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Understanding youth radicalisation: an analysis of Australian data

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ABSTRACT

Studies on youth radicalisation are few, even though it has been identified as an increasing problem. This paper aims to contribute insights on youth radicalisation by examining data from 33 cases of Australians, aged 19 and below, who have been identified as radicalising to violent extremism. It draws on a subset of data from the Profiles of Individual Radicalisation in Australia (PIRA) dataset. This is an open-source dataset that replicates variables from the Profiles of Individual Radicalisation in the United States (PIRUS) dataset. The PIRA dataset is outlined and we undertake a descriptive and exploratory analysis of selective key variables identified in the terrorism and criminology literature. Analysis shows that radicalisation amongst our sample of youth is associated with poor educational achievement, mental health problems, active engagement with online social media, exposure to other radicalised networks and associates, personal grievances and triggering events. The data both confirm and diverge from the existing literature. The paper, in particular, considers the role of social bond attachments and networks in the youth radicalisation problem. Limitations in the study design and sample size are acknowledged and implications for the prevention of youth radicalisation are considered.

Introduction

Youth radicalisation to violent extremism is a global problem (Campelo et al., 2018; Neve et al., 2020; Rolling & Corduan, 2018). For example, Muslim youth aged between 12 and 19 (i.e. teenagers and pre-teens) have been involved in Western terrorist plots (Simcox, 2017). It has been argued that Islamic State has been particularly adept at recruiting youth, with it appealing to a sense of camaraderie and belonging to attract young members (Juergensmeyer, 2018; Roy, 2017; Simcox, 2017). This is not limited to one form of extremism, with white supremacist and far-right groups targeting teenage youths through music, clothes and social media (Miller-Idriss, 2018). In the Australian context, the former head of the Australian Security Intelligence Organisation (ASIO), in 2017 voiced concern about the young

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age of some individuals involved in extremist acts and groups in Australia (Lewis, 2017). Examples include 15-year-old Farhad Khalil Jabar, who shot dead a New South Wales police employee (Guardian Australia, 2018); 18-year-old Numan Haider, who was fatally shot in 2014 by counter-terrorism police in Melbourne when he attempted to stab them (Coroners Court of Victoria, 2017); 17-year-old Taha El Baf, who is presumed dead in Syria (Calligeros, 2015); 17-year-old Abdullah Elmir (known as the ginger jihadist), who joined IS in Syria (Beech, 2015); and an unnamed 16-year-old in NSW, who was sentenced to 16 years for plotting a terrorist act (R v HG, 2018).

This paper aims to examine the process of youth radicalisation by analysing data derived from 33 cases of Australian youths aged 19 and below. These cases were derived from the Profiles of Individual Radicalisation in Australia (PIRA) dataset, which is being developed and compiled by the authors.[1] This database draws on open sources (e.g. court documents and media reports) to compile variables on individuals who have radicalised in Australia across different ideological spectrums. We use these data to understand the factors associated with youth radicalisation. Criminological theory is utilised to inform our analysis. Given the challenges associated with securing primary data, such as police and correctional case files on convicted terrorists or accessing active and former extremists to interview (Carlsson et al., 2020; Cherney & Belton, 2019; Schuurman, 2018a, 2018b), studies using open-source materials are not uncommon in terrorism studies. Data based on open sources have been shown to provide useful insights (e.g. see Holt et al., 2018; LaFree et al., 2018; Schuurman, 2018a) and can be just as detailed as information derived from closed sources (Gill et al., 2019). We recognise our sample size is small and there are limitations in relying on open-source materials (Schuurman, 2018a). While our sample does comprise juveniles who were aged 16 at the time of their offence, legal requirements mean the names of juveniles are publicly withheld during the reporting of any arrest, indictment and sentencing. Therefore, this can make it difficult to compile individual biographies of juveniles charged for terrorism-related offences from open-source materials.

An outline of this paper is as follows. First, we begin with a review of existing studies on youth radicalisation and outline how criminological theory has been used by scholars to explain the process of radicalising to violent extremism. We then outline our methodology and dataset. Next, in the Results section, we examine key variables across the 33 cases and provide some descriptive findings from the sample. Given the size of our sample, we are limited in the types of analysis we can conduct. To supplement the quantitative data, we also utilise qualitative data from specific cases to highlight and contextualise some of the results. In this paper, we draw on variables associated with three criminological theories (i.e. social control, social learning and strain theory) to analyse our data and explain findings. We have chosen these theories, given current research has highlighted their overlap with a number of popular radicalisation models from the field of terrorism studies, with research also demonstrating their explanatory value (e.g. LaFree et al., 2018). For our youth sample, we outline the similarity and divergence with these criminological explanations. Importantly, given limitations in our data and space requirements, we acknowledge we have been selective in our utilisation of these theories. Based on our findings, we conclude with some observations regarding youth radicalisation and intervention programs.

Our aim here is to contribute insights into youth radicalisation both empirically and theoretically, given it has been identified as a under-researched problem requiring greater attention (International Centre for Counter-Terrorism and Global Centre on Cooperative Security, 2017; Neve et al., 2020; Van der Heide & Geenen, 2017). The paper adds to the growing number of studies on youth radicalisation and also indicates how variables within specific criminological theory (which has focused on delinquency) have relevance in explaining radicalisation – specifically in relation to youth. For example, criminologists have argued for some time that a lack of attachment to society and the influence of peers can drive youth to engage in criminal activity (Becker, 2019; LaFree et al., 2018). We also see this amongst youth in our sample who have radicalised. Our paper fleshes out the types of triggers and catalysts associated with youth radicalisation.

However, we do recognise there are limitations in generalising beyond our analysis, and we query the degree to which our findings are simply unique to a youth cohort. Additionally, while our sample has mainly captured Muslim youths, this should not detract from a recognition that other forms of extremism are a problem in Australia, such as white supremacy (Hutchinson, 2019). It must be acknowledged that, at the time of writing, no young person in Australia aged 19 and below had been charged for a terrorist-related offence which had a link to a far-right/white supremacist cause or group. Adult criminals linked to far-right/white supremacist groups have been identified in open sources (see State of New South Wales v White, 2018; The Age, 2004), with there recently being far-right individuals charged for terrorism offences in Australia (Elsworthy, 2020). Given the limited number of studies which aim to understand youth radicalisation (Campelo et al., 2018), our paper contributes to expanding the overall knowledge in this area.

Relevant literature

Terrorism is one outcome of violent extremism, and it constitutes both a cognitive and behavioural component. In the literature, a distinction is often made between radicalisation as constituting beliefs, while violent extremism is the behavioural outcome of those beliefs (Horgan & Braddock, 2010). In this paper, we use these terms interchangeability as constituting both beliefs and actions.[2]

A number of youth-specific explanations of radicalisation have been proposed (e.g. Bouzar & Martin, 2016; Lynch, 2013; Meeus, 2015; Neve et al., 2020). Campelo et al. (2018) reviewed the existing literature on radicalisation and violent extremism as it relates to European youths and concluded a range of individual, environmental and societal risk factors make youths vulnerable to radicalising to violent extremism. Individual risk factors include psychological vulnerabilities and personal uncertainty relating to the formation of identity. Environmental factors encompass networks such as family and peer group influences which can reinforce extremist views and actions. Societal risk factors include the impact of group polarisation and social exclusion, geopolitical factors and broader political and ideological narratives. Lynch's (2013) study on British Muslim youth highlights that their risk of radicalisation is linked to experiences of identity conflict, cultural integration and intergenerational conflict. The role of identity conflict in creating vulnerabilities to radicalisation amongst youth has been highlighted by other studies (e.g. Bouzar & Martin, 2016; Meeus, 2015). Neve et al.'s (2020) study of Dutch youth who went to Syria found a range of factors as contributing to their radicalisation,

including social disadvantage and deprivation such as unemployment, an unstable family environment and educational disengagement, as well as previous involvement in delinquency and exposure to other radicalised peers and adults.

Features of existing models are applicable to understanding aspects of youth radicalisation. For example, Sageman's (2004; 2011) well-known 'bunch of guys' theory asserts that radicalisation is an outcome of close-knit groups and common social connections. This could occur through family relations, or through individuals growing up in the same neighbourhood, attending the same school, mosque, madrasa or playing sport together (Atran, 2008). Outside of the home, these contexts for youth can be important spaces where friendship networks are developed and in which there is exposure to extremist ideology and like-minded people. Hence, companionship is developed and individuals become sounding boards for their collective grievances (Bazex & Mensat, 2016; Schuurman & Horgan, 2016). It is also within these networks, that youth can be exposed to adult role models and recruiters who can be admired and respected by their younger counterparts (Vidino, 2007). Other theories include trajectory models which understand radicalisation as progressing through different stages or pathways. One of the key features of these models is the role played by perceived injustices and grievances, and how these are intensified and reinforced as individuals progress through different radicalisation intensities and are exposed to varying social environments providing the motivation and means to act (e.g. see Hafez & Mullins, 2015). In studies that consider influences on youth, these grievances and feelings of injustice can be triggered through events that range from the loss of a family member, viewing online content of women suffering who reminds one of their mother or other family members, and experiencing discrimination (Bouzar & Martin, 2016; Schuurman & Horgan, 2016).

In the case of youth vulnerabilities to radicalisation, online social media has been argued as playing an important role. For example, Callimachi's (2015) and Erelle's (2015) investigative reporting into ISIS recruitment of Western individuals' highlights the importance of interactions via Skype and other online platforms. Research does indicate young extremists are more likely to engage with social media and other virtual platforms compared with adults who are charged for terrorism (Gill & Corner, 2015). However, it is argued by scholars it is not a cause of their radicalisation and acts as a substitute for other forms of communication and interactions (Von Behr et al., 2013). These arguments imply that the process of youth radicalisation should be framed as cyber-enabled rather than cyber-dependent (Gill et al., 2015; Pauwels & Schils, 2016; Taylor et al., 2017). This is all the more relevant to youth radicalisation, given the increasing role that social media now plays in developing social connections and bonds with others, which can influence youth attitudes and behaviours (Boyd, 2014; Pauwels & Schils, 2016).

Given the focus of criminological theory in explaining the problem of youth crime, it is somewhat surprising it has not been used to explore the process of youth radicalisation. However, as pointed out by Holt et al. (2018), some criminological theories share close affiliations and overlap with existing theories of radicalisation. For example, studies have examined radicalisation through criminological theories such as social control and social learning. Social control theory has been useful in understanding how weakened social bonds can operate as a risk factor in terms of susceptibility to radicalisation, with social learning theory illustrating how radicalisation to violent extremism is a function of the influence of social ties (e.g. see Becker, 2019; Holt et al., 2018; Mills et al., 2019;

Neve et al., 2020; Pauwels & Schils, 2016). For teenage youth who are entering key phases in relation to social identity formation and cognitive functioning, social bonds and their connections to others strongly shape their developmental pathways and influence behavioural outcomes (Loeber & Farrington, 2000). This has been identified as applicable to the radicalisation process (Lösel et al., 2018). Criminologist Robert Agnew (2010) applies strain theory to understanding terrorism, stating it is the outcome of personal and collective strains arising from anger, humiliation and hopelessness, all of which are compounded by a sense of grievance – similar to process models of radicalisation. We draw on aspects of these theories to help understand and explain the radicalisation of youths in our sample.

Cases and methodology

Cases

The cases for our analysis comprise 33 youths aged 19 and below. Due to space limitations, we have not provided a detailed description of all these youths.[3] We do though provide examples below of those youth captured within our sample. The cut-off age of 19 was chosen to capture teenagers and pre-teens whose life and developmental experiences differ from young adults in their 20s (Arnett, 2014).

These 33 individuals were selected from a larger open-source dataset compiled on Australians who have radicalised to extremism – what we have called the PIRA dataset, comprising Australian individuals dating back to 1985.[4] The 33 youths comprised the total available individuals in the sample aged 19 and below, selected from the years 1985 to 2020 and available at the time for analysis.[5] The individual's age within the sample was first calculated by looking at the age when it was reported in open sources that they had committed an offence or were engaging in radical behaviours. This does not mean they had yet been officially charged. If this age could not be identified, the default was to calculate age at the date of arrest, which was when individuals were typically exposed in open sources.

To identify individuals for inclusion in the PIRA dataset, we searched publicly available sources, including court documents, coronial inquest reports, online news articles, terrorist blogs, newspaper archives, open-source non-government reports, terrorist monitoring research institutes or organisations (e.g. Middle East Media Research Institute) and terrorist attack databases (i.e. the Global Terrorism Database). PIRA is based on variables in the Profiles of Individual Radicalisation in the United States (PIRUS) dataset, developed by the National Consortium for the Study of Terrorism and Responses to Terrorism at the University of Maryland, which captures data from open sources on individuals who have radicalised to extremism in the United States (see https://www.start.umd.edu/data-tools/profiles-individual-radicalization-united-states-pirus; also see Jensen et al., 2016). It is one of the largest datasets of its kind, contributing empirical insights into individual and group radicalisation in the United States (Jensen et al., 2016). The reason the authors based their data on the PIRUS dataset is that it has been used to analyse radicalisation both qualitatively and quantitatively and allows for comparative analysis in future research, with PIRUS also being replicated in other countries such as Indonesia. However, we did have to modify the definition and parameters of some variables to adapt them to

the Australian context, such as terminology and definitions of criminal charges, and we also included some additional variables, such as a history of violence.

Similar to PIRUS, the PIRA dataset includes individuals espousing Islamist, far-right, far-left or single-issue ideologies. These individuals were included in PIRA for either committing ideologically motivated illegal violent or non-violent acts, joining a designated terrorist organisation, or associating with an extremist group/organisation (also see START, 2018). To be eligible for inclusion, each person must meet the following criteria: (1) the individual radicalised while living in Australia, (2) they espoused or currently espouse ideological motives and (3) they showed evidence their behaviours are/were linked to the ideological motives they espoused/espouses.[6] At the time of writing, we have added 261 individuals based on these inclusion criteria. These criteria include individuals who have not been charged for a specific terrorist act, but have acted in an ideologically motivated way to indicate alignment with radicalised beliefs, causes and associates. These inclusion criteria have been used to ensure we capture individuals of various backgrounds across the spectrum of extremist behaviours, and formal and informal group affiliations, as well as different levels of commitment, motivations and causes. While this creates the problem of heterogeneity within the sample, it allows for comparison across different individuals to identify similarities and differences.

Information has been collected across 122 different variables canvassing background, demographics, group affiliation and contextual information (all 122 variables are not utilised in this paper – see below). For example, this includes information on ideology, age, education, ethnicity and migrant status, plot details if accused or charged for a terrorist offence, extremist group affiliation, recruitment and radicalised social networks (e.g. relating to the location of exposure to radicalised groups), number and names of extremist associates, use of social media in terrorist plot or connecting to extremist groups/individuals, family, education and work history, contact with the criminal justice system, history of violence, and radicalisation catalysts (e.g. triggering events or grievances).

The formulation and coding of data from various open sources followed a two-step process. Data for each individual were collated from open sources and first coded qualitatively across our variables, capturing descriptive and text-based information relating to each variable. This coding was based on a consensus-based approach which involved the first two authors reviewing each coded profile and then cross-checking the entered information for consistency and level of detail. For example, when it came to coding for triggering events or grievances, a description of these events and the content of specific grievances were first entered. This information was then transformed into various dichotomous and numerical indicators to allow for quantitative analysis. Again, this process was cross-checked by the first and second author for consistency. The reason we adopted this two-step approach was that the number of cases we were incrementally dealing with allowed us the time to monitor data inputs rather than quantitatively coding straight from the various open sources. Additionally, it means we have two datasets: the qualitatively entered data and the quantitative data, with the former providing descriptive accounts of various radicalised individuals – as we do below – which adds further insight into the specific processes and circumstances surrounding our cases not necessarily captured by our quantitative data. Such a consensus-based approach to coding has been used in similar research, such as that developing terrorist profiles from open sources (e.g. Altier et al., 2019).

As stated in the Introduction, there are limitations in using open-source materials to compile profiles of individuals who have radicalised to extremism, particularly given the potential impartiality of such sources, as well as their accuracy and completeness. Media sources, for example, can contain factual errors and be the subject of sensationalist reporting (Schuurman, 2018a). There can also be the problem of missing data, given the gaps in open sources (Dugan & Distler, 2016; LaFree et al., 2018). Across our 33 participants, 13.18% of data were missing across the 23 variables utilized in this paper (for information on missing data, see the Supplementary file).[7] Given our sample size, we have not under-taken any analysis to compensate for this missing data; however, for those variables with missing data, statistics are only reported for those cases known.[8] While the lack of primary source studies has been noted as a weakness within the field of terrorism studies, the use of open sources has yielded useful insights towards understanding individual correlates of radicalisation (LaFree et al., 2018), testing the utility of criminology theory to violent and non-violent extremists (Holt et al., 2018) and uncovering emerging trends in terrorist recruitment and acts (Zammit, 2017).

Measures

Variables were used to provide demographic and historical information on our sample of 33 youths. For all dichotomous variables, '1' indicates documented evidence of that named variable, whereas '0' indicates an absence. When it came to the selection of demo-graphic variables, we used gender, age, relationship status, highest level of education, history of alcohol or drug abuse, history of mental health problems and history of a crim-inal record. Three variables within the dataset were used to measure contextual aspects of an individual's radicalisation. This included data on the place of radicalisation (e.g. place of worship, social club or the home), role of online social media in radicalisation and severity of online social media activity.

We selected social control variables based on previous studies (e.g. Becker, 2019; Holt et al., 2018; Pauwels & Schils, 2016). This included, for example, variables related to the presence of bond attachments (e.g. marital status, close family, work history, engagement in education), which are important social control variables (Hirschi, 1969; Laub & Sampson, 1993). A commitment to conventional norms is also a reflection of social bonds, the rejec-tion of which is related to extremist attitudes (Becker, 2019; LaFree et al., 2018; Laub & Sampson, 1993). This was coded through the existence of evidence relating to anger towards Australian society and a rejection of its value system.

Variables related to social learning included factors representing the constructs of differential association and differential reinforcement. This included group membership, as this can be indicative of components of differential association processes, measured as to whether an individual was a member of a formal or informal extremist group (Becker, 2019). Membership of one or both of these groups indicates differential associ-ations which could contribute to the learning of violent extremist behaviours. Additionally, whether an individual was actively recruited, either from current radical associates, friends, family or others, demonstrates connections or links to an extremist movement (Nesser, 2018). This measures the level of social learning, where links to those who are supportive of violent extremism reinforce involvement (Becker, 2019; Cottee, 2011). A well-known indicator of engagement in violent extremism is also the prevalence of intimate radical

peers and associates (Bright et al., 2020 ; Harris-Horgan, 2014; Malthaner, 2018; Neve et al., 2020). In particular, group processes such as being a member of a close-knit group of peers or radical clique has shown to contribute to the learning process of violent extremism (Atran, 2008; Cottee, 2011; Malthaner, 2018). This was measured ordinally: (0) not a member of a clique, (1) radicalisation occurred before clique membership, and (2) onset of radicalisation coincided with clique membership.[9] We also consider the level of associations between members within our sample and their connections externally with known extremists in Australia and overseas.

Finally, within the literature, individual and collective strains have been identified as important to the radicalisation process (Agnew, 2010; Cottee, 2011; Gambetta & Hertog, 2017; Hafez & Mullins, 2015; Neve et al., 2020). Individuals who expressed their group as being victimised, subjected to injustice or under threat by authorities or government figures were coded as (1), and those who did not were coded as (0). Events which elicit perceived or legitimate strain can influence or accelerate the adoption of radical ideologies and behaviour. Such significant events were measured categorically, with (0) representing no significant event which was directly influential or related to their radicalisation and (1)–(8) describing significant events directly related to their radicalisation. These associated events included, for example, (1) September 11, (2) Syrian Civil War, (3) Afghanistan/Iraq War, (4) emergence of the Islamic State, (5) events which generated grievances (i.e. being watched by security agencies and police), (6) War on Terror, (7) US invasion of Iraq and Afghanistan, (8) Assad regime, (9) other personal events or experiences (i.e. death of a family member).

Findings

Ideological alignment, background and significant places of radicalisation

The ideological affiliation of youth within our sample included white supremacists ($n = 1$),[10] single issue ($n = 1$) and Islamists ($n = 31$). For those that fall within the Islamists categories, all of these cases were identified post-2014, after the emergence of IS and their call for recruitment in Western countries. This reflects existing research relating to the emerging trend of teenagers becoming jihadists (Harris-Hogan & Barrelle, 2018; Simcox, 2017). Despite this dominance, we have included all 33 in our analysis to maintain the completeness of the dataset.

The average age in our sample was 17 years, with a minimum age of 14. Almost half ($n = 16$, 58.5%) were aged 18 at the time of their radicalisation. The sample reflected the gendered nature of individuals attracted to violent extremist ideology (Cottee, 2019), with 90.9% ($n = 30$) of the sample being male, and 9.1% ($n = 3$) female.

In terms of the educational background of our sample, one individual did not attempt high school, just under one-quarter completed high school (23.3%; $n = 7$), with 63.3% ($n = 19$) completing some level of high school, but failed to complete their final year (i.e. referred to as High School Equivalent or grade 12 in Australia). At the time of writing, two (6.7%) individuals started university and one completed his undergraduate degree.[11]

One observation to make regarding this result is that several individuals within our sample dropped out of high school or discontinued what could have been a potentially successful post-secondary school education or vocational training when they increasingly

became radicalised. This same trend has also been observed, for instance, amongst French and Dutch jihadist youths (Bazex & Mensat, 2016; Neve et al., 2020). Examples within our sample include Sevdet Besim, who had finished Year 12 and was due to commence his university studies in building and design before he was arrested for plotting the Anzac Day attack. Another Abdullah Elmir was a former high school graduate, with his family describing him as academically bright and caring (Stapleton, 2015). Though eligible for university, Elmir was deciding between pursuing a career and further education before he joined ISIS in Syria. Another youth in our sample is Jake Bilardi, who died in a suicide attack in Iraq, and allegedly dropped out of secondary college due to bullying. It is reported he was an intelligent and gifted student (Dean et al., 2015).

A common observation in the literature is that violent extremists do not necessarily suffer from mental illness (Gill & Corner, 2017). Within our sample, 42.4% (n = 14) had a history of mental illness, with 57.6% (n = 19) reporting no history of mental illness. In most cases, the diagnosis had been made before the individual engaged in terrorism-related activities. It must be acknowledged that mental health can encompass a range of behaviours and that in using open sources, there needs to be caution taken in identifying mental illness based on a confirmed diagnosed mental illness, compared to teens with behavioural issues or personal disabilities and reports of potential mental health issues made by non-clinicians.[12] For instance, there was no indication in the source materials as to the contested nature of any diagnosis amongst our sample. However, while the percentage and sample size is small, these results relating to the presence of mental illness are quite high in our sample compared to other existing studies – albeit those studies do draw on larger samples. For example, LaFree et al. (2018) using the PIRUS dataset found that for those individuals with non-missing data, slightly more than 8% reported a history of mental health problems. Also, Gill et al. (2014) found in their sample of lone-actors, just less than one-third (31.9%) had a history of mental illness or personality disorder. Also similar to our youth sample, in most cases, the diagnosis had been made before the individual engaged in terrorism-related activities. For example, those within our sample include Raban Alou, who was diagnosed as exhibiting a conduct disorder in childhood. Another individual known as MHK in his court case was reported as experiencing a history of depression and anxiety. Two individuals with the sample include Jake Bilardi who exhibited psychological issues throughout his life, and was violent towards his mother and Mohammed Almaouie, who was diagnosed with ADHD at age 13. Our sample includes Mehran Azami, who reported several mental health problems throughout his life, including depression and post-traumatic stress disorder and that he had spent time in a psychiatric centre. Finally, one of the few females within our sample, Alo-Bridget was reported to have a history of mental health problems.

Additionally, 24.2% (n = 8) of the sample had a history of drug or alcohol abuse and six participants (18.2%) had juvenile records for engagement in violent and non-violent crime. Criminal activities included assault, dangerous or negligent acts endangering a person, break and entry, robbery, illicit drug offences, property damage and possessing an unauthorised weapon. The remaining individuals had no criminal history (n = 27; 81.8%). This result does reflect findings from existing studies and highlights that for some individuals (but not all), previous involvement in deviant behaviour is linked to participation in violent extremism (LaFree et al., 2018; Nesser, 2018; Neve et al., 2020).

Table 1. Significant place connected to radicalisation.

Type of place	Frequency	Percentage
No significant place	7	25.9
Place of worship	9	33.3
Educational institution	1	3.7
Social club	3	11.1
In the home (family influence)	3	11.1
In the home (internet)	4	14.8
Total	27	100.0

As noted above, certain spaces can be influential in an individual's radicalisation and can expose them to radical beliefs or behaviours and like-minded people. Such places responsible or influential in an individuals' radicalisation were measured. Table 1 indicates that attending a place of worship was significantly connected to youth radicalisation amongst our sample, followed by the home.

It should be emphasised exposure to others within these locations is what makes a difference, something we explore in more detail below. It is worth mentioning, however, that several individuals within our sample attended Mosques and pray halls frequented by other known extremists. One example includes Numan Haider who was shot dead by counter-terrorism police in Melbourne. It was through his association with members at a local mosque (i.e. the Hallam Mosque) that he began attending the Al-Furqan Da'wah Centre and bookshop, which was established by a Salafist cleric, Harun Mehicevic. Mehicevic was associated with Abdul Nacer Benbrika, who was a member of the Melbourne Pendennis cell, and whom was charged with terrorism-related offences (Bright et al., 2020; Schuurman et al., 2014).

The role of social media

As previously mentioned, online social media is fast becoming a gateway for exposure to radical ideologies among youths. Table 2 illustrates the role of online social media in the radicalisation process in our sample (i.e. involving, for example, the use of Facebook, Sure spot, Twitter, YouTube and WhatsApp).[13] These data were coded as to whether it had a major or minor role. As illustrated in Table 2, the data indicate that online social media use contributed in some way to a person's radicalisation. Of course, this is not a passive process.

A weighting scale was developed in order to capture the severity and type of role that online social media played in the radicalisation process. This was done for the 21 youths where it was identified as playing a role in onset or mobilisation (see Table 2). If the individual disseminated content, participated in extremist dialogue, appeared in propaganda videos or directly communicated with other extremist to seek out information on

Table 2. The role of online social media in radicalisation.

Level of impact	Frequency	Percentage
No known role of online social media in radicalisation	7	25.0
Played a role but was not the primary means of radicalisation	14	50.0
Was the primary means of radicalisation	7	25.0
Total	28	100.00

Table 3. Severity of online social media activity.

Level of engagement	Frequency	Percentage
Passive	5	23.8
Active	16	76.2
Total	21	100.0

Note. Individuals who showed no engagement with social media ($n = 7$) were excluded from analysis.

extremist ideology, facilitated foreign travel or facilitated a domestic attack, this behaviour was defined as active. If they only consumed content or conducted searches on extremist related-content such as videos, manifestos or posts, this was defined as passive. Table 3 shows that amongst the 21 youth where online social media played some role in their radicalisation, they were largely active users of this medium.

Pro-social variables, radicalisation networks and strain

We now turn our attention to a selection of criminological variables which are associated with theories of social control, social learning and strain, and which have also been used to explain individual and group involvement in violent extremism amongst adults. In the context of social control variables, nine (27.3%) individuals were married and one was divorced. The remaining 69.7% ($n = 23$) were never married.

This finding around marriage is worth exploring further. When one looks more closely at the qualitative material available on the sample, it would appear that for some individuals who were married their partner had an influence over, and reinforced their radicalisation, compared to being a buffer against it. For example, within the sample, it is evident in court documents that Raban Alou's wife was indifferent to his extremist views, at times endorsing them. She acted as a source for him to confide in about his beliefs and involvement in the shooting of NSW police employee Curtis Cheng by Farhad Khalil Jabar (R v Raban Alou, 2018). Within our sample, husband and wife Sameh Bayda and Alo-Bridget co-radicalised, with Alo-Bridget openly encouraging the extremism of Bayda (R v Bayda; R v Namoa, 2019). Another youth Abdullah Elmir (the ginger jihadist) married Amira Abase in Syria, who was a jihadi bride from the UK.

As argued by Becker (2019), close family attachments to mothers, fathers and siblings are related to forms of social bonding, with weak attachments a potential risk factor for radicalising to violent extremism. Early experiences of family abandonment during adolescence have been a theme observed amongst samples of radicalised youth (Bazex & Mensat, 2016). In addition, fragile relationships with parents during childhood have been reported as a risk factor for youth radicalisation (Rolling & Corduan, 2018). However, in our sample, when coded for family relationships, 71.4% ($n = 20$) individuals were identified as having a close relationship with their family, either with one or both parents, siblings or extended family at the time of exposure. While eight (28.6%) reported to be emotionally distant from all family members. This is contrary to the assumed associations stated by social control theory. One possible explanation for this is that for a large percentage of youth in our sample, other family members did not serve as a source for pro-social attachments and acted indifferently to their emerging radicalisation. For example, for two individuals in our sample (i.e. Raban Alou and Mounir Raad), their families were involved in extremist activities.[14]

Additional pro-social factors include work and educational involvement, level of unstructured timed and acceptance of mainstream values (Becker, 2019; Holt et al., 2018; LaFree et al., 2018). Here, we find mixed results. Fourteen (46.7%) individuals within our sample were students at the time of exposure to violent extremist ideologies. As already indicated above, many of these individuals had varied educational success. Over half (n = 16; 53.3%) in our sample were not students at the time of exposure. Eight (32%) individuals were considered to have unstructured time, meaning they were either unemployed or underemployed, were not a student and not actively engaging in any community activities. This provides greater opportunity for such youth to be exposed to deviant peers and negative adult influences (Becker, 2019; Hoeben & Weerman, 2016). However, 17 (68%) individuals did not appear to have unstructured time, as they were engaged in activities including school, work or other extracurricular commitments. These attachments did not seem though to reduce their vulnerability to radicalisation.

A large majority (n = 19; 73.1%) of the participants expressed signs of anger towards Australian society. This included, for example, the rejection of the validity of the Australian social and legal system and mainstream values. As already mentioned, within the sample are Sameh Bayda and Alo-Bridget Namoa (who were sentenced for conspiring to commit acts of terrorism), who expressed opinions rejecting the validity of Australia's legal system and support for random attacks against Australians.[15] The youth Jake Bilardi expressed hatred of Australia, stating in his blog: 'I was growing tired of the corruption and filthiness of Australian society and yearned to live under the Islamic State with the Muslims' (Quadrant Online, 2015).

In the context of social learning-related variables, just under half (n = 14; 42.4%) of our sample were identified as being members of either a formal extremist organisation or an informal group of fellow extremists. We were able to identify that 15 (57.7%) participants were actively recruited into an extremist movement, while 11 (42.3%) were not actively recruited. Of those who were actively recruited, 38.5% (n = 10) were recruited by an associate or member of a terrorist or violent extremist group, one was recruited by a friend, one by a family member, and the specific identity of three recruiters (11.5%) was not known. The role of group membership is also further highlighted by the fact that a large portion of the sample (n = 20; 60.6%) were a part of a clique which can be described as a close-knit, insular and exclusive group of people containing at least two individuals. Almost all (n = 17; 53.1%) of these individuals' radicalisation coincided with their clique membership, meaning the onset of radicalisation occurred at the same time or around the same time as they became a part of a clique.

Reinforcement of radicalised beliefs and behaviours can be associated with exposure to other known radicalised individuals, who help contribute to differential association and reinforcement. Therefore, as indicated in the literature, having close affiliations with other radicalised people is known to be a driving factor for individual radicalisation (Malthaner, 2018; Nesser, 2018; Thomson, 2018). Research on Australian jihadists have confirmed the prevalence and importance of social connections in the radicalisation process, and the role of these connections in creating capability to carrying out attacks (Bright et al., 2020). Rather than conduct social network analysis, we examined the level of inner-group connections (i.e. the number of individuals from our sample who had a connection with another radical participant from our sample) and the level of outer-group

Table 4. Inner-group connections within youth sample.

Number of inner-group connections	Number of youth	Percentage of youth
No inner-group associations	12	36.4
One (1) inner-group association	7	21.2
Two (2) inner-group associations	3	9.1
Three (3) inner-group associations	2	6.1
Four (4) inner-group associations	6	18.2
Five (5) inner-group associations	1	3.0
Six (6) inner-group associations	1	3.0
Seven (7) inner-group associations	1	3.0

Note. Reported for total sample $N = 33$.

connections (i.e. the number of individuals who had an association with one or more well-known adult extremist or terrorist outside our sample)[16] to explore exposure to radical social networks.

Of the youth in our sample, 36.4% ($n = 12$) had no inner-group connections, 21.2% ($n = 7$) had 1 inner-group connection, 9.1% ($n = 3$) had 2 connections with other youths in the sample, 6.1% ($n = 2$) had 3 connections, 18.2% ($n = 6$) had 4 connections and 3% ($n = 1$) had 5, 6 and 7 inner-group connections. See Table 4.

Results indicate that 63.6% of youth captured within our sample had a direct connection to others in the cohort. When excluding those who had no evidence of inner-group connections, each individual had an average of 3 (SD = 1.81) connections with other radicalised youth in our sample. The most predominate individual across all inner-group connections was a person by the name of Milad Atai who had a connection to seven (21.2%) other individuals in our sample. For example, Atai had close connections with several youth that spanned across three separate plots and that took place over a 2-year period. He was charged and sentenced to a 38-year term of imprisonment for the offences of aiding and abetting in the fatal shooting of Curtis Cheng, and funding and being a member of an official terrorist organisation. In December 2014, Atai attended a meeting between members of what was termed in open sources as the Khalid group, a clique that included other radicalised youths in our sample (e.g. Mohamad Alomoauie, and an individual identified in court documents by the synonym IM). Members of the Khalid group were charged for making documents connected with a terrorist act and planning a terrorist attack. Atai also had connections with a number of adults, such as Hamdi Alquadsi, who helped to recruit a number of youth in our sample to travel overseas (see below). In March 2016, he assisted a 16-year-old school-girl to send funds to her cousin in Syria, Ahmed Merhi, whilst he was fighting in Syria for the Islamic State. Atai and the young girl were known to be close associates.

Outer-group connections included forms of contact with radicalised individuals outside our sample who lived in Australia or overseas and where there had been direct evidence of

Table 5. Outer-group connections of youth to other extremist individuals.

Outer-group connection categories	Number of youth	Percentage of youth
No outer-group associations	5	15.2
Between 1 and 4 connections	17	51.5
Between 5 and 9 connections	8	24.2
Ten or more connections	3	9.1

Note. Reported for total sample $N = 33$.

Table 6. Frequencies of outer-group connections across youth cohort.

Number of outer-group connections	Frequency	Percentage
0	5	15.2
1	9	27.3
2	2	6.1
3	3	9.1
4	3	9.1
5	3	9.1
6	1	3.0
7	2	6.1
8	1	3.0
9	1	3.0
10	1	3.0
19	1	3.0
20	1	3.0
Total	33	100.0

contact, clique connections that consisted of older adults and direct contact on at least one occasion.[17] It was assumed that those identified as being a member of a formal or informal extremist group had at least one connection to other radicalised individuals, even if the names of those associates were not identified. This was done so as to capture the full extent of outer-group associations beyond our sample. Both Tables 5 and 6 show the high number of connections that youth had with others beyond those captured in our sample.

When examining these connections in more detail, it is apparent that several key adult associates had come into contact with a number of individuals across our sample of 33 youths. For instance, Neil Prakash a well-known Australian recruiter for ISIS, was in contact with at least four (12.1%) of the youth prior to his overseas departure. An individual by the name of Harum Mehicevic who established in Melbourne the Al-Furqan Islamic Information Centre and was openly supportive of Islamic State, and attracted several youth who believed in the extremist interpretation of Islam, some of which were arrested or charged with terrorism-related offences. He had close contact with four (12.1%) youth within the sample, including Numan Haider and Harun Causevic. Another notable outside association was with the individual Hamdi Alquadsi, who recruited several young men and women in Australia and facilitated their travel to Syria to engage in armed conflict. Alquadsi had close contact with six (18.2%) of the youth in our sample. This included face-to-face meetings where several youths were all present together (see R v Ghazzawy [2017] NSWSC 474).

In the context of expressed grievances which contribute to forms of identifiable strain, all known (n = 28, 96.6%) youth – with the exception of one individual – expressed they identified with or felt attached to a specific group which was believed to be victimised, subject to injustice or under threat (i.e. the Ummah, or global Islamic community). Qualitatively, many in our sample expressed what can be termed as a form of a collective or group-level grievance relating to perceptions of an 'oppressive' political system against Muslims, especially those in war-torn countries such as Syria and Iraq. In this regard, the 'West vs. Islam' narrative had particular resonance among Muslim youths in our sample. This included, for example, Irfaan Hussein, who joined IS, and expressed grievance by what he saw as public ignorance regarding the ongoing global conflicts which were occurring between Muslims and ruling governments abroad (Minear & Dowling, 2015). In his

Table 7. Significant event known to have triggered radicalisation.

Significant event	Frequency	Percentage
Acts by the Assad regime	2	12.5
The 'War on Terror'	1	6.3
Emergence of the Islamic State	4	25.0
Events that generated grievances (e.g. cancellation of passport)	6	37.5
Personal experiences (e.g. death of a family member)	3	18.8
Total	16	100.0

Note. The two individuals with no known event were excluded from analysis.

blog, Jake Bilardi expressed anger regarding the West's constant engagements in Middle Eastern conflicts (Quadrant Online, 2015).

For 16 (88.9%) individuals, there was a significant event which precipitated or accelerated their radicalisation (see Table 7). For two individuals, it was found that there was no significant event that could be linked to their radicalisation.

These events included a range of triggers. For example, within our sample is 18-year-old Numan Haider, who before his death (shot by counter-terrorism police) was confronted with several events which triggered his cognitive radical beliefs and affected his emotional state. Specifically, he felt frustrated and humiliated by police officers stopping him and constantly visiting his home, as well as having been stripped of his passport. His failed relationship with a long-term girlfriend and sympathy for Muslims who he saw as 'victims' of the war on terror further triggered personal strains (Coroners Court of Victoria, 2017).

Discussion and conclusion

Before we discuss the implications of the findings, we need to acknowledge the limitations of the study design. The sample size is small and, as noted earlier, there are limitations regarding the reliability of open-source materials. However, the size of the sample does not invalidate our results, given it reflects that nature of problem, with youth making up a small percentage of the overall population – although a concerning increasing trend – who have radicalised in Australia and overseas. While we have aimed to explore common patterns, there is still heterogeneity in our sample. Additionally, we have not demonstrated causation or statistical correlation and have simply looked at patterns and associations across different variables and provided descriptive accounts of relevant features. Another important question to raise is how exceptional our results are compared to youth cohorts from Europe and the United States. At the time of writing, we are not aware of any existing similar studies of youth cohorts that would allow us to contrast our results with and space limitations prevents us from comparing our results to an analysis of PIRUS data. We do though below make observations about the divergence and convergence of our results with exiting research.

The analysis revealed that radicalisation to violent extremism amongst youth in our sample was associated with social dislocation (e.g. educational disengagement or failure), active engagement with online social media, exposure to other radicalised networks and associates, personal grievances and triggering events. Some of these factors are also strongly emphasised as influencing the cognitive and behavioural outcomes of radicalisation in the criminological theories of social control, social learning and strain

theories. We explore in more detail some of these results and their implications for under-standings of youth radicalisation.

Compared to previous studies of cohorts in the US and Europe – which includes adults (e.g. LaFree et al., 2018 and Gill et al., 2014), we did find a higher ratio of youth in our sample suffering from mental health problems. There were also higher levels of deviant conduct. This highlights how the risk to radicalisation amongst youth can be associated with certain vulnerabilities that if remained unaddressed, set up a potential pathway to violent extremism. When combined with the influence of online social media use, social networks and connections to other radicalised youth and adults, this risk becomes com-pounded (Simi et al., 2016).

Many of our sample (not all, however) appeared to have close relationships with family members. It is argued such pro-social bonding can develop attachments which buffer deviant pathways (Becker, 2019). For some youths in our sample, this appeared not to be the case. This raises a broader issue around family involvement in socialising youth, which is particularly relevant to our sample, given it was predominantly Muslim (i.e. 93.9%; $n = 31$). Specifically, it would be expected that these individuals in our sample were exposed to religious beliefs and interpretations amongst family members, and extended family members, which may have exacerbated and reinforced certain opinions and interpretations of religious doctrines and obligations (jihad) or, on the other hand, failed to challenge their emerging ideology. Family members have been identified as par-ticularly applicable to the radicalisation and de-radicalisation process (Harris-Horgan, 2014; Koehler & Ehrt, 2018). Another observation to make is that despite their age, just over one-third of the subjects were married (all Muslim) and that within this context, female partners appeared to play a role in the radicalisation process. From an examination of the case details of the three females in our sample, all had romantic relations with other radicalised individuals and, in some cases, were openly encouraging the extremist acts of their male partners, such as in the case of Alo-Bridget Namoa (see R v Bayda; R v Namoa [2019] NSWSC 24 (Supreme Court New South Wales)). An inference that can be drawn from this result is that for some young people marriage and bonding between female and male partners is part of the radicalisation process. Committed romantic relationships present an important stage for male and female teenagers transiting into adulthood, with radicalised beliefs potentially creating further opportunities for mutual bonding and identity formation. This draws attention to the active role women play in the radica-lisation process (Bloom & Lokmanoglu, 2020; Neve et al., 2020), and how they can act as an important mechanism of social control and bonding (key criminological concepts) to create greater devotion to the extremist cause. This is something that is central to the jiha-dist recruitment tactic, which sees females as important to sustaining the extremist move-ment and motivating devolution and commitment amongst radicalised males (Bakker et al., 2015; Bloom & Lokmanoglu, 2020; Brugh et al., 2019; Neve et al., 2020; Phelan, 2020).

In particular, the evidence presented illustrates that the youths in our sample had extensive connections to other extremists who were part of their respective networks up to their arrest or death. Individuals had intergroup connections with other youth in our sample and had outer-group connections with individuals who were actively recruit-ing and engaging them on and offline. Several prominent jihadists and adults recruiters were connected with these youth, such as Neil Prakash. This supports the relational and social network perspective of radicalisation (Bright et al., 2020; Malthaner, 2018). Youth

susceptibility to charismatic adults who seek to radicalise them has been noted in the research literature (Hofmann & Dawson, 2014) and is a feature that has been identified as integral to the process of youth radicalisation in Australia (Azzam, 2014).

Importantly while we have noted how our youth exhibited certain grievances, it would be a mistake to assume these were simply expressions of stain resulting from social disadvantage, such as their poor levels of educational attainment. Given arguments made in the literature about the influence of social networks, these expressions amongst our youth are also likely the outcome of peer influences and connections with adults, given the embeddedness of our sample within radicalised networks. The implication is that such levels of differential association means that expressions of youth anger and alienation (forms of strain) are the product of this exposure, than directly a cause of their radicalisation (Borum, 2011; Malthaner, 2018).

While we have acknowledged various limitations with our sample and analysis, the paper contributes to expanding knowledge on the problem of youth radicalisation, which is an unexplored area of study in Australia and internationally. What to do to prevent such a trend is of international significance and a major policy challenge. These data and results provide some insights here. For early intervention and prevention, efforts promoting resilience among youths are essential. This includes ensuring their continued engagement with mainstream institutions (e.g. school and work), and in generating resistance to the influence and need to seek out social networks, which exacerbate the risk of youth radicalisation. Such social connections provide a sense of belonging and meaning to a young person's life and this is what extremist groups and individuals leverage through their recruitment methods. In this regards, external third parties and recreational activities have an important role to play in diverting youth away from these negative influences. The efforts of third parties are all the more relevant, given within our data social connections to family members, friends, associates and partners had a role to play in the radicalisation process. Whom these third parties might be (e.g. youth workers or police) and how they access and engage youth is an ongoing challenge in the design and implementation of initiatives to counter violent extremism (Harper, 2018; Koehler, 2017; Neve et al., 2020). Recreational activities can provide the social connections that youth seek and divert them into meaningful activities (Harper, 2018). It also provides a context in which third parties and service providers can begin to engage youth. Of course, there is always uncertainty as to whether such responses will be effective, which is exacerbated when dealing with youth, given they can respond in unexpected ways to social interventions (Cherney, 2016). However as the data indicate, youth radicalisation is an outcome of multiple catalysts and triggers, which fuse with network settings to facilitate the radicalisation process (Malthaner, 2018). Hence, responses to youth radicalisation also need to be sufficiently multi-pronged and networked across various domains.

Notes

1. The compilation of PIRA is being funded through Australian Research Council Future Fellowship grant – FT170100061. It will be made available for public use in due course.
2. For brevity, we have relied upon a common distinction made in the literature between cognitive and behavioural features of radicalisation. For a more in-depth discussion about these definitional distinctions and debates, see Horgan and Braddock (2010) and Koehler (2017).

3. The details and names of these 33 individuals can be provided by the authors on request.
4. The research team needed to set a start date for including individuals in PIRA. It was determined that from 1985, individuals in Australia who had perpetrated terrorist attacks began to be identified in open sources. While the Global Terrorism Database identifies attacks dating back to 1970, with us able to identify attacks reported in open sources (i.e. the Sydney Yugoslav General Trade and Tourist Agency bombing; Sydney Hilton bombing; Sydney Turkish Consul-General Assassination; Sydney Israeli Consulate and Hakoah Club bombings), reporting rarely involved the identification of specific suspects or individuals charged. There is also a large amount of speculation associated with these early terrorist attacks and they were often attributed to specific organisations, such as the Palestine Liberation Organization, Black September (a Palestinian militant organization) or Croatian nationalists. There is not space here to go into details about these early attacks or groups (see Crown, 1986; Harris-Hogan, 2017).
5. Over time, newer cases will be added to PIRA as case details and source materials become available.
6. We use the same definition for inclusion as adopted in the US PIRUS data and used by Jensen and LaFree (see Jensen et al., 2016). For an individual to be include, there needs to be a clear connection in the sources between behaviours and ideological motives as evidence through acts and reporting in those sources. For example, there needs to be a pattern of behaviour evident and connections to an ideology through engagement with extremist material and or individuals.
7. Due to space limitations, we have not drawn on all 122 variables, but selected those that accord to variables acknowledge in the specific literature referenced in this paper.
8. When dealing with missing data, imputation methods are not immediately needed when only reporting descriptives. It is acknowledged by the authors that inferential statistics were not conducted on the data and reported statistics are not linked to any direct statistical correlations. Conclusively, imputation methods were not conducted to deal with missing data and all missing data were excluded from analysis. Full details on the missing data are available in the Supplementary file provided along with this paper.
9. In PIRA, a clique is defined as a close-knit (informal), insular, and exclusive group of people containing at least two individuals. A clique can exist within a larger group – e.g. such as a clique of friends that plans a terrorist attack. This is the same definition as adopted in PIRUS.
10. This individual had not been charged for a terrorist-related offence, but had been charged for the commission of criminal offences and who was an active member of white supremacist/far-right groups.
11. We note educational attainment will be low for the sample, given the cap on age up to 19 years old. However, as we note many in our sample disengaged from school as a result of their radicalisation and up to their point of arrest or death.
12. In PIRA, none of these individuals were coded as having a mental illness based purely on speculation. A mental health condition was mentioned in the sources as having being diagnosed by a clinician, and in which it was observed by behaviours in the sources as indicating mental health problems, and also observations by a third party. If there is no confirmed evidence across multiple sources then we do not code for mental health problems. We have used the same mental health variable as coded for, defined, and utilised in the US PIRUS data and that has also been drawn upon in publications using PIRUS (e.g. LaFree et al., 2018).
13. Online social media is defined within the PIRA dataset as any form of electronic communication through which users create online communities to share information, ideas, personal messages, and other content, such as videos and images. This variable is distinct from the use of the Internet in radicalization in that it emphasizes online user-to-user communication, rather than passively viewing content hosted by an online domain.
14. Another factor to be taken into account is these data captured the relationship with all family members, such as if the individual was close with his sister, but not his father. This was still coded and considered a close relationship within their family. Missing such granularity is a limitation with the study design.

15. It is reported that both Sameh Bayda and Alo-Bridget Namoa have renounced their extremist beliefs and state they are no longer Muslim, with them becoming practising Christians (see Cortis, 2018).
16. Well-known' infers the individual is known to the public and is known to have engaged with other known extremists, and/or has exhibited extremist violence or terrorist-related behaviour.
17. In some instances, these connections were detected due to the imposition of orders restricting youth in our sample from contact with specific individuals that are considered radicalised, or in the instance the individual had a co-offender, but they were not named due their age. These associations were also counted.

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