Community responses to family violence

Charting policy outcomes using novel data sources, text mining & topic modelling

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Social Innovation Research Institute
Swinburne University of Technology
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(Social Outcomes of Policy: Helpful Intelligence & Analytics)

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Project team
Professor Jane Farmer: Project lead
Dr Arezou Soltani Panah: Data science lead
Associate Professor Anthony McCosker: Research design, analysis and lead author
Dr Jonathan Kingsley: Project management and analysis
Zoe Teh: Research assistant
Jasmine Knox: Research assistant
Associate Professor Amir Aryani: Data sourcing

For inquiries
Contact the Lead Chief Investigator, Professor Jane Farmer (jcfarmer@swin.edu.au)

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Executive summary

It has been five years since the Victorian Royal Commission into Family Violence. Our research shows that although there are encouraging signs, public awareness and attitudes change slowly. There is a need to remain vigilant.

However, changes to awareness and attitude after policy interventions for complex issues like family violence are notoriously difficult to demonstrate. Alternative sources of data about public sentiment, prominent topics of discussion and influential actors, along with new analysis techniques, offer a way to uncover and understand ‘the public conversation’ and to ‘watch change happen’.

Our analysis of social media and news media conversations between 2014 and 2018 in response to family violence policy in Victoria, Australia, found that:

1. The public conversation about family violence has changed in response to the 2015-2016 Royal Commission into Family Violence. In 2014 awareness and talk of systems failure and the need for government action was just emerging. In 2015 and 2016, we saw talk of societal attitudes, policy failures and the need for improved services, often in direct response to the announcements of Royal Commission. By 2017 and into 2018, the role of men (as both perpetrators and victims) became more prominent through social media, along with victim survivor’s points of view.
Executive summary

2. Family violence incidents do not provoke public attention in the same way that violence against women in public places does – an issue that warrants further in-depth exploration. That is, while many have spoken out publicly about violence against women in cases like the brutal murder of Eurydice Dixon or in the wake of the #MeToo movement, family violence is still a more circumspect, difficult and in many ways hidden public conversation. Policy responses could work to address this issue by tackling this silence more directly.

3. Gaining better access to community-wide responses shines a light on the often-hidden attitudes, language and experiences of those who perpetrate or are affected by family violence. We see evidence in the public conversation of strong reaction to the tendency (including in government and policy) to talk about perpetrators abstractly, as a unified group, and with little detail. While social media can be seen to fill this gap by more explicitly shining a spotlight on men’s actions, news media maintains an often-unhelpful focus on traditional tropes, reporting incidents extreme violence and ignoring the more mundane ways men use violence and control in family contexts.

4. When people talk about the impact of family violence on social media, they highlight the multifaceted nature of abuse and abusive relationships. This perspective does not come through as strongly in government policy, or in news reporting.

5. While negative attitudes and violence-supporting statements remain a part of the public conversation, these statements are often called out by others on social media. And these conversations matter. They should not be ignored or silenced, and offer governments an opportunity to better understand and address violence supporting attitudes.

6. The influence of community leaders shines through, but not always constructively. Political leaders are the most prominent, but not the only, public figures associated with family violence topics of discussion on Twitter, some of whom maintain a broad agenda of addressing family violence over time. We also saw, however, that prominent figures are associated with different aspects of family violence and multiple entry points to the conversation, and some can also be seen to hijack the conversation for unhelpful purposes.

7. Government can use these research techniques to adapt policy responses and tailor language to more effectively connect with the public. While we use historical Twitter data and news media to show changes to the public conversation in response to family violence policy initiatives, these research techniques can also help to guide and steer government activity on a wider range of public policy and social issues.
1. Introduction

For public policies to achieve social change, they must increase awareness, community engagement and uptake of information about the target social issue.

This project aimed to assess the extent to which changes in public awareness and engagement could be detected in response to Victorian Family Violence policy. Detecting community-wide change in attitudes or awareness over a short time frame (here, 2014–18) is significantly challenging. Novel data sources and emerging data analytics techniques were used to chart the breadth of public discussion of family violence and chart change over this time period in response to the Victorian Government’s Royal Commission into Family Violence (2015–16).

The objectives were to:

a) Analyse social media and news media data to provide insights about ‘the public conversation’ regarding family violence in the context of violence against women and gender inequality broadly;

b) Identify and chart any changes to the public conversation against timelines of key policy and other events since around 2015.

This report presents:

• Analysis of how people speak about family violence, in relation to which topics, and how these discussions change over time;

• Visual depictions of public engagement with family violence language and topics within social media and news media, showing changes over time against policy, campaign, research and events timelines; and

• New replicable methodology using social media and news data, for charting community attitudes and discourse over time and against policy timelines.

The project was developed in consultation with a steering group of family violence policy experts convened by the Victorian Government Department of Premier and Cabinet. Computational techniques (including natural language processing using Latent Dirichlet Allocation topic modelling) and timeline analysis – were applied to Royal Commission reports and public submissions, Twitter data and news media data (Australian media outlets online articles, TV and radio reports).

Datasets were examined to establish how each source addresses family violence in relation to the 2015–16 Victorian Royal Commission into Family Violence. Insights are provided on: the core language and topic segments through which family violence is discussed publicly, and how this has changed over time, and the events, organisations and individuals who could be seen to influence the public conversation between January 2014 and December 2018.

Findings were analysed against relevant indicators in the Victorian Government’s Family Violence Outcomes Framework. The indicators include:

• Increased awareness of what constitutes family violence;

• Increased awareness and understanding of the forms and impact of family violence by perpetrators;

• Increased recognition of the impact of family violence on victim survivors;

• Increase in victim survivors feeling supported and understood;

• Decreased attitudes that justify, excuse, minimise, hide or shift blame;

• Increased visible rejection of violence by the media, public and community leaders.
2. Background

The Victorian government reports *Ending Family Violence: Victoria’s Plan for Change*[^3], *Family Violence Outcomes Framework and Indicators*[^4], the *Family Violence Rolling Action Plan 2017–2020*[^5] and other work emerging from the Royal Commission include aspiration to increase understanding of community attitudes towards family violence and gender equality. This is to inform adequate policy response. This project addresses a gap in accessing evidence of attitudes to family violence through public conversations and responses to policy initiatives, from 2014 to 2019.

Applying emergent data analytics techniques and drawing from novel data sources (social media and news media data), the project aimed to provide insights into how the public conversation has, or has not, changed following the Victorian Royal Commission into Family Violence (2015–2016). The project helps to indicate the potential for government to harness emergent data science techniques and new data sources for evidence-informed policymaking.

Using social media (Twitter) and news media (sourced from MIT Media Cloud) data from 2014–18, we identify and chart trends, debates and ‘the public conversation’ surrounding family violence policy events and interventions. The research approach offers different, but complementary insights to survey and government statistics, such as those produced by the *National Community Attitudes towards Violence against Women* survey (NCAS).

While Family Violence policy has a much longer timeline, the Victorian Royal Commission into Family Violence (2015–2016) serves as a focal point for data collection and analysis as a significant catalyst for public engagement with the issue. Spurred into action by a highly publicised incident involving the death of teenager Luke Batty in 2014 at the hands of his father, and the powerful advocacy of his surviving mother Rosie Batty, the Royal Commission was a catalyst for government policy action and new public investment in addressing family violence.

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[^3]: Ending Family Violence: Victoria’s Plan for Change
[^4]: Family Violence Outcomes Framework and Indicators
2. Background

2.1. Existing research and knowledge gaps

In their book on the domestic violence services movement between 1974 and 2016, Theobald, Murray and Smart highlight the courage and influence of Rosie Batty, who spoke publicly about the need for domestic violence to be ‘brought out from the shadows and into broad daylight’. Their work, like so much of the research addressing domestic violence and violence against women, strives to bring the story, language, experiences and battles surrounding family violence into view.

The Royal Commission submissions and report volumes collated and synthesised a wealth of information. Volume VII of the Report and Recommendations presents commissioned research drawing on the Victorian Family Violence Database 2009–2014 to detail prevalence, incidents and impacts on victims, their experiences of policing, the courts, services and support programs. Ongoing research into family violence continues to bring those experiences into public view. That research addresses many aspects of gender inequality and violence against women, from the causal and societal factors, or cultural contexts, to contributing factors such as drugs and alcohol, as they are associated directly or indirectly with family violence.

Producing regular reliable evidence of changing community attitudes to significant social issues is difficult and costly. The National Community Attitudes to Violence against Women Survey (NCAS), administered by Australia’s National Research Organisation for Women’s Safety offers a long-running and detailed survey of a key factor underpinning family violence. The most recent NCAS report explains the rationale for targeting attitudes to violence against women in terms of the contribution that this evidence can make to preventing violence before it occurs.

NCAS provides crucial insights into the state of knowledge of violence against women, attitudes toward gender equality and violence against women, as well as bystander action, and social norms, or what people think is expected of them. The survey considers four types of violence: intimate partner violence, sexual assault, sexual harassment and stalking. Using the terminology of intimate partner violence, the NCAS incorporates domestic violence and family violence, noting the changing language around these forms of violence over the lifespan of the survey. It notes that the term family violence encompasses violence between intimate partners but also includes violence involving other family members, such as between siblings or a parent’s violence against their children. We use both domestic violence and family violence to capture this variation in usage.

Work carried out by ANROWS (Australia’s National Research Organisation for Women’s Safety) has examined the role that news media plays in shaping public discourses about family violence and violence against women. ANROWS’s 2016 report Media representations of violence against women and their children begins by pointing to media reporting as a priority area for taking action in preventing violence against women. Understanding the way media engage with issues of violence against women and children is a first step to improving that engagement as this affects public attitudes and responses.

Research into public discourse regarding domestic or family violence and violence against women, particularly through news media, has consistently emphasised problems that can contribute to negative community attitudes. In their review of research, Sutherland and colleagues note that the social context in which males perpetrate violence against women is rarely reported, favouring sensationalist accounts of violent incidents. Sensationalised and selective reporting persists, perpetuating myths and misrepresentations, engaging in blame shifting from male perpetrators to women, and an over-reliance on law enforcement as expert voice. In their words, ‘media mirrors society’s confusion about violence against women’, and in the process minimises the harms of rape and family violence through language use.
2.2. Social media as a source of community responses and attitudes

Different to, but complementing, the methods of previous studies, we aimed to identify and chart changes in the public conversation, knowledge, awareness and attitudes to family violence and violence against women, by studying ‘the public conversation’ using public social media data. We use Twitter data for its consistency over time, its publicness, and ease of access. An estimated 3.5 billion people communicate through social media, and around 4 million Australians actively use Twitter. While this does not represent all Australian voices, it offers considerable access over time to diverse community perspectives for research purposes.

With appropriate research techniques, and an ethical research process, online public discourse offers opportunities for monitoring and analysis that can aid assessment of policy impact and outcomes over time. While surveys have the advantage of establishing targeted population and demographic sampling to allow for generalisations and comparative measurement, social media data can be understood as complementary. While we cannot be assured of a representative demographic among those who post, the analysis addresses a particular gap: access to public discussion and interaction in natural language settings, with precise time measures and geographical reference points embedded as metadata.

New computational text analytics techniques, as applied in this study, can find patterns in large amounts of text data to augment traditional qualitative methods. Statistical text analysis adds a level of objectivity to the quantitative and qualitative content and thematic analysis of social data. While surveys allow for multiple statistical tests and hypothesis testing, they do introduce response bias – the gap between how people respond to survey questions and what they actually think or how they act. By drawing on natural language contexts through social media data, a wide range of perspectives and ways of talking about or debating an issue can be considered and analysed.

Social media and text analysis have their own limitations, and the environment is dynamic and evolving fast. With many popular social media platforms, data access and data sampling can be difficult and inconsistent, and the approach relies on platform rules and restrictions which can change over time. Facebook, for instance, has restricted automated access to public page interactions. The data are also non-standardised, requiring data ‘cleaning’ and processing, but affording more of a discovery model of research. The methods developed in this project aim to maximise the benefits and insights that can be gathered from an integrated text analytics approach to policy outcomes research within a short time-span and at relatively low cost.
With the increasing availability of large online data sets of public, government and service sector discussion of social policy issues, governments have the opportunity to develop and test new methods of analysis, using cutting edge computational techniques, to assist in formulating policy and evaluating its outcomes in the community.

The methods developed for this project draw on multiple documents and data sources that address family violence as a public issue. Appendix A details data-sets, selection and sampling, treatment of data, and methods of analysis. We compare and contrast the public conversation, between January 2014 and December 2018, through:

- The extensive corpus of Royal Commission submissions and reports: 8 volumes, and 105 submissions
- Social media data extracted from Twitter: 99,840 Tweets
- News media articles from Australian national and regional sources (newspapers and online reports from radio and TV): 11,451 news articles

Note: accessing a wider range of sources such as YouTube, Facebook pages/ groups or Reddit – each with distinctive demographics and forms of participation – could extend information about awareness, how family violence is experienced and perhaps even access to cultures/language facilitating perpetration. The integrated analysis of government documents, Twitter data and news media data was chosen to achieve consistent coverage between 2014 and 2018.

### What are the sources of data?

<table>
<thead>
<tr>
<th>Royal Commission Reports</th>
<th>Royal Commission Submissions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Report and recommendations (Volume I to VII + summary report), 2016</td>
<td>Stratified sample of 105 out of 838 submissions, 2015:</td>
</tr>
<tr>
<td></td>
<td>– 25 Service organisations</td>
</tr>
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<td></td>
<td>– 25 peak bodies, networks</td>
</tr>
<tr>
<td></td>
<td>and research institutions</td>
</tr>
<tr>
<td></td>
<td>– 25 local government</td>
</tr>
<tr>
<td></td>
<td>– 30 Individuals</td>
</tr>
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</table>

<table>
<thead>
<tr>
<th>News Media</th>
<th>Twitter Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Media Cloud Platform</td>
<td>Twitter API Platform</td>
</tr>
<tr>
<td>Terms “family violence” or “domestic violence”</td>
<td>Terms “family violence” or “domestic violence”</td>
</tr>
<tr>
<td>Australian media outlets (374 sources)</td>
<td>Australian users</td>
</tr>
<tr>
<td>From Jan 2014 – Dec 2018</td>
<td>From 1 Jan 2014 – 30 Dec 2018</td>
</tr>
</tbody>
</table>

Figure 1. Research datasets and sampling
3. Research approach

3.1. Steps in the analysis

To discover semantic patterns within the large bodies of text data, natural language processing (NLP) was used to augment qualitative analysis. This involved word frequency analysis using Pearson Coefficient Correlation analysis (Pearson’s $r$), and the topic modelling method Latent Dirichlet Allocation (LDA) (detailed in Appendix A).

The approach to analysis is informed by established theory in policy analysis, frame analysis and socio-linguistics that addresses the formation of public social issues, and understands the role of language and communication in ‘framing’ or shaping and contesting the parameters of those issues.$^{17}$

Figure 1 summarises data-sets and sampling (for more detail, see Appendix A).

Ethics approval was granted by Swinburne University of Technology Human Ethics Committee in March, 2019 (SHR Project 2019/013). A consent waiver in the re-use of public Twitter posts was approved by Ethics committee as the study conforms to NHMRC guidelines and section 95A of the Privacy Act 1988 (see Appendix B).
3. Research approach

3.2. Working with policy experts

A Steering Group, convened by Department of Premier & Cabinet, guided the project. It comprised of representatives from:

- Respect Victoria (Family Violence Prevention)
- Family Violence Branch Department of Premier and Cabinet, Vic Government
- Office for Women
- Family Safety Victoria
- Business Insights, Department of Premier and Cabinet, Vic Government

The Steering Group met six times during the project. Early workshops helped to establish questions to pursue in the data analysis, and examined the timeline of policy events from 2014. As data were analysed – and explored through subsequent workshops – the Group guided understanding of family violence discourses, gave feedback on findings and input to aid analysis.
4. Findings and analysis

The analysis of social media and news media data reveals the perspectives of diverse victim survivors’ lived experiences, responses of advocates and service sector actors, and accounts of the actions of perpetrators, in the context of a policy and intervention timeline dominated by the Royal Commission. This section begins with (a) an overview of key findings and analysis considered against the Family Violence Outcomes Indicators; followed by more detailed evidence and analysis, with (b) analysis of the core dimensions of family violence at the time of the Royal Commission, (c) analysis of the public conversation in news and social media against the core dimensions of the royal commission to examine alignment, (d) examination of family violence topics in news media and Twitter, looking at change over time, and (e) influences on the public conversation in relation to key events, influential organisations and people.

4.1. Overview of key findings against the Family Violence Outcomes Framework

Table 1. Select Family Violence Outcomes Indicators, key findings and analysis.

<table>
<thead>
<tr>
<th>Outcome Indicators</th>
<th>Key Points and Policy Implications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase awareness of what constitutes family violence</td>
<td><strong>Findings:</strong> The Royal Commission (2015–16) provoked a sharp and sustained increase in public discussion of family violence in social media and news media. Analysis of the Royal Commission documents shows similarities and differences between public submissions and the Commission’s reports. A key difference, repeated in subsequent policy is that the reports tend to abstract or ‘gloss over’ topic areas, particularly men as the main perpetrators and their actions. The sense that there are real-life perpetrators who need to be held accountable can seem obscured. Public submissions (including from victims), in contrast, were clear, graphic and focused regarding perpetrators’ actions and effects on victim survivors. In social media, people discuss family violence using their own terminology (referring more often to ‘abuse’) and increasingly probe the causes and contexts and linked issues like gun violence. In contrast, news media remains tied to a set of standard tropes – tending to portray family violence as extreme, violent and involving policing. <strong>Analysis:</strong> While attention to what constitutes family violence broadens over time, policy abstractions could serve, unintentionally, to detract from the understanding of perpetrators and the range of their actions. Social media accounts for how family violence is experienced beyond the violent crime reported in news media.</td>
</tr>
</tbody>
</table>
## 4. Findings and analysis

<table>
<thead>
<tr>
<th>Outcome Indicators</th>
<th>Key Points and Policy Implications</th>
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</table>
| Increase awareness and understanding of the forms and impact of family violence by perpetrators | **Findings:** Social media discussion regularly circumvents the generalised language of policy to emphasise diverse voices of those with first-hand experience, or in advocacy and service provision roles, accounting for the specific actions of (mainly) male perpetrators and the gendered context of family violence and the impacts of violence. The focus on men's actions and forms of abuse became particularly prominent in 2016, 2017 and 2018. While news media shifted to incorporate more lived experience accounts, it tends to perpetuate the stereotype of family violence as public, very physically violent and sensational.  

**Analysis:** Contributors to social media could be understood to be filling a gap caused by lack of detail in policy and sensationalised depictions in news media, by offering wide-ranging discussion about the various forms of family violence experienced and their impacts, using day-to-day public language and varying contexts. Access to this evidence can assist policy by reminding about the different ways that family violence manifests and language that covers various forms of violence. This evidence can help to target and inform policy as it evolves. |
| Increase recognition of the impact of family violence on victim survivors | **Findings:** While there is a sharp increase in public attention to family violence from 2015 in both news and social media, on Twitter the conversation often explores the issue using terminology about different types of abuse (verbal, physical, manipulation, financial, bullying). If victims and the public express experiences as varied forms of abuse, then next steps in action and campaigns tackling family violence should consider engaging with the characteristics of 'abuse' rather than the amorphous idea of family violence. That is, in line with movement in the public conversation, policy might pick up and apply public terminology in future strategy.  

**Analysis:** Policy language can respond as the public conversation becomes more sophisticated and nuanced. It can be appropriately tailored toward the terms used by those who are affected. For policy and public interventions, language use that connects with community perspectives is more likely to resonate and cut through. |
| Increase in victim survivors feeling supported and understood | **Findings:** Although social media is sometimes dismissed as confrontational and negative, in response to family violence policy it offers a new space for shared perspectives, building a supportive community, and sharing material and resources, among victim survivors. This action-oriented space can provide a socially supportive online community that can be turned to, even when physical and geographical contexts are isolating or threatening (where there is internet access and social media skills). While news media can offer links to information or services, it rarely or only superficially, enables a sense of community support.  

**Analysis:** For policy purposes, despite the perceived risks in engaging with sensitive social issues via social media, there is evidence to show that victim survivors use social media platforms to engage with information and social support. |
## 4. Findings and analysis

<table>
<thead>
<tr>
<th>Outcome Indicators</th>
<th>Key Points and Policy Implications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Decrease attitudes that justify, excuse, minimise, hide or shift blame</strong></td>
<td><strong>Findings:</strong> Charting public responses to family violence through social media reveals a great diversity of attitudes and voices. While some question policy stances on family violence or the validity of victims and gender inequality, the vast majority seek to redress attitudes and actions that justify, excuse, minimise, hide or shift blame. ‘Call out culture’ is commonly observed. That is, when individuals, and especially public figures have made provocative and violence-enabling statements or sought to shift blame, large numbers of social media responses follow, actively aiming to redress negative attitudes. <strong>Analysis:</strong> It is difficult to say categorically that attitudes that justify or minimise family violence have decreased. As there is more discussion of these issues, then negative forces are stimulated to speak up – sometimes seeking to generate their own communities. When violence-supportive attitudes are not heard, they are not challenged or changed. Twitter analysis gives access to the full diversity of responses and attitudes, including problematic attitudes as they are expressed publicly. This can be used to inform policy of different stances and offers opportunities to engage with divergent perspectives, seeking at least to identify these perspectives and the contexts from which they emerge. News media analysis suggests that more could be done to present more positive and more contextually-informed stories that do more to explore the ways family violence is experienced and contexts fuelling it.</td>
</tr>
<tr>
<td><strong>Increase visible rejection of violence by the media, public and community leaders</strong></td>
<td><strong>Findings:</strong> Social media is a mechanism for influencing public awareness of and attitudes to family violence. It is used in this way by many public figures including prominent politicians, ‘celebrities’, advocates and other community leaders. There are different types of influence at play in relation to family violence. Analysis of social media data in relation to policy and event timelines, showed policy announcements and actions can give sustained longer-term influence. Controversial and resonant verbal events or provocations are associated with significant spikes of public interest (social media posting), more so than violent incidents. There are multiple entry points for publicly discussing family violence, and positive and negative examples are evident. Several politicians and advocates consistently discuss family violence in the context of the need for change and non-tolerance of violence (e.g. Malcolm Turnbull, Dan Andrews). But family violence can be co-opted or hijacked to make political points, for example, in the link between PM Morrison, Sky News and gun violence; or Christian Lobby figure Lyle Shelton’s attempts to connect family violence with the marriage equality debate. <strong>Analysis:</strong> Findings highlight consistent rejection of family violence by key influencers in their efforts to create societal change. However, family violence has also become a resonant symbol of negative social behaviour and as such, is ‘attached’ to topics by some people who are using it to enforce negative points in relation to separate agendas. If governments are to engage with influencers and social channels of influence, they should bear in mind that the outcomes of this engagement are indeterminate and not always positively aligned with policy values and goals.</td>
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4. Findings and analysis

4.2. Core dimensions of language used in the Royal Commission into Family Violence

What did the public discussion of family violence look like at the time of the Royal Commission, and how did it change afterwards?

To answer this question, the public submissions (2015) and eight volumes of the Report and Recommendations (2016) of the Royal Commission were analysed to establish the core dimensions framing family violence. Frames are the distinct categories or dimensions through which policy problems are established and dealt with. Identifying the key policy frames – which we refer to as dimensions – of family violence is useful for understanding how they are taken up or circumvented in other spheres of public discourse.

The Royal Commission submissions were taken as a proxy for an ‘informed public’ – that is, the diverse individuals, community sector and services, government and research voices who have experiences of family violence or work with victim survivors or perpetrators. The reports and recommendations can be understood as the initial formalisation of those experiences by ‘policy’, providing the framing work for the policy responses that followed.

The analysis revealed similarities and differences between submissions and reports in the way they segment the core dimensions of family violence. This is used to help inform and chart the connections between policy discourse and other spheres of public discourse through the analysis social media and news media that follow.

Figure 2 presents a comparative thematic analysis of hierarchical dimensions of family violence as presented by the Royal Commission Submissions and Reports. Examples in Table 1 show some language differences and a summary analysis of impacts or implications of the disparity.
4. Findings and analysis

Figure 2. Core dimensions, and sub-categories for discussing family violence: comparison between submission and reports
4. Findings and analysis

Table 1. Core dimensions of family violence, with examples from public submissions (n = 105) and policy reports.

<table>
<thead>
<tr>
<th>Category</th>
<th>Public Submissions examples</th>
<th>Policy Report examples</th>
<th>Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Victim</td>
<td>I didn’t understand. I kept on blaming myself. There needs to be more information. And it’s not all about the woman. The male needs help too. They don’t always understand why they’re doing it. You can’t just help the victim. You also have to help the person doing it. (Anonymous)</td>
<td>There is no doubt that violence against women and children is deeply rooted in power imbalances that are reinforced by gender norms and stereotypes. Supporting children and young people must be central to family violence policies.</td>
<td>The personal and contextual focused language of public submissions contrasts with abstract, conceptual policy reporting. To understand they have been listened to, people are required to ‘decode’ policy language.</td>
</tr>
<tr>
<td>Perpetrator</td>
<td>Men’s violence against women is not the result of one single factor, but a complex interaction of personal, situational and socio-cultural factors; particularly in relation to gender inequality. (Local govt) He would threaten to kill himself often. I couldn’t leave. He wouldn’t let me leave. (Anonymous)</td>
<td>Efforts to hold perpetrators to account are grossly inadequate Insufficient attention is given to addressing perpetrators’ individual risk factors</td>
<td>The concept of ‘perpetrators’ is heavily abstracted, where the public discusses ‘real people’, their behaviours and contexts. By heavily abstracting, the idea of finding out why diverse real-life perpetrators act as they do, may be lost – leading away from exploration of, and action on perpetrators.</td>
</tr>
<tr>
<td>Causes &amp; contexts</td>
<td>It is our belief that family violence is a significant cause of homelessness for Aboriginal people and of housing instability. (Service organisation) The work of primary prevention of violence against women is about changing the attitudes and behaviours that lead to some men abusing power by socially, emotionally or physically controlling or being violent against women. (Peak body).</td>
<td>If we are to prevent family violence, we must change the attitudes and social conditions that give rise to it. There is a need to implement primary prevention strategies that are designed to dismantle harmful attitudes towards women, promote gender equality and encourage respectful relationships. … some victims have violence-supportive attitudes ...</td>
<td>Submissions present causes in material and specific terms, often on the basis of first-hand or service-based experience. Policy discussion of ‘harmful attitudes’, ‘violence-supportive attitudes’ and ‘primary prevention’ seems to present government ‘talking to itself’ rather than showing that it understands public imperatives.</td>
</tr>
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## 4. Findings and analysis

<table>
<thead>
<tr>
<th>Category</th>
<th>Public Submissions examples</th>
<th>Policy Report examples</th>
<th>Analysis</th>
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<tr>
<td><strong>System</strong></td>
<td>The state of the courts … results in a form of ‘postcode justice’ and a system that tends to serve better those victims who are not also socially disadvantaged in other ways. (Peak body) If you don’t leave your partner, a lot of the services turn their back on you. I was too scared to leave. I tried to leave once and he broke- One day he shot up the house. (Anonymous)</td>
<td>The Victorian Government does not have a dedicated governance mechanism in place to coordinate the system’s efforts to prevent and respond to family violence or to enable an assessment of the efficacy of current efforts. [It] must strengthen innovation in the development and implementation of family violence policy and foster collaboration between different service systems.</td>
<td>While the public tends to point to service failures, highlighting their episodic interactions with what is available/ or that people are aware of; policy slips into discussions assuming a joined-up system, even where it is critical of system fragmentation. Policy might take the perspective more, of how an individual interacts with a service – considering this as a juncture for change/improvement.</td>
</tr>
<tr>
<td><strong>Solution</strong></td>
<td>Awareness-raising and encouraging debate and discussion around the impact of violence in any community is central to a response. (Service organisation) I think it would be really helpful if they offered Out of the Dark on the outside. It would show women it’s ok to leave before it’s too late. (Anonymous)</td>
<td>Too little effort is devoted to preventing the occurrence of family violence in the first place, and to intervening at the earliest possible opportunity to reduce the risk of violence or its escalation.</td>
<td>The language of solutions, often couched as recommendations, takes different forms. The public draw on expertise or experience to ‘suggest’ specific changes. Policy reports take an authoritative stance to ‘direct’ recommendations as a response to problems or gaps established through the process.</td>
</tr>
</tbody>
</table>
4. Findings and analysis

**Key points, Royal Commission:**

- At the highest, most general level, there was strong agreement in the primary dimensions of family violence addressed in both public submissions and policy reports.

- For both submissions and reports, family violence was predominantly discussed in relation to a set of common core dimensions: victims and their experiences, perpetrators, causes and social, cultural and economic contexts, systems in place (or needed), including government programs, services, policing, courts and policy environment, and solutions.

  The Royal Commission established a language for discussing family violence publicly, introducing new topics such as ‘elder abuse’, and bringing together and raising the profile of personal experiences voiced by ‘victim survivors’. As we show in the following sections, such terms do not flow into the broader public discussion.

- Public submissions differed from the Commission documentation in the material versus ideational language used.

  Submissions emphasised the specific, contextual, personal or interpersonal dimensions of family violence. The Royal Commission’s summation presented aggregate or abstracted experiences and conceptual or system-oriented dimensions.

  Specifically, public submissions differed most obviously from policy reports in having a greater emphasis on experiences and the impact of family violence from a first-person or service-oriented perspective (e.g., accounts of assault, abuse, homelessness, incarceration, mental illness, survival and drugs and alcohol misuse). Policy reports provided categorical and summative accounts of aggregated impacts and experiences. In other words, the language of the ‘informed public’ in Royal Commission submission documents, tends to be pointed and direct, often in relation to strength of feeling about varied lived experiences. Policy reports project a gloss, often technical, potentially ‘washed-out’ and abstract account and using government bureaucratic language.

- Overall, there is considerable discussion of victims’ experiences and impacts and much less discussion about perpetrators.

  This focus was established in large part through the terms of reference for submissions and the structure of the Royal Commission’s hearings.

- Perpetrators are discussed as an abstract category in policy reports, while public submissions are more direct in discussing the impact of men’s actions on women.

  The lack of attention to the actions, experiences and voices of male perpetrators through the Royal Commission beyond positioning them as the problem makes it difficult to design adequate policy responses. This is a key finding of this initial analysis of the language of family violence.

  These disparities could create disconnection between public and policy and result in the public feeling it has not been listened to, or a dissonance with public understandings. ‘Washed-out’ policy descriptions could divert policy into directions that are not public priorities or do not resonate. Including the language of the public, giving examples and showing how policy could be directed at example issues raised by the public might help to ‘bridge’ policy and public discourses.
4. Findings and analysis

4.3. Analysis of the public conversation in news and social media

How does the community respond to the issue of family violence between 2014 and 2018? To answer this question, we examined news media and Twitter responses, charting the topics and language of the public engagement with family violence between January 2014 and December 2018.

Topic modelling analysis techniques identify semantic clusters or topic patterns amongst all of the tweets and news articles. Figures 3 and 4 visualise the findings of this analysis, showing the clusters of topics within discussions family violence for each separate year. Coloured blocks represent a cluster of news articles or Tweets that deal with semantically similar topics, with the most prominent topics at the top of each column. Coloured ribbons indicate continuity of those topics between years, or discontinuity where there are no ribbon connections.

The analysis in sub-sections 4.3.1, 4.3.2 and 4.3.3 presents key observations, providing insights into the scope of public awareness of family violence, attitudes and points of view, change over time, and the relationship between public responses and the Royal Commission.

Key points, overview of public conversations:

➔ Public discussion of family violence increases from 2014 to 2018 in news and social media (4.3.2, 4.3.3). It is highly likely that this increase in public discussion and awareness of family violence was triggered by the events that led to the Royal Commission and the events and interventions that followed.

➔ Both news media and social media conversations align broadly with the core dimensions of family violence drawn from the Royal Commission analysis (4.2). This shows that the Royal Commission and subsequent policy interventions have had a significant impact on the public conversation. That conversation, however, also responds to other events and influences (4.4), and plays out differently in news and social media.

➔ On Twitter, family violence is addressed through a very diverse and changing series of topics. While it is not as prominent as other social media platforms in Australia, Twitter enables diverse, active public participation in a way that news media does not. It is highly responsive to public mood and changing issues.

➔ News media topics tend to consistently follow repeated genres or story tropes – stereotypically exemplified by a story of sensational violent crime (by a man) perpetrated on a vulnerable (female) victim, involving police. Significantly, patterns observed on Twitter contrasts with the repetition of themes and styles of reporting shown in the news media analysis. There, articles addressing family violence tend towards persistent patterned genres and tropes reporting on extreme violence, policing and crime, or celebrity and sports stars’ actions (Figure 3), often sensationalising family violence.

➔ For government, policy development and evaluation, social media analysis offers a way to track the topics that citizens are aligning/linking to family violence, over time. Twitter is a useful resource for understanding and monitoring the changing public conversation and language, and understanding the range of perspectives on topics. It offers a diverse range of public voices, and aids in monitoring responses and new topics that people relate to policy issues.

➔ Traditional media, by contrast, tends to be more static, ‘conservative’, and slow moving in its coverage of social issues, directing public thinking along more traditional lines. There could be scope for working with news media to partner on introducing novel approaches to discussing family violence that are more aligned with the policy goals of changing harmful attitudes.
4. Findings and analysis

4.3.1. What impact did the Royal Commission have on the public conversation?

The results of topic modelling for both news media and Twitter, detailed in the following sections, were considered in relation to the core dimensions of family violence developed through our analysis of the Royal Commission documents. Figures 3 and 4 chart the volume of articles or tweets that could be associated with those five core dimensions. This tells us, as a starting point, whether the Royal Commission had an impact on the public conversation.

![News media topics mapped against Royal Commission](image1)

![Twitter topics mapped against Royal Commission](image2)

**Figure 3.** The volume of news media articles associated with core dimensions of family violence drawn from submissions and reports for the Royal Commission into Family Violence, per year

**Figure 4.** The volume of Twitter posts associated with core dimensions of family violence drawn from submissions and reports for the Royal Commission into Family Violence, per year
4. Findings and analysis

Key points, connection to the Royal Commission

→ The public conversation aligns with the core dimensions of family violence identified in the Royal Commission documents (Figures 5 and 6). By aggregating all topics discussed through news and social media, our analysis shows all core dimensions of family violence established through the Royal Commission are covered in the public conversation throughout 2014–2018, with concentrated attention to different dimensions at different points in time. This is evidence that these core dimensions, and the major policy interventions from which they emerged, both reflect and shape the public conversation about family violence.

→ The proportion of news articles related to causes increases in 2018. This suggests the development of more sophisticated framing of family violence in recent years (see 4.1.2). By contrast, on Twitter, there was a strong focus on causes from 2014, as people discussed and debated cultures of violence and community attitudes, the social contexts of family violence, ongoing prevalence and related issues like gun violence (section 4.1.3).

→ In 2017 there was less explicit focus on solutions in the Twitter conversations, but within the extensive discussion of social contexts, male perpetrators, survival stories and programs and services, there were associated accounts of ‘what needs to be done’ (see 4.1.3). Similarly, solutions were not the focus of news articles in 2015, with the Royal Commission underway, and before findings and recommendations were released (4.1.2).

→ The focus is more firmly on victims and perpetrators in 2015 for news and 2017 for Twitter. As we show in the following sub-sections, the most significant differences lie in how each address topics associated with victims and perpetrators.
4. Findings and analysis

4.3.2. How did news media report on family violence?

News media engagement with family violence: Topic modelling by year, 2014 to 2018

Figure 5. Topics of discussion of family violence, news media 2014–2018
4. Findings and analysis

Key points, news media topics:

→ The number of news articles dealing with family violence and domestic violence, began from a low base in 2014 as public attention started to turn toward these issues with the announcement of the Royal Commission.

→ Victims’ perspectives emerge in news articles in 2014, appear more prominently in 2015 and 2016, but then recede into the background again from 2017. It appears that the #MeToo movement throughout 2017 and 2018 did not have a direct impact on news articles regarding family violence. From 2016, and mainly through topics dealing with social contexts and causes, news stories did begin to explore the wider experience of victims of family violence rather than purely sensationalising individual victims. However, extreme violence persists as a topic of focus.

→ Extreme violence is presented as a persistent and dominant frame of news reporting of family violence. These articles are so patterned that the format changes little from one to another, establishing a scene of violent action by a man in a particular location, and often with a particular ethnicity or cultural background highlighted, and the effect of the violence on a woman or child.

There is little to link these articles with broader discussions of causes, contexts and systems or available support services. This kind of news reporting has not changed in response to family violence policy. It perpetuates an idea of family violence as extreme, spectacular, non-familiar.

Continuing to ply sensationalised crime/victim stories could reinforce stereotypes of what family violence is, who it happens to, and where – thus deflecting from a wider story of abuse and power imbalances. There remains potential for media organisations to change the story in this regard.

→ Sports, celebrities and public figures’ family violence actions and attitudes to women are a dominant theme. A large proportion of news is sports focused, and news of male sports stars’ violence against intimate partners or other women is a consistent topic. As with sensational stories of extreme violence, celebrity stories also distance or make family violence seem ‘exotic’. The focus remains more on violence against women than family violence, and where sports stars or celebrities are involved, there is a greater degree of ‘publicness’ about these actions.

However, there is potential for governments to leverage this, to reach men through sport and the advocacy of sports stars, as exemplified at the end of this article discussing a family violence tribute round of the Victorian Football League:

“Sunday was also the Vicki Cleary Day, a tribute to Coburg VFA player and coach Phil Cleary’s sister and other women impacted by family violence. A minute’s silence was held before the game. ‘We have to take the message to men and where better than in popular culture and football clubs,” Cleary said.‘ (Herald Sun 02/05/2017)

→ Coverage and discussion of support services for family violence victim survivors is one key area of change over time in response to the release of the Royal Commission findings in 2016. It becomes a dominant theme in articles in 2017 and 2018, indicating that there is scope to change the story from one of extreme violence to recognising the social contexts and informing the public of support services and solutions.
4. Findings and analysis

4.3.3. How does the community respond on social media (Twitter)

Twitter engagement with family violence: Topic modelling by year, 2014 to 2018

Figure 6. Topics of discussion of family violence, news media 2014-2018
4. Findings and analysis

Key points, Twitter topics:

→ **The conversation develops across three relatively distinct periods:** In 2014 we see emerging issues around policy and legal action needed, cultures of violence and family violence advocacy. In 2015 and 2016, there is a stronger scrutiny of systems, with violence and policing, law reform and policy failure, along with cultures and attitudes prominent in discussions. In 2017 and 2018 we see social problems and solutions dominate discussions, with men’s actions and victim’s perspectives high on the agenda, and social contexts and associated issues like gun violence becoming part of the discussion.

→ **Changing topics reflect the reactive, and also active properties of social media.** While the volume of Tweets was much lower in 2014, the conversation was already pre-empting the 2015 Royal commission, discussing emerging issues. The response that followed in 2015–16 made demands of system change, and by 2017–2018, a more sophisticated public discussion paired a range of social issues (like gun violence) with family violence, scrutinising attitudes and prevention strategies.

→ **Victims and perpetrators are discussed more directly and pointedly, compared with news media and Royal Commission (policy) reports.** Informing and raising awareness about experiences and contexts, using informal language, seeking to understand ‘abuse’ and ‘calling out’ attitudes that justify, excuse, minimise, hide or blame shift.

In 2014, LNP Member of Parliament Cory Bernardi used a parliamentary inquiry to justify the violent actions of men in domestic violence incidents:

> ‘Cory Bernardi tells domestic violence inquiry “Putting a woman in a headlock ‘sometimes justified”’; http://t.co/IRanF6D9d8 #Auspol #VICpol’.

A strong ‘call out culture’ followed, where many people publicly challenged the views and associated attitudes to family violence. While an aim of family violence policy is to decrease and minimise these attitudes, their availability to scrutiny through social media can be better used as a catalyst for understanding and timely response. When these attitudes are not heard, they cannot be understood and changed.

Many different aspects of ‘systems failure’ and policy reform were a prominent focus in 2015–16 in response to the Royal Commission. And in 2018, gun violence became connected with family violence discussions. This followed attempts to weaken gun ownership laws in Australia. Many took to Twitter to protest and emphasise the relationship between guns and family violence. This shows that by 2018 the public was better informed, and primed to make connections between emerging topics and family violence:

> ‘Imagine if all these non-Victorians who are outraged by an ‘African Gang’ dog whistle blown up non event were as outraged about domestic violence, often culminating in murder, perpetrated by white ‘true blue’ Aussie males.... #auspol’ (2018)
Victim's perspectives and experiences are framed around forms of 'abuse', and this differs to news media and Royal Commission framing. Twitter data shows a tendency toward referring to and conveying women's 'abuse experiences' (2014, 2018) and 'victims' perspectives' (2016) or 'survival and inspiration' (2017) stories. These stories cover or arise from multiple diverse backgrounds, but are focused on expressing the emotional and physical impact of family violence and violence against women; for example:

- **What I learned from two couples today?** Verbal abuse is domestic violence on steroids. It's lethal. Love spoken softly generates respect. (2014)
- **Whether you get caught on video or not, domestic violence ain't ok!** Even if you're JakeTheMuss or RayRice. (2014)
- **Brave Australian domestic violence survivors share their stories.** domestiicviolence #domesticviolence #theredheartcampaign #warriors #whyistayed #survivors https://t.co/ZFQ1UT1C63. (2016)
- **Verbal abuse and emotional abuse are just as bad as physical abuse.** Memories of abuse of any kind lasts forever. Will 3 of my friends copy and paste this for Domestic Violence Awareness. ❤️ ?? (2018)

This finding suggests the role that social media can play in enabling victims' voices and experiences of abuse to be heard. Government can better leverage victims' voices and the language of 'abuse' to reshape policy campaigns and interventions.

Men's actions are a persistent focus across the whole period, but become more prominent in 2017 and 2018. This specific attention to men in family violence is accompanied by associated clusters around 'gun violence', 'violence and policing' and 'culture of violence', with men's actions commonly the focus of tweets. As topic clusters, 'men's actions' and 'male perpetrators' are highly varied in the stance taken and points made. They include circulation of and comment on police reports of men's violent acts, as well as emphasising need for action - such as encouraging 'call out culture' and 'accepting our responsibility to make a change'.

- **Men's rights and men as victims emerged as agenda theme in 2017.** This provides signs of 'pushback' from men arguing against emphasising the gendered nature of family violence and underpinning gender inequality, with more explicit topic clusters emerge in 2017 and 2018.

- **Men's actions are a persistent focus across the whole period, but become more prominent in 2017 and 2018.** This specific attention to men in family violence is accompanied by associated clusters around 'gun violence', 'violence and policing' and 'culture of violence', with men's actions commonly the focus of tweets. As topic clusters, 'men's actions' and 'male perpetrators' are highly varied in the stance taken and points made. They include circulation of and comment on police reports of men's violent acts, as well as emphasising need for action - such as encouraging 'call out culture' and 'accepting our responsibility to make a change'.

- **An Airlie Beach man has avoided a conviction being recorded due to the effect it would have on his real estate licence.** The 49-year-old on Monday fronted Proserpine Magistrates Court for his third time charged with a domestic violence offence. https://t.co/dDkKqz030S. (2018)
- **Men are victims of domestic violence also, more often then not the abuse is psychological and emotional rather then physical.** https://t.co/R2i3S1EHMd. (2017)
- **@SummersAnne @thereminfan It's also takes away a talking point from the MRAs [men's rights advocates], who love to argue that men are a neglected number of victims of "domestic violence". Because when men are the victims they're also largely the perpetrators. Sons on fathers or vice versa, brothers, gay partners. Male violence.** (2017)
4. Findings and analysis

4.4. Analysis of influence on the public conversation over time

In this section we look at influential events through a Twitter timeline analysis, and an analysis of ‘key entities’, or the people and organisations most prominently associated with public discussions of family violence issues.

4.4.1. Influential events

A temporal analysis of Twitter activity helps to identify latent or hidden events in relation to historical time points. These spikes indicate increases in public attention, allowing us to characterise the nature of different events and their longevity on the public stage.

Spikes in discussion, particularly around 2015 and 2016 are explored in Figure 7. The spikes provide signals of rising and falling public attention around an issue or event. Applying qualitative analysis to the spikes, it is possible to ‘drill-down’ to identify what is the critical event at the heart of provoking greater attention at particular times.

We found that spikes in the timeline of Tweets were associated primarily with policy events and advocacy. Violent incidents do not drive public attention and discussion.

![Twitter timeline analysis 2014–2018](image-url)

Figure 7. Timeline and peaks of Twitter activity addressing family violence by year.
4. Findings and analysis

Key points, influential events:

→ Policy announcements, prominent and provocative public figures, TV events and time-bound awareness campaigns (e.g. White Ribbon) tend to prompt Twitter spikes.

→ Family violence incidents do not cause spikes in attention in our Twitter timeline analysis, or draw public attention in the same way that violence against women in public places does – an issue that warrants further in-depth exploration. This surprised us as we considered that violent crimes during the period (such as the violent murder of Eurydice Dixon in 2018) would spark broader attention to family violence. Even though they are a staple of news reporting, horrifying family violence incidents, do not receive the same kind of public attention unless they occur in public view – as in the case of the murder of Luke Batty by his father in 2014. Policy responses could work to address this issue by tackling this silence more directly.

→ While Luke Batty’s death in 2014 was often discussed on Twitter, it did not cause a spike in attention at that time. The advocacy work of his mother, Rosie Batty, by contrast, became a significant point of public attention, especially during 2015, the year she was named Australian of the Year. A 2014 Tweet exemplifies the attention she attracted: “Rosie Batty, you’re amazing. Family violence can touch anyone. System failed you & Luke, & yes even the perpetrator. Well done @4corners”

→ The spikes showing most sustained attention are those that we refer to as policy events: these affect people, apparently more deeply and lastingly than other incidents and public provocations. This could be due to a train of initial announcements, followed by discussions of implications and people considering how this will affect them, or their issue of interest. Other peaks are invoked through prominent individuals and television events.

2015, 24 September: ‘Women’s Safety Package’ $100 million fund announced by Prime Minister Malcolm Turnbull. Focus on strategies to develop ‘respectful relationships’ to end violence against women. 2-week timespan: “Malcolm Turnbull announces new strategies to tackle domestic violence http://t.co/HmQp4gWAlw #DV. (2015)”

2016, 13 April: Victorian Labour government announces $572 million family violence package. The package was designed to deliver 65 of the Royal Commission’s most urgent recommendations. Tweets directly following the Royal Commission findings welcomed the “roadmap” for changing a culture of violence and discrimination against women and against minority groups: “Proud to be a Victorian. It is important we all say no to domestic violence but even better to do something about it. (2016)”, “I feared a law & order response, but #RCFV recommendations capture the complexity of #FamilyViolence really well. (2016)”

→ The 2015 July to October timeline of the Royal Commission hearings create a sustained spike, as does the 2016, 26 March – 23 April presentations of the findings and recommendations of the Royal Commission.
4. Findings and analysis

→ Public actions of key people and TV events associated with significant spikes in Twitter activity:

2015, 13 May: Waleed Ali, TV personality, political and social commentator.

2015, 13 May: Rosie Batty campaigner and called for an end to victim blaming in family violence debates.

2015, 3 June: Rosie Batty, particularly influential National Press Club speech and video.

2015, 25 November: Television event (2015) Q&A episode focuses on men as victims of domestic violence (Q&A Hitting Home special). Hitting Home is a Walkley and AACTA award winning documentary series, consisting of two episodes, broadcast on ABC in November 2015. Presenter Sarah Ferguson reported on domestic violence in Australia. The heavy social media engagement with this episode has been the focus of other research work. "Watching #QandA special about domestic violence with sirens in the background. Chilling. #HittingHome. (2015)"

2016, 25 November: Labour MP Emma Husar delivers an emotional speech relaying her experiences growing up with family violence.

→ Recurrent peaks of Twitter activity occur around November 25th each year, aligning with the ‘White Ribbon Day’ awareness campaign of prominent but controversial charity White Ribbon. While White Ribbon shut down in 2019, its presence in the timeline, and in the top mentions (following section below), demonstrates the significance of coordinated public campaigns, at concentrated times, in shaping or channelling communication activity.

While timeline analysis presents ways to harness social media to gain attention for social change, ‘deeper dives’ into these peaks would be required to understand how the discussion evolves and sustains over time, and the impact on people and their attitudes/behaviour going forward. It prompts the question – what is the role of sustained high-volume discussion in making attitudinal (and behavioural) change?
4. Findings and analysis

4.4.2. Influential organisations and people

By extracted ‘top mentions’ (organisations and individuals) and the topics they are most associated with, from Twitter data, we can gain a sense of who has attracted the most attention over time in relation to public discussion of family violence.

This analysis draws on Twitter data comparing 2014, 2016 and 2018 to take a sample of change over the 2014–18 time period. The volume of Twitter attention associated with each topic and person or organisation is illustrated by the size of the plot point in Figures 8, 9 and 10.

This analysis draws attention to the influence that different organisations and people have within conversations about family violence, and how this changes from year to year.

We would expect to see news organisations as prominent in mentions, as many Tweets are circulating, responding to and amplifying certain news stories. But some news organisations appear more consistently than others.

The people in these lists are those who are repeatedly associated with family violence discussion, whether positively or negatively. The topics each are associated with vary, and tell us something about how broadly or narrowly they are linked to family violence issues.

Our findings are a reminder that some have managed to hijack family violence discussion for negative or alternative purposes.

![People and organisations most mentioned on Twitter 2014](image-url)
4. Findings and analysis

People and organisations most mentioned on Twitter 2016

Figure 9. Top mentions in tweets per topic, 2016

People and organisations most mentioned on Twitter 2018

Figure 10. Top mentions in tweets per topic, 2018
4. Findings and analysis

Key points, influential organisations and people:

⇒ Community leaders, and particularly political leaders, were highly represented. Victorian state Premier, Daniel Andrews, is the only individual to achieve a high number of mentions in each year from 2014 to 2018. Given Premier Andrews’ role in establishing the Royal Commission in 2014, and his ongoing advocacy and policy work, it is perhaps unsurprising that he is consistently associated with multiple family violence topics.

Each Prime Minister over the study period – Tony Abbott, Malcolm Turnbull and Scott Morrison – feature in the top mention list. However, the topics with which they are associated differ (perhaps in line with political agendas and statements or actions in relation to family violence policy reform).

⇒ Family violence topics can be hijacked by prominent public figures for other goals or agendas. Two contentious issues that emerged were the impact of relaxed gun laws and ‘radical extremism’ on family violence and the connection between marriage equality and family violence, and

Prime Minister Scott Morrison (beginning 2018), is associated heavily with ‘gun violence’, and ‘men’s actions’, primarily on the basis of his controversial comments about the Muslim community needing to be more ‘proactive’ in tackling terrorism, which was connected with a report on the ‘Role of Domestic Violence in Terrorism’. PM Morrison was seen by many to by hijacking debates after terrorist attacks in New Zealand, and Melbourne’s Bourke Street mall in 2018, insisting that Islamic extremism and terrorism were Australia’s biggest threat. A strong public backlash followed when Labour MP and counter-terrorism expert Anne Aly, pointed out that the majority of victims of violence in Australia are victims of domestic violence. An example tweet summarises the conversation:

‘Anne Aly: @ScottMorrisonMP needs a little terrorism 101 before pointing fingers at radical Islam. Yes, violent Jihadism has been a predominant aspect of religious terror but the biggest threat in Australia is domestic violence.’

Lyle Shelton was the managing director of the Australian Christian Lobby between 2013 and 2018. He became both a prominent voice and also a target for criticism when he campaigned against same sex marriage before, during and after the national plebiscite in November 2017. A number of commentators at the time of the vote made connections between same sex marriage and negative impacts on children, and also family violence.

This highlights the salience of the term ‘family violence’ as a symbol that is resonant and sensitive, to be harnessed for good or ill, in discourse. It might be argued that there is evidence that family violence has become a symbolic topic that can be manipulated for good or ill. This means that those engaging with it in social media need to be aware that their interest is open to misinterpretation.

What we see in this initial analysis of influence is that some commentators engage with family violence as part of a sustained progressive campaign for social change (Dan Andrews), while others hijack the discussion of family violence negatively and associate it with their political targets. There is scope for further investigation and analysis along these lines. This type of analysis can help policy makers and agencies design campaigns effectively, targeting the most productive public figures and leaders able to amplify and catalyse messages for effective outcomes.
4. Findings and analysis

→ **News organisations are associated with multiple topics and issues.** ABC consistently covered the widest range of topics and issues between 2014 and 2018. As the national broadcaster, the ABC is possibly better placed to address difficult social issues like family violence, when compared with commercial news organisations. While *The Age* and *Sydney Morning Herald* were consistent in their coverage over that time, they were less prominent than ABC News. Sky News appears in 2018 and is associated most heavily with ‘gun violence’, ‘men’s actions’, and ‘abuse experiences’.

The ABC’s non-commercial, ‘public education’ role allows it to engage with various aspects of family violence as a trusted commentator, while commercial media organisations are likely to have more reticence in engaging with topics that could backfire on their reputation.

→ **Not for Profit academic media outlet The Conversation was prominent in 2016 at the time of the findings of the Royal Commission into Family Violence, and most strongly associated with ‘victims’ experiences’.

→ **Family violence campaigner and Australian of the year Rosie Batty was prominent between 2014 and 2016.** Other prominent commentators or television personalities are commonly mentioned, including Charlie Pickering who was associated with advocacy and campaigning around family violence.
5. Discussion

The 2015–16 Royal Commission into Family Violence helped to provoke public debate and inspire community action. Despite the visibility of the Royal Commission and the responses and actions that followed, it is challenging to measure outcomes in terms of changed attitudes, awareness and a better-informed public. The time period is very short and other than surveys with pre-set questions that may receive a limited response (such as the National Community Attitudes Survey (NCAS)), it is hard to measure changes in intangible ideas and communication, in relation to society as a whole.

The potential to use ‘already-generated’ data-sets for assessing policy change is an emergent and popular topic of current academic and policy debate. A 2017 report from the Governance Laboratory (GovLab) at New York University established principles guiding the potential of social media intelligence in government. GovLab suggests social media analysis is useful to policymakers, for 1. Situational awareness and response; 2. Knowledge creation and transfer; 3. Public service design and delivery; 4. Prediction and forecasting; and 5. Impact assessment and evaluation.

The strategies used here are an innovation in evaluating the social outcomes of policy. Lessons can be learned from this project – showing how analysis of alternative data sets can inform policy and suggesting the kinds of evidence and insights that can be found – as well as gaps.

Alternative data sources should be seen as complementary to survey methods – both take different approaches to sourcing evidence and harness different demographics. Social media is particularly useful for accessing the ‘authentic voices’, diverse and rapidly changing priorities, issues and language of ‘the public’. Knowing what the public is discussing and in what ways is useful for government in policy development and policy evaluation.

By using emergent data analytics techniques of text mining and topic modelling, the study reported here successfully charted changes in the public conversation between 2014 and 2018 using Twitter data and MIT Media Cloud as a source of news media data. The study produced a replicable process for applying text mining and computational natural language processing and analysis to chart relationships between policy and social outcomes.

In this section we highlight key findings and provide analysis of their potential implications. We shaped this section by discussing the three dimensions of insights agreed, in turn: a) the core language and topic segments through which family violence is discussed publicly, and how this has changed 2014–18; b) events associated with spikes in attention; c) the most influential public actors and organisations and associated topics. For each point raised we consider ‘insight’ that the finding provides about ‘the public conversation’ regarding family violence in the context of violence against women and gender inequality broadly.
5. Discussion

5.1. Key findings and analysis

Awareness and attitude change after policy interventions for complex issues like family violence are notoriously difficult to demonstrate. As new sources of public sentiment and discussion become available through social media and other data sources, governments have an opportunity to enhance policy development and evaluation. Alternative data sources and analysis techniques offer a way to uncover and understand 'the public conversation' and to 'watch change happen'.

Reiterating the key findings set out at the beginning of this document, our analysis has established that:

1. **The public conversation about family violence has changed in response to the 2015–2016 Royal Commission into Family Violence.** In 2014 awareness and talk of systems failure and the need for government action was just emerging. In 2015 and 2016, we saw talk of societal attitudes, policy failures and the need for improved services, often in direct response to the announcements of Royal Commission. By 2017 and into 2018, the role of men (as both perpetrators and victims) became more prominent through social media, along with victim survivor's points of view.

2. **Family violence incidents do not provoke public attention in the same way that violence against women in public places does** – an issue that warrants further in-depth exploration. That is, while many have spoken out publicly about violence against women in cases like the brutal murder of Eurydice Dixon or in the wake of the #MeToo movement, family violence is still a more circumspect, difficult and in many ways hidden public conversation. Policy responses could work to address this issue by tackling this silence more directly.

3. **Gaining better access to community-wide responses shines a light on the often-hidden attitudes, language and experiences of those who perpetrate or are affected by family violence.** We see evidence in the public conversation of strong reaction to the tendency (including in government and policy) to talk about perpetrators abstractly, as a unified group, and with little detail. While social media can be seen to fill this gap by more explicitly shining a spotlight on men's actions, news media maintains an often-unhelpful focus on traditional tropes, reporting incidents extreme violence and ignoring the more mundane ways men use violence and control in family contexts.
5. Discussion

4. When people talk about the impact of family violence on social media, they highlight the multifaceted nature of abuse and abusive relationships. This perspective does not come through as strongly in government policy, or in news reporting.

5. While negative attitudes and violence-supporting statements remain a part of the public conversation, these statements are often called out by others on social media. And these conversations matter. They should not be ignored or silenced, and offer governments an opportunity to better understand and address violence supporting attitudes.

6. The influence of community leaders shines through, but not always constructively. Political leaders are the most prominent, but not the only, public figures associated with family violence topics of discussion on Twitter, some of whom maintain a broad agenda of addressing family violence over time. We also saw, however, that prominent figures are associated with different aspects of family violence and multiple entry points to the conversation, and some can also be seen to hijack the conversation for unhelpful purposes.

7. Government can use these research techniques to adapt policy responses and tailor language to more effectively connect with the public. While we use historical Twitter data and news media to show changes to the public conversation in response to family violence policy initiatives, these research techniques can also help to guide and steer government activity on a wider range of public policy and social issues.

The language through which family violence is discussed publicly matters, and changes over time

Taking the Royal Commission documentation as a starting point for the conversation about family violence, the informed public and policy agree on the broad themes in the submissions and report and recommendations, but diverge in terms of language and perspective.

At the more granular level, the language of the informed public – the organisations, researchers, peak bodies, or individuals who have lived experience of family violence – tends to be pointed and direct, often in relation to strength of feeling about their varied experiences. Government takes these messages and provides a gloss, one size fits all, potentially ‘washed-out’ and abstract presentation and response. Such ‘abstraction’ could have multiple effects. It could lead policy in directions that does not resonate effectively with public priorities or understandings, and could suggest to victims and organisations that their direct experiences and calls for action are not heard.

Policy needs to be cognisant that the public talk more directly and ground discussion in specifics – and might consider how to build bridges between policy language and public conversation. Insufficient engagement with public concerns (and language) could lend to frustration or a sense of exclusion from the reform agenda. This could be where social media plays a helpful role. Social media still provides a very public forum where people can call for action, express their priorities and establish shared responses. As a research tool for government, social media can be useful for understanding how diverse individuals and groups talk about family violence so that policy makers and campaign leads can use these words to communicate more effectively with the public.
5. Discussion

The different composition of the public conversation in news media and social media tells us that the mechanisms for public discussion and debate have changed from the days of news articles and letters to the editor. The clamour of voices in response to issues like family violence can be harnessed for policy insights, development and intervention.

Events associated with spikes in attention

Rather than tracing news and social media against a timeline of policy and significant events, large scale social media data helps to produce its own timeline of activity and attention. Through this data we find out what kinds of events, which people, what policy announcements or interventions generate significant public attention.

News media uses traditional and persistent frames and genres to cover the core dimensions of family violence, persistently foregrounding sensationalising stories generally portraying physically violent men and powerless, vulnerable women and children. These are often in the context of policing and crime reporting. News media stories also cover situations where celebrities or sports stars have perpetrated or are linked with, family violence. These limited perspectives on family violence draw attention to the issue, but also distance it from the ordinary, everyday contexts in which family violence occurs, and from its gendered attitudinal and power dimensions.

The conversation shows some signs of movement in news media, with more discussion of the causes and contexts of family violence in recent years. However, on the whole, those consuming news media will receive persistent stereotypical accounts of extreme violence. There is work still to be done in shifting this focus among news organisations.

Twitter data shows a much more reactive, responsive space of conversation, conveying multi-dimensional perspectives in ongoing change and movement. While we are told that social media polarises people and issues, we found a variety of stances evident. This makes social media data a useful source for understanding the way issues are addressed publicly over time. With sophisticated analysis and modelling, it is possible for governments to understand attitudes and responses to policy both in real time and as they change.

There is potential for more exploration as what we can see is what produces spikes. We surmise that policy announcements gain sustained discussion as instigators of a wider set of conversations about an issue of social significance and social change. In these cases, other groups take up the issue and post about implications for their organisations or personal interests. With provocateurs and TV programs, these appear to stir public sentiment at moments that are contextually primed – around the time of the Royal Commission and other policy announcements, for example.
5. Discussion

Influential public actors and organisations and associated topics

Social media analysis is useful in exposing key influencers and associated topics. However, these new structures and tools for gaining influence are double edged, and complex. Our analysis shows that politicians and other public figures can hijack conversations around issues like family violence, or affect the conversation in un-helpful and negative ways. Influence is not easily achieved or sustained over time, and can be vulnerable to manipulation.

Politicians, as prominent individuals gain ‘air-time’ for family violence as an issue when they talk about it. For others, it is perhaps a combination of their novelty in relation to the topic, and access to a platform that highlight their voice. Others are prominent due to their ‘expertise’ – including those with lived experience. Some commentators engage with family violence as part of a sustained progressive campaign for social change (Dan Andrews), while others hijack the negativity of family violence and associate it with their political targets. This highlights the salience of the term ‘family violence’ as a symbol that is resonant and sensitive, to be harnessed for good or ill, in discourse.

Regarding organisations, the ABC’s non-commercial, ‘public education’ role allows it to engage with various aspects of family violence as a trusted commentator, while commercial media organisations are likely to have more reticence in engaging with topics that could affect their reputation. With the entry of Sky News among the influencers in 2018, it is possible again that we see family violence harnessed as a symbol of negative forces that can be aligned with target topics to signal to the public that they should be suspicious. The regular ‘White Ribbon’ campaign in November up to 2019 shows that focusing on a campaign and time can cause peaks in activity.

5.2. What’s the point and why do this research?

Data analytics techniques and accessibility to sources of social data are evolving quickly and it is significant that government remains on the front foot – to understand the potential and the limitations of these forms of analysis. One challenge is inherent just simply in the fast-changing realm of potential and constantly evolving access or non-access to various data-sets and techniques that are growing in sophistication and potential. It is challenging for the government sector - whose core business is policy - to maintain a technical capability that is alert to changes and potential in accessing, analysing and using insights from, alternative data sources. It does, however, seem essential that government knows what is going on and can proactively harness ‘for good’, the potential of data. Here, we even highlight how innovative government could lead in role modelling how to use ‘data for social good’.

The analysis presented here was achieved quickly and cheaply – in the case of news media, harnessing the free resource MIT Media Cloud and, in the case of Twitter, purchasing samples of data at relatively low cost. The value of this research is best explained through the flexibility and efficiency in analysis. The methods developed can be applied relatively quickly to multiple policy areas and social outcomes. Using existing data does not require the time and expense of gathering large representative population samples as does a national survey, and the focus and parameters of the analysis can be easily shifted to allow for more exploratory research. That said, we emphasise again, that analysis of novel, alternative data-sets should be complementary to social surveys.
5. Discussion

Increasingly, government departments and organisations are turning to commercial social monitoring systems to leverage the insights that social media and other online sources offer. Commercial analytics systems like Meltwater can be used for some of the social and news media monitoring, but are of limited capability in accessing historical data or applying analytical techniques like topic modelling. The process for applying topic modelling as outlined in our Methods (Appendix A) provides a guide to the necessary steps. Commercial analytics platforms often undertake analysis within a ‘black box’ or closed system in which the parameters are rarely knowable or controllable by researchers. This makes their use apparently simple, but limits the potential data science techniques that can be applied.

5.3. Future research agenda

The study was limited by its experimental approach and design, time and resource constraints. Below we highlight areas requiring further research:

- Depth analysis of the ‘peaks’ in Twitter data to understand how events emerge as catalysing large (or small) responses. This would help to understand how government could engage with social media, to promote policy messages.
- Temporal factors such as changes in topic focus and understandings in response to events or incidents are complex. The timeline analysis can be extended, with points examined across each of the years. This adds complexity to the analysis, but deepens insights over a longer time period. A technique called Change Point Analysis (CPA) could be used to extend and formalise the analysis of temporal factors in the longitudinal data.
- Deep dives into responses to particular campaigns could be conducted.
- Identifying the roles of distinctly different perspectives or voices – i.e. the range of ‘hidden’ influencers who are tweeting and re-tweeting messages, and their motivations.
- Engaging with journalists to experiment with changing the nature and tone of stories.
- This study engaged only with news media and Twitter, it could be beneficial to explore and harness other types of data that are associated with other demographics such as Facebook groups/pages, Reddit and Instagram. Always, of course, adhering to strictest ethical and privacy standards as we have done here.
5. Discussion

There is further theoretical work that can also help to strengthen and focus the analysis. We used ‘frame analysis’ to help guide the approach to understanding the way public discourse establishes an environment of understanding and knowledge around key social and policy issues. Further analysis could explore in more detail the social semiotics, or functional use of language in negotiating specific topics publicly through social media. Appraisal analysis offers useful tools for understanding the way sentiment is construed through social media exchanges, or within a set of news articles.

It is useful to highlight some other analyses that appear to offer potential, but are in fact, potentially limited:

**Reliable and useful sentiment analysis remains elusive.** One of the targets of evaluative analysis of social media as expressions of community attitudes, knowledge and understanding is how best to assess sentiment in complex human expression and interaction. While sentiment analysis is a burgeoning field in computational linguistics and social science, it remains an elusive method and is rarely successful in providing reliable insights with large natural language datasets.

**Social network analysis (SNA).** Community detection and analysis of links and influence are also possible methods associated with the social media data collected, but require very careful dataset construction and parameter setting to ensure accuracy and validity.
Ultimately, it is not possible to show an incontrovertible, direct causal relationship between Victorian Family Violence policy and the changes and outcomes in social media and news media that were identified. We can however show that discussion of family violence increased substantially between 2014–18 in both news media and social media. Victorian Family Violence policy may have aligned with growing movements around gender inequality, perhaps particularly ramped up by the #MeToo movement after October 2017.

As organisations such as NESTA (UK) and The GovLab (USA) are highlighting internationally, there are emergent new sources of data and techniques that can aid the policymaking process. Tapping into the public conversation and using it to inform strategy, has become accepted practice among corporations and civil society organisations. Policymakers needs to engage with this social change –or not engage at their peril?

6. Conclusions
Appendices

Appendix A: Data sets, data processing and methods of analysis

Integrating a range of sources of public data offers significant benefit for understanding community responses to public policy and social issues. We targeted the Royal Commission into Family Violence documentation – both the numerous public submissions and the Commission’s findings and recommendations reports, a longitudinal sample of Twitter data between 2014 and 2019, and news media articles over the same time period.

The research team considered other social media data sources, including Reddit, relevant Facebook Pages and dedicated discussion forums. While Facebook has recently blocked researchers from extracting comments from public Pages, it remains a significant site for public discussion on issues such as family violence. Similarly, Reddit and other online forums offer access to extensive public discussion of social issues. Twitter was chosen primarily for the consistent access it offers to public discussion on social issues over a long period of time. These other sources of online discussion, could supplement the Twitter dataset to deepen the analysis or provide case study focus.

Analysis of comments on relevant news articles was also considered. Where they have not been closed or heavily moderated before publication, comments on news items can be used for in-depth case studies, but are less useful for charting longitudinal changes.

- **Royal Commission submissions**: Of the 838 public submissions published on the Royal Commission website, we extracted a stratified sample of 105 submissions by 25 service organisations, 25 peak bodies, networks and research institutions, 25 local governments, and 30 anonymous individuals. The submissions represent a cross section of input into the experiences of individual community members, the work of organisations, researchers and local governments in addressing family violence in the community.

- **Royal Commission reports**: A summary Report and seven Findings and Recommendations volumes establishing a formal and institutional baseline for addressing family violence through the subsequent work of government agencies and community services.

- **Social media**: A corpus of 99,840 Twitter posts from 2,819 geographically dispersed Australian social media users over the five-year study period. Including a wide range of public voices, reactions and responses. While not everyone uses social media, in particular Twitter to engage publicly with issues such as family violence, many do. Importantly, they sustain a wide and often competing range of voices, responding in real time to the issues and events of the day.

- **News media**: A set of 11,451 news articles from Australian national and regional news sources. Presenting public conduits for information and discourse about the events and issues relevant to news consumers. They help to frame political and social issue discussion and offer scrutiny of key issues affecting local and national publics.
Appendices

Twitter corpus (Jan 2014 – Dec 2018)

A sampling strategy was used to achieve a consistent quantity of appropriate data over time. The sampling strategy involved limiting collection to a maximum of 500 tweets per week. Furthermore, in order to associate our query with the estimation of tweet volume on a weekly basis, the sample was supplemented by extracting the 'Twitter counts endpoint' which returns the total tweet count at each timepoint. This enables a timeline analysis showing quantity of tweets beyond the 500 per week sample over the study period.

The premium API supports filtering based on location information contained in user profiles. Twitter determines location by other means as well, including time zone and location wording in profile text. While we did not intend to spatially analyse Tweets for this project, location data of this sort can enable spatial analysis.

Tweets collected matched the following criteria:

- The term 'family violence' or 'domestic violence' within the body of the tweet or the embedded link if any
- User profile country (within the profile geo-enrichment object) is Australia
- Tweet language is set to English
- Date range: 01 Jan 2014 to 30 Dec 2018
- Retweets are excluded

Retweets were not collected because a re-tweet does not add textual content to the original tweet, while our target was the statements and topics expressed in the original tweet. In other words, our primary aim is topical segmentation of public discussion, rather than social network analysis (SNA), which is concerned with the network structures and detection of community among those tweeting.

This sampling strategy successfully returned 99,840 tweets from 2,819 geographically dispersed Australian users over the five-year study period.

Subsequently, LDA was applied to Twitter posts for each year. Since LDA is an unsupervised learning model, there is no ground-truth on the number of topics, and therefore, it is the researcher’s responsibility to validate the appropriate number of clusters. For our study, the number of topics identified for each year is established by model parameter checks.

The topic modelling process established a range of topic options, and these are reviewed by the research team. Through this process, the most coherent and distinct topics are identified, with the number of topics varying for each year.
Appendices

News Media corpus (Jan 2014 – Dec 2018)

Media Cloud is an open source platform for studying media ecosystems, and is a joint project by the MIT Center for Civic Media and the Berkman Klein Center for Internet & Society at Harvard University, jointly funded and supported by the Ford Foundation, the Open Society Foundations, the John D. and Catherine T. MacArthur Foundation, Bill and Melinda Gates Foundation and the Robert Wood Johnson Foundation (http://mediacloud.org). The platform contains a collection of more than 1.1 billion stories imported via their sources’ RSS feeds, with 568,000 stories added to the collection daily. Sources are managed in a number of national collections to help targeted analysis. An API function allows researchers to access the datasets directly.

The meta-data captured via the API for each article included the source name (media outlet), time and date of the publication. We cleaned the media dataset by scraping the body of the articles from provided links, dropped the stories with invalid URL links, removed duplicate stories that has been published in more than one outlet, and only kept the one that has been published earliest amongst the rest.

LDA topic modelling was also applied to the news media corpus, with a hand-annotated topic descriptor associated with each cluster, and those topics mapped against the core dimensions drawn from the Royal Commission documents.

Methods

In collaboration with DPC and the project Steering Group, an iterative approach was taken to inform the design and targets of the research. The research team and Steering Group identified a set of social data sources that could provide consistent insights into the public discussions about family violence over the five-year study period, allowing comparisons year by year.

New analytical techniques were used in this work alongside traditional content analysis. This involved using word frequency and word cluster analysis and natural language processing techniques (topic modelling). Innovative methods for visualising insights were developed to communicate trends and patterns in public conversations in relation to policy initiatives over a long time period (2014-2018).

The following methods of analysis were applied:

- Quantitative and qualitative thematic content analysis of Royal Commission into Family Violence documents.
- Natural language processing: A combination of word frequency and clustering (Pearson correlation coefficient), and topic modelling (Latent Dirichlet Allocation, or LDA) to discover semantic patterns within the large bodies of text gathered through the data collection strategy.
- Twitter timeline analysis.
- Top entity (organisations and individuals) identification and associated topic analysis.

Topic modelling process for both the Twitter data and news media data involved:

a) Pre-processing data and data cleaning: including data sampling and pre-modelling testing to ensure tweets were relevant to the research question. Topic modelling was also used to remove a small number of clustered non-relevant tweets and the duplicate or syndicated news articles;

b) Establishing model parameters: selecting the appropriate number of topic clusters so as to ensure coherence within and adequate distinction between;

c) Evaluation of the model’s reliability: qualitative coding and inter-coder reliability checks among the four-person team;

d) Valid interpretation of topics: interpretation against research questions, existing literature and in relation to topics drawn from the Royal Commission sources.
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Approach to data analysis (schools of thought):

Drawing on established approaches to policy impact analysis frame analysis and socio-linguistics (See footnote 15), the analysis focused on identifiable discursive effects (or discord) between the Royal Commission into Family Violence and public discussion, changes over time, and the role of influential organisations and individuals in shaping and conveying discussion about Family Violence.

Topic Modelling is a commonly used technique applied to the analysis of large quantities of text, and allows for the identification and development of latent semantic structures and/or topics underlying large corpus of documents and sources. This technique involves computationally identifying co-occurrences of words in a given text in a systematic and objective way. The core task of topic modelling is to capture the topical structure of a document (or a collection of documents) by identifying core topics discussed in the text, and which portions of text correspond to which topics. There is no ground-truth to the number of topics and, therefore, it is the researcher’s responsibility to validate the appropriate number of clusters. Coherence metrics aid this process, but the validation step involves researchers’ interpretive judgment.

We used a combination of word frequency and clustering (Pearson correlation coefficient), and topic modelling (Latent Dirichlet Allocation, or LDA) to discover semantic patterns within the large bodies of text gathered through the data collection strategy. In combination with other methods, topic modelling can improve efficiency and accuracy in research involving large amounts of language-based data. It can be used also for cleaning unstructured natural language data to improve the relevance of the dataset to particular research questions.

Topic modelling is increasingly applied in communication research. Daniel Maier and colleagues (2018) set out a set of challenges or steps for ensuring the reliability and validity of this method. This involves ensuring:

If the dataset is appropriately established, and adequate pre-processing and parameter selection has been achieved, a number of topic clusters can be identified. Topic clusters can be understood as an important, computationally assisted starting point for examining the core dimensions through which the documents or social media data has addressed an issue like family violence.

Topics are clusters of similar words calculated on the basis of a measure of similarity and difference. A topic model applies a mathematical framework or statistical weighting to help discover the balance of topics in a large set of documents. Topic modelling techniques such as LDA simply encode the intuition that written documents cover a limited number of topics, clustered around a small number of key words. This technique is useful when the amount of written material is beyond our ability to analyse manually. Topics models help to arrange and analyse large collections of text even when they are unstructured and inconsistent.
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Appendix B: Ethical considerations

Ethically, working with social media data on sensitive topics such as domestic and family violence raised some initial challenges in relation to risks against privacy of social media users, and the cultural sensitivity of the issue. Closely guided by section NS 2.3.10 of the National Statement on Ethical Conduct in Human Research (2007), we were able to ensure that our research methodology met and complied with ethical and legal obligations in the protection of the privacy and confidentiality of Twitter users.

A meeting with members of the ethical board was also held to discuss the primary issue of accessing Tweets from prominent figures, and the challenge of featuring posts from prominent figures without their consent. A consensus was reach in that if prominent figures were able to provide consent in allowing us to publish their social media posts (if we wished to do so), that we take care in not distorting nor changing the underlying purpose and meaning of the post in question. In other words, we are able to publish and mention their posts if it was in line with their work and advocacy in reducing family violence.

Appendix C: Potential of a data dashboard

Twitter and news media analysis can become a day-to-day desktop tool, complementing existing sources about the public mood – such as the Community Attitudes Survey – by providing very timely information about the evolving conversation. The dashboard could be a useful evaluation tool for evidence-informed pilot studies of different ways to raise awareness and inform the public, using different forms of media, that are suggested by the research study reported here.

To facilitate ongoing, synchronous data exploration ‘deep-dives’ and thus insights and analysis, we experimented with development of a simple interactive dashboard using Microsoft PowerBI Desktop. Power BI is a data visualisation tool and business intelligence tool that comes with a large collection of built-in and third-party visualisation types and reporting formats, intended to make it easy for end-users to explore data.

The dashboard design (illustrated in Figure 11) incorporates a set of interactive functions to explore the conversation in relation to family violence drawing on Twitter and news media. It allows for insights on; key topics as they change over time, influencers, popular Twitter hashtags, word frequency, news media coverage, geographical and time analyses. The developed features include:
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- Filtering: Different types of data filters, including spatial/geographical, temporal and topic filters are provided to support data summarising and subset comparison.
- Topic-driven data exploration: For each year, Twitter posts and news articles that have been segmented based on LDA method are shown (per micro topic).
- Temporal zoom-in: The dashboard supports temporal explorations in two different ways. First, the data statistics such as number of posts, users, spatial distribution, word frequency, etc. can be viewed per year. Second, the timeline summary of major events constructed from Twitter posts over the five-year period, allows users to slide back and forth to explore those events and associated community responses within different time windows in the history. The granularity of temporal zoom-in for timeline summary is month.
- Spatial zoom-in: The dashboard provides the capability of zooming into tweets to explore the location of interest, and to further see the activities of individual users. The granularity of spatial zoom-in is at city level.

The dashboard has been presented in multiple workshop series and received positive feedback from domain experts suggests promising use of computer-assisted longitudinal analysis of community responses to family violence. To the best of our knowledge, the existing social media dashboards only aim at monitoring topic trends or people, such as Twitter Wall, Tweetstats, and Wefollow. Where a dashboard is able to move from monitoring to analysis, and where it enables exploration of the results of data analysis, it becomes a more powerful tool for generating action on those insights.

Figure 11. Screen shot from the live project Dashboard illustrating dynamic, interactive data access and visualisation.
1 The #MeToo movement is can be understood as a social media campaign drawing attention through millions of interactions to sexual harassment and gendered violence. It was not the target of our analysis, but intersected with family violence discussion through Twitter from the end of 2017 and throughout 2018. This intersection signals a small piece of larger shifts in cultural and social dynamics. See for example: Gill, R., & Orgad, S. (2018). The shifting terrain of sex and power: From the ‘sexualization of culture’ to #MeToo. Sexualities, 21(8), 1313–1324.


11 Ibid.

12 Ibid. p.1–2

13 Ibid. p. 2.


16 Data was collected over a one-month period, through paid access to the Twitter API historical data. While full API access can cost up to $2,500 per month, this is a fraction of the cost of national surveying. One of the benefits of using topic modelling data analysis techniques is its efficiency compared to manually reading and analysing large document-based data sets. Depending on objectives, more time-consuming qualitative analysis of topics to extract findings and insights is still required.


18 Dragiewicz, M., & Burgess, J. (2016). Domestic violence on #qanda: The “Man” question in live Twitter discussion on the Australian Broadcasting Corporation’s Q&A. Canadian journal of women and the law, 28(1), 211-229


21 The #MeToo movement is can be understood as a social media campaign drawing attention through millions of interactions to sexual harassment and gendered violence. It was not the target of our analysis, but intersected with family violence discussion through Twitter from the end of 2017 and throughout 2018. This intersection signals a small piece of larger shifts in cultural and social dynamics. See for example: Gill, R., & Orgad, S. (2018). The shifting terrain of sex and power: From the ‘sexualization of culture’ to #MeToo. Sexualities, 21(8), 1313–1324.


Contact for more information

For further information about this report, contact: Professor Jane Farmer,
jcfarmer@swin.edu.au
phone: +61 3 9214 4984
John Street, Hawthorn
Victoria 3122 Australia