphetamine panic of 2016 occurred in June. News articles during this time found evidence of at least parts of Goode and Ben-Yehuda's (2009) other three elements. Firstly, it was revealed that the primary topic that was being discussed was of methamphetamine contamination: the notion that methamphetamine manufacture or use in a dwelling leaves traces of chemicals that might be harmful to health. While there was some hostility displayed, most coverage concerned a debate as to the extent to which methamphetamine contamination posed a threat to health or whether it was a was a 'scam'. This showed a lack of consensus as various groups had differing interests. While initial coverage was disproportionate, in that it made contamination out to be a threat that the empirical evidence did not support, during the peak of concern coverage tended to note that previous fears had been overstated. Thus, this period featured all of the elements of a moral panic, at some point, but they were not simultaneous as past research had found. It was concluded that the period of June 2016 still qualifies as a moral panic but is far from a perfect example.

Only four months later, in October 2016, evidence of concern and volatility indicated that another potential panic had occurred, this one surrounded methamphetamine use itself. This period showed hostility similar to that found in past research, including the problem being described as a crisis and claims that methamphetamine use was responsible for a wide range of individual and social harms (Jenkins, 1999; Wallace, 2006). There was consensus as most groups agreed that there was a problem although there existed some debate as to the size of it and what solutions were appropriate. There was clear disproportion in several ways including that the increase in concern did not correspond to any objective changes in the size of the problem. However, this panic

did not fully meet all five criteria as there was only a moderate degree of public concern. This seems to have led to the panic appearing only briefly and it did not result in legislative change. Thus, the period of October 2016, might be best labelled a failed panic as it seems to have met the key elements but did not become as large of a concern as might be expected.

Due to the imperfect nature of the panics, two of the major findings of this research were novel. The first of these was the topic of the June 2016 panic of methamphetamine contamination. Despite moral panics having occurred surrounding methamphetamine from at least the 1980s and in at least four Anglosphere countries, never before had one of them specifically been focused on methamphetamine contamination. Possible reasons for this novel finding were proposed including, the long-term negative coverage of methamphetamine leading to public fear of the drug and contemporary concerns around housing which this could be a manifestation of. The second major finding concerned two moral panics occurring on the same drug within a few months of each other. Finding moral panics concerning the same drug at different points of time is by no means unusual but often these are separated by years or even decades. Certainly, finding two in the space of such a short period of time was novel and they were potentially linked. It is possible that the success of the June 2016 panic in generating revenue for the news media made them more likely to publish stories surrounding methamphetamine when it appeared that it might be an issue again a few months later. This closeness in timing might further explain why there was only moderate interest from the public as to them the story may not have been particularly novel. There are potentially other possibilities that explain these findings but either way, they certainly add to the literature on the complex pathways moral panics can take and how these can be affected by local contexts.

Since neither of these panics were completely standard, I was able to use these novel and nuanced dynamics to make empirical and theoretical suggestions for future research. Additionally, they provide an interesting contrast to the past research in New Zealand. As Wallace, (2006) did for the period from 2002 to 2003, I have found evidence of a moral panic surrounding methamphetamine use in New Zealand. The moral panic described during October 2016, contains many similarities to Wallace's (2006) work including the construction of methamphetamine users as folk devils, the reliance on

official sources and the negative and sensationalistic coverage that methamphetamine was subject to. Additionally, this thesis demonstrated conclusively concern in the New Zealand news media related to methamphetamine use. This research also supports some of the work of Carton (2016). It found much of the hostile coverage that Carton reported in terms of the claims made about methamphetamine being extremely addictive and the way in which the media uses groups like gangs and children to emphasise certain points. However, as this research additionally measured concern and volatility, it can be said that it does not appear that a moral panic occurred during the 2009-2010 period that Carton covers. Instead, that time frame appears to broadly fit under the more standard negative coverage that this research found for methamphetamine for the most part between 2009 and 2014.

During the final stages of writing this thesis, two news items piqued my interest. One indicated the ongoing fear of methamphetamine contamination and the continued attempts of the contamination industry to promote and profit from those fears. While the panic of the methamphetamine contamination scare may have appeared to dissipate towards the end of this study and the media might be thought to be more sceptical of further attempts by the industry to promote concern, this unfortunately may not be the case. In January 2018, an article was published in the *New Zealand Herald* warning of a new potential danger: methamphetamine contamination of cars (Parker, 2018). While sighting scepticism from members of the insurance industry, including the operations manager of the Insurance Council saying that there was "a paranoia about meth", prominent space was also given to a member of the contamination testing industry saying that contamination of cars was a growing issue. This was worrying given Goode and Ben-Yehuda (2009) noted that moral panics can lie dormant for months or years before appearing again. With the underlying negative attitudes towards methamphetamine still present in the New Zealand public it is possible that this could start another panic, although greater scepticism towards the contamination industry now might make this less likely. Nevertheless, it emphasises the importance of further investigation into the coverage of methamphetamine as the possibility for further mutations of the moral panic surrounding it may exist. Given the cost and harm caused to those affected by the June 2016 contamination panic, it would best not be repeated.

The second intriguing article appeared to use the negative imagery associated with methamphetamine to fuel a new moral panic. The story titled "Harder Than Meth: The drug that's killing Kiwis at an alarming rate" (2018) discusses the harms associated with synthetic cannabis. Several things about this article were of interest. Firstly, the title itself made a direct comparison to methamphetamine. This presented a continuation of what Hall et al. (1978) called convergence. Previously, methamphetamine had been described as worse than crack and before that crack had been described as worse than cocaine (Jenkins, 1999). Second, the article refers to synthetic cannabis as a "zombie drug" another reference that has been a feature of methamphetamine panics in the past (Linnemann, 2016). The article also included dramatic stories of addiction to synthetic cannabis that made it seem typical when in reality these are most likely a few worst-case scenarios. These aspects of the article are highly similar to the portrayals of methamphetamine detailed in this thesis. It is entirely possible, that synthetic cannabis may present a greater danger than past drugs, as the article claims but the vast body of past research including this thesis should provide reason for scepticism and caution in the face of such claims.

These examples demonstrate that although two moral panics concerning methamphetamine may have dissipated, the underlying attitudes and social structures still exist that may generate future panics. It is my hope that this study can contribute to the body of literature on this subject and inform others of the harm that moral panics can cause. Given the influence the media can have on what the public think on drug issues, if sensationalistic and narrow media coverage is left unchallenged then it will likely result in public views that reflect it to some degree. However, if a sardonic positive is to be taken from this study it is this: while the moral panic surrounding methamphetamine contamination was highly expensive and caused substantial harm it could have been worse. In the history of moral panics, disproportionate legislation has been passed that has imprisoned thousands and cost hundreds of millions of dollars (Nunn, 2002). In this instance though, the voices of a few researchers speaking out were important in changing the media coverage, public opinion and governmental policy. It is my hope that by adding to the body of knowledge on moral panics this thesis may help people to identify moral panics as they develop and thereby challenge the truth of the media coverage.

Appendices

Appendix A

Table A1

Factiva Search Query Information

Search type	Free Text Search
Search terms	hlp= methamphetamine OR meth OR ((hlp= "P") AND (td= methamphetamine OR meth))
Date	Enter date range... -> 01/01/2009 to 30/09/2017
Duplicates	Identical
Select Source category	By region -> Australia/Oceania -> New Zealand -> See Methodology
Authors	All Authors
Company	All Companies
Subject	All Subjects
Industry	All Industries
Region	All Regions
Language	English
Search for free-text terms in	Full Article
Exclude	Republished news Recurring pricing and market data Obituaries, sports, calendars...
Sort results by	Oldest first
Retrieved on	29/11/2017 at 22:00

Table A2

Google Trends Search Query Information

Search term	Methamphetamine ("Drug" category selection)
Time range	01/01/2009 – 30/09/2017
Location	New Zealand
Categories	All categories
Search type	Web Search
Retrieved on	14/12/2017 at 17:18
Retrieved from	https://trends.google.com/trends/explore?date=2009-01-01%202017-09-30&geo=NZ&q=%2Fm%2F0gt5b

Appendix B

The search initial search terms shown in Table A1 returned 7841 articles.

An exploratory plot of word count found three articles with word counts greater than 30,000 words. These were whole newspapers and not individual articles and were therefore excluded leaving 7838 articles.

During the process of collecting the articles, some referencing Zimbabwean cricketer Keegan Meth were noticed. A search revealed 19 such articles and they were all removed from the data. This left 7819 articles from which the stratified sample was taken.

The sample of articles drawn for the stratified sample totalled 480 articles. Of these a further 67 articles were excluded because: the "article" actually contained multiple articles with less than half the text being relevant to methamphetamine or because there was only a single, tangential reference to methamphetamine. This means that a total of 14% of articles were excluded from the stratified sample. This left a final stratified sample of 413 articles.

Appendix C

Brief Content Analysis Protocol

This is a shortened version of the content analysis protocol, designed to illuminate the coding process to the reader of this thesis.

Procedures

Coding should be done in periods of no more than 30 minutes at a time with a five-minute break between each 30-minute period.

When coding, the coder should have NVivo and Google forms open at all times.

The steps to follow when conducting analysis are this:

1) Select the article from the random article sample list.
2) Find and load the article in NVivo.
3) Read the article from start to finish once.
4) Read the article again a second time, coding text into NVivo as you do.
5) Answer the questions on Google Sheets to do with the text elements of the article. Read through the article again whilst doing this if necessary.

Coding Elements and Categories

Table C1 provides an overview of the text elements to be coded in Google Sheets. Some of the text elements allow for only one category other allow for multiple. If there is indecision about which category it could potentially fall under, decisions were made based on which category takes up the largest proportion of the text.

Table C1

Text Elements, Their definitions and Coding Categories.

Text element	Definition	Coding categories
Primary Article Topic	Main reason that methamphetamine is featured in a news article	Court proceedings, Other crime report, Law enforcement, harms, commentary, research, elites, methamphetamine contamination

Implied consequence of MA	What is the implied consequence of being associated with methamphetamine, whether through use or distribution?	Legal problems, health problems, individual social problems, social harm/social cost, damage to property, benefits, none
Crisis framing	Is methamphetamine framed as a crisis or emergency issue?	Yes, No
Overall tone	What is the overall impression or attitude of the article about why methamphetamine made the news?	Positive, negative, mixed, neutral
Moral evaluation of methamphetamine	What attitude to methamphetamine and methamphetamine use is implied?	Good, mixed, neutral, risky, bad, none
Changes in prevalence	What is being said about changes in prevalence or rates of use in the article?	Increasing, no change, mixed, decreasing, not mentioned
Sources cited	Which sources are either quoted or paraphrased in the article?	Police, judge, health worker, politician, user, family member of user, member of the public, lawyer, methamphetamine contamination industry source, real estate or insurance source, none, other
Effects of MA use on the user	What does the article say occurred to the user as a result of their methamphetamine use? What was the effect of methamphetamine on the events in the article?	Criminogenic, psychological, physical, addiction, none mentioned, other, none, positive

Other contributors to negative effects	Do the articles mention any other factor that might be linked to the negative effects mentioned in the previous question?	Employment, mental illness, economic, social, CJS, none, na, other

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