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# **Age Effects on Juvenile Homicide Perpetration**

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## **Abstract**

### *Purpose*

In order to address a notable gap in the research literature, the present study examined age-related differences in juvenile homicide perpetration.

### *Methodology*

Data on 150 juvenile homicide offenders and their offences was derived from material available within the public domain, including media reports, case studies, court reports and previously published studies. Comparisons were then made between those aged 14 and under (N = 63) and those aged 14-17 (N = 87) across a range of offender, victim and offence-related variables.

### *Findings*

There were no significant differences between the child (U-14) and adolescent (14-17) offender samples on any of the measured variables. The two groups had similar backgrounds, selected similar types of victims, had comparable breakdowns of different types of victim-offender relationship and had similar patterns of weapon use.

### *Research Implications and Limitations*

The fact that the two groups did not differ significantly has notable implications in practical and applied domains. By identifying risk factors for juvenile homicide perpetration, findings open up a range of possibilities for identification, investigation and intervention. In addition, findings might inform the development of offender treatment and rehabilitation programmes. Key limitations relate to the quality and quantity of data employed. Ways of remedying these weaknesses in future research are addressed.

### *Originality/Value*

This is the first study to directly compare child and adolescent perpetrators of homicide over a broad range of offender, victim and offence attributes.

**Keywords:**

Juvenile Homicide; Child Murderers; Age Effects; Offender Background; Offence

Characteristics

## Introduction

A considerable body of research has explored the phenomenon of homicides committed by those under the age of 18 (often referred to as ‘juveniles’). Empirical patterns have been established in relation to: the background characteristics of juvenile homicide offenders (see, for example, Gerard, Jackson, Chou, Whitfield & Browne, 2014, for a summary); different types of and varieties of juvenile homicides (c.f. Shumaker and Prinz, 2000); the characteristics of victims of juvenile homicide (e.g. Bailey, 1996; Rodway, Norrington-Moore, While, Hunt, Flynn, Swinson, Roscoe, Appleby & Shaw, 2011); weapon use and preferences in juvenile homicides (Carcach, 1997; Rodway et al, 2011); gender differences in the perpetration of juvenile homicides (e.g. Heide & Sellers, 2014) and gender/age interactions in juvenile homicide (Heide, Solomon, Sellers & Chan, 2011). As Gerard et al. (2014) demonstrate in their extensive review of the literature on youths who kill, studies have helped to elucidate the phenomenon of juvenile homicide, shedding light on the fundamental characteristics of different aspects of the offence.

However, research has been heavily biased towards male adolescent (teenage) homicide perpetrators and their offences (Heide, 2003). Few studies have included female perpetrators of juvenile homicide in their considerations (Heide et al., 2011). Further; relatively little research has been conducted into children (i.e. those under 14 years of age) who kill – rather, the literature on these offenders remains largely restricted to case studies or case reports of isolated incidents, with a lack of uniformity in the methods by which investigators have collected and reported information and observations about participants (Sellers & Heide, 2012), and has been primarily descriptive in nature (Heide, 2003). Finally, studies comparing sub-sets of juvenile homicide offenders across a range of different variables and attributes remain, at present, sparse (Heide & Sellers, 2014).

The present study consequently considered age-related differences in juvenile-perpetrated homicide, examining variations in offender, victim and offence characteristics in the crimes committed by male and female homicide perpetrators under 14 years of age and those aged between 14 and 17.

## **Background**

Whilst juvenile homicide (particularly child homicide) is generally perceived to be a rare occurrence, figures suggest that it is more common-place than many would expect (D’Cruze, Walklate & Pegg, 2006).

In England and Wales the rate of homicide perpetrated by individuals under 18 years of age is approximately 0.1 in 100,000, compared to an overall homicide rate of 1.4 in 100,000 (Rodway et al., 2011). In the U.S. the equivalent rate is around 3 per 100,00 juveniles, totalling an estimated 840 cases per year (Puzzanchera, 2013).

In terms of juvenile homicide as a proportion of all homicides:

- In England and Wales the juvenile homicide rate is around 6% (Rodway et al., 2011)
- In the U.S. the juvenile homicide rate is around 8% (Puzzanchera, 2013)
- In Canada the juvenile homicide rate is around 12% (Dauvergne, 2007)
- In Finland, the juvenile homicide rate is around 8% (Hagelstam & Häkkänen, 2006)

Shumaker and McKee (2001) discuss how the phenomenon of homicide perpetrated by juveniles represents a major concern for society, for a variety of reasons. In particular, it challenges long-standing conceptions of childhood and adolescence, and creates serious dilemmas for criminal and juvenile justice systems (Shumaker & McKee, 2001).

A substantial body of research has examined the phenomenon of young people who kill. A literature search conducted by Gerard et al. (2014) as part of a meta-analysis yielded 12,717 hits of papers published between 1989 and 2012.

The literature reveals that children and adolescents who murder share a constellation of psychological, cognitive, neuropsychiatric, educational and family system disturbances (Bailey, 1996). These are considered in more detail in the following sub-sections.

### *Offender Demographics and Background Characteristics in Juvenile Homicides*

Across samples and studies it has been demonstrated that those who perpetrate juvenile homicide are far more likely to be male than female (e.g. Heide, 2003; Gerard et al., 2014). In some of the most recent figures available on juvenile arrest rates for homicide, Puzzanchera (2013) reports that of all juveniles charged with homicide in the U.S. in 2011 only 9% were female. In the same report, Puzzanchera (2013) found that broadly similar proportions of white and black juveniles were arrested for murder in the U.S. (45% and 54%, respectively)<sup>1</sup>.

The bulk of the research examining the background characteristics of juvenile homicide perpetrators has drawn comparisons between offender samples and equivalent youth populations. Busch et al. (1990), for example, found a violent family history, a history of physical abuse, learning difficulties, severe educational difficulties, alcohol abuse, drug abuse and gang membership to be significantly more prevalent in juvenile homicide offenders (aged 10-17; N = 71) than in a comparative sample of the same age.

Bailey (1996) compared juvenile homicide offenders with other juvenile offending groups seen by Adolescent Forensic Services, and found that – compared with all other offender groups referred to the service – homicide perpetrators had spent significantly more

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<sup>1</sup> NB: Most juveniles of Hispanic ethnicity were included in the white racial category in this study.

time in residential care, demonstrated more disruptive behaviour within school and had higher rates of truancy. Rates of substance abuse, and particularly alcohol abuse, were high for juvenile homicide offenders (Bailey, 1996). Hill-Smith, Hugo, Hughes, Fonagy, and Hartman (2002) identified several risk factors that differentiated juvenile homicide offenders from other juvenile delinquents. Those convicted of homicide were more likely to have a family history of criminality, were likely to have suffered emotional and/or physical abuse, and had generally had more extensive educational and school problems.

A comparison between homicidal juveniles and matched offending control groups conducted by Zagar, Busch, Grove, Hughes, and Arbit (2009) found arrests for homicide to be associated with a violent family history, alcohol abuse and neurological deficits/lower executive functioning. However, they were otherwise similar to their non-homicidal counterparts on many background factors.

In a detailed study of 363 juvenile homicide offenders from England and Wales, Rodway et al. (2011), examined the prevalence of mental disorder and alcohol/drug misuse across the sample, alongside background and family history factors. They found that 20% of the sample had a lifetime diagnosis of some form of mental disorder and a further 8% had characteristics suggestive of an emerging personality disorder. Around a quarter of perpetrators had a history of alcohol misuse and almost half had a history of drug misuse. In terms of family history: 41% had a family history of mental illness; 27% had a family history of alcohol and/or drug misuse; 27% had a family history of criminality, and; 28% had a history of some form of abuse. In relation to education and behavioural history variables: 45% had had educational difficulties, and 23% were classed as having special educational needs. 73% were reported to have had disciplinary/behavioural problems, including 49% having been excluded from school. Further, 8% had a history of perpetrating bullying, and a quarter had been victims of bullying at some point in their past.



Only a few authors have considered gang-membership in relation to juvenile homicide perpetration. Shumaker & Prinz (2000) suggest that gang-related activity is likely to play a role in involvement in juvenile homicide; however, there are presently no detailed figures that indicate what exactly that role might be.

Carach (1997) showed that youths who commit homicide do not differ significantly from adults in terms of previous criminal records or previous involvement in violent crime. Around a third of the sample included in her study had backgrounds featuring a previous offending history.

In one of the most detailed studies of juvenile homicide perpetrators to have been conducted, Loeber & Farrington (2011) conducted a longitudinal analysis of those who committed homicide in their youth. The study had followed these individuals from childhood to early adulthood (as part of a general study of youth), and so was able to examine a range of different social, environmental and developmental factors that differentiated homicide perpetrators from other offending and non-offending youth groups.

The risk factors that they found to be associated with homicide included the residential neighbourhood in which the offender lived, their having a low socioeconomic status, and being born to a young and unemployed mother. These were all found to be more important in predicting youth homicide involvement than individual risk factors. In terms of behavioural risk factors, suspension from school, disruptive behaviour, and positive attitudes towards delinquency strongly predicted violence.

Factors that were not found to be significant predictors of youth violence included parental factors, peer relationships, low school achievement, and psychopathic characteristics.

In her review of the literature, Heide (1997) identified 15 primary factors associated with juvenile homicide perpetration. These belonged to one of five broad categories: situational factors; situation; societal influences; resource availability; and personality characteristics. In a later review, Heide (2003) acknowledged a consensus across the literature that the ‘typical’ juvenile homicide offender is male, unlikely to suffer from psychosis or be mentally ill, shows low achievement at school, has witnessed or experienced violence at home, has a prior arrest record, and is likely to use and/or abuse substances (i.e., drugs and alcohol).

#### *Victim Demographics in Juvenile Homicides*

There are few statistics available on the typical demographic characteristics of victims of juvenile homicide within the empirical literature. Rodway et al. (2011) provide some basic information on the ages and genders of the victims of their sample of juvenile homicide offenders; the median age of victims killed by those aged 16 or 17 was 22.5 years, and 75% of these were male. The median age of victims killed by those aged 15 and under was 28 years, and 87% of these were male. Differences between the two perpetrator age groups were statistically significant. Overall, the majority (84%) of victims were male and were – in general – older than the offenders.

In Bailey’s (1996) case analysis of adolescent homicide perpetrators, of the 22 victims half were male and half were female. However, the gender breakdowns differed notably as a function of victim age, and there were reported to relate to the contextual backdrop of the crime. All of the victims who were under 10 years of age were female. Those juveniles who killed these young girls reportedly chose these victims on the basis of their (relative) physical weakness and the ease with which they could be led away/controlled (Bailey, 1996). All of the victims aged between 11 and 20 were male, and were known to the perpetrators through

school or social settings. The mixed gender group of 21 to 40 year old victims were killed during the commission of a robbery, as a result of gang-related activities, or in relation to a domestic violence incident. The victims aged between 41 and 60 were allegedly killed either for making an unwanted sexual advance on the perpetrator, or as result of an argument stemming from mutually-agreed activity between the victim and perpetrator. Finally, all victims aged 60 or over were female, with their deaths occurring during the commission of a robbery or some other crime.

### *Victim-Offender Relationships in Juvenile Homicides*

There is somewhat more detailed data available in the literature on victim-offender relationships in juvenile homicides. In Bailey's (1996) case study of 20 juvenile homicide perpetrators from England and Wales, 19 of the 22 victims were known to their perpetrators and four of these were family members. In a more recent study conducted by Rodway et al. (2011), which also examined juvenile homicide cases in England and Wales, almost half of the perpetrators (46%) killed an acquaintance and 13% killed a family member. In 39% of the cases the victim and offender were strangers.

Carcach (1997) examined the proportional breakdowns of different classes of victim-offender relations for older (15 to 17 year old) and younger (10 to 14 year old) juvenile homicide perpetrators. She found that broadly similar numbers of the two groups killed intimate partners (2-5%), parents or step-parents (8-10%), other family members (2-5%) or those with 'other' relationship classifications (2-5%). Where the two groups differed notably was in terms of the proportions of 'acquaintances' and 'strangers' that they killed; younger perpetrators were significantly more likely to kill strangers than older perpetrators (60% vs. 35%), and older perpetrators were significantly more likely to kill acquaintances (40% vs. 25%).

*Methods of Killing in Juvenile Homicides*

Research has suggested that the most common methods of killing in single-perpetrator, single-victim homicide tend to be manual (e.g. beating or strangling) followed by stabbing and the use of a blunt instrument, with average frequencies of around 47%, 38% and 22%, respectively (Salfati, 2003).

Carcach (1997) suggested that the frequencies of different methods of killing were likely to be substantially different for younger offenders, for a variety of reasons including availability and physical maturity/ability. In her study of youth homicide in Australia, she found that young offenders are most likely to use sharp or blunt instruments, followed by assault (e.g. with fists and/or feet) when they can, and that they make less use of firearms than their adult counterparts. Bailey (1996) reports similar findings for a sample from the U.K. In findings on juvenile homicides committed in England and Wales reported by Rodway et al. (2011), 40% of perpetrators killed their victims with a sharp instrument, 25% with hitting or kicking, and 14% with a blunt instrument. Only 3% used a firearm in the perpetration of their offence.

Heide et al. (2011) examined age and gender differences on method of killing in juvenile homicide. They found that offenders across all age groups were most likely to use guns, followed by knives. With specific reference to age and gender effects, they showed that boys and teenagers were significantly more likely to use guns than girls or younger children, and that – overall – males tended to use firearms to kill their victims more frequently than females. Conversely, females were significantly more likely to use sharp instruments than their male counterparts; a pattern that held across age groups.

*Current Knowledge on Juvenile Homicide Offenders: Values and Limitations*

As Bailey (1996) discusses in detail, the literature suggests that children and adolescents who murder share a constellation of psychological, cognitive, neuropsychiatric, educational and family system disturbances. This, as she notes, has notable implications for the development of appropriate methods of treatment and the deployment of different types of interventions. These possibilities are examined in detail by Sellers & Heide (2012).

Identification of the characteristics of different sub-groups of juvenile homicide offenders might also, as Shumaker & McKee (2001) suggest, aid in the detection of, and preventative therapeutic intervention with, juveniles at high risk of perpetrating this offence. A number of authors (e.g. Eigen, 1981; Shumaker & Prinz, 2000; Lindberg et al., 2009; Rodway et al., 2011) have explored the possibility of delineating risk factors for juvenile homicide and utilising these in the development of intervention and prevention strategies. Findings presented by DeLisi, Piquero & Cardwell (2014) in their longitudinal analysis of the backgrounds and development of youths who kill suggest that this is likely to be both a viable and a productive endeavour.

However, before our knowledge and understanding of juvenile homicide is sufficient to develop appropriate and robust risk pro-formas and a range of reliable and effective intervention strategies, there are a range of issues that need resolving and a number of matters that require clarification. In addition, there are a number of limitations and shortfalls of existing empirical data on these offences and offenders that need to be addressed.

The first of these is the fundamental issue of a lack of universal definition of 'juvenile' and the failure to adhere to commonly-agreed age classifications in the study of juvenile homicide. Gerard et al. (2014) discuss in detail the inconsistent definitions of 'juvenile' used within the empirical literature, explaining that terms such as 'juvenile' and 'youth' tend to be used interchangeably; in some instances these terms refer to all individuals

under the age of 18, while in others they only refer to those aged 14 to 18 (Gerard et al., 2014). What age an individual needs to be in order to be classified as a child has also proven problematic. Heide & Sellers (2014) suggest this is because terms such as pre-adolescent or child generally have no definite ages attached to them. Consequently, different studies have used a range of different age grouping strategies and, as such, it is difficult to make comparisons or draw any reliable conclusions from the data available and, thus, to assimilate any comprehensive descriptions of what is typical in 'child' or 'adolescent' homicides.

A second problem with existing research into juvenile homicide is the lack of standardised methodologies or research paradigms, which makes it difficult to make accurate generalisations (Gerard et al., 2014). As Heide (2003) discusses, findings in this research area are fraught with methodological problems, including an over-reliance on case studies and samples drawn from psychiatric populations referred for assessment or treatment, as well as a lack of comparison groups for use in validating findings.

Case studies have gained favour in research juvenile homicide research, because they allow in-depth analyses of the backgrounds of the perpetrators of such crimes as well as enabling the effectiveness of subsequent interventions and treatments to be assessed. However, as Heide (2003) points out: the conclusions drawn from such case analyses are not necessarily typical or representative of the full population of juvenile murderers. Thus, whilst interesting and suggestive, they cannot provide us with precise explanations of why young people kill (Heide, 2003).

However, getting data on larger samples of juvenile homicide offenders is difficult, and – consequently – most studies of juvenile homicide have necessarily utilised small samples (Heide et al., 2012). This, as Shumaker & McKee (2001) discuss, cannot fail to cast limits on the likely external validity of any findings. In essence, the results that these studies have produced can only be really considered – at best – as descriptive (Heide, 2003).

As Shumaker & McKee (2001) point out, then; many of the methodological limitations of studies into juvenile homicide can be attributed to the continuing sources of difficulty in terms of acquiring larger samples, due to the infrequency of this crime, which represent the juvenile homicide offending sample as a whole. What is therefore needed is research employing larger, multi-national samples (Shumaker & McKee, 2001).

A final limitation of prior research into juvenile homicide that is of particular relevance to the present study is the fact that most of it has only considered adolescent male offenders (Heide & Sellers, 2014). By looking at empirical patterns in the crimes and backgrounds of only those in one particular section of the total age-range encompassed by the term 'juvenile', important developmental differences may be ignored (Shumaker & McKee, 2001).

As Heide & Sellers (2011) discuss, the literature on young children who kill is especially limited, being confined primarily to case studies, often conducted within a clinical setting and on psychiatric populations. This, the authors note, is a somewhat surprising omission, given that clinical studies have long suggested that younger children who kill differ from adolescent killers (see, for example; Bender & Curran, 1940). As Heide & Sellers (2014) discuss, developmental differences are likely to be important in understanding juveniles' involvement in homicide. They suggest that younger children will not typically understand the irreversibility and permanence of death, that they are more likely than older teens to act impulsively, and that they might easily be influenced to engage in homicidal behavior by immoral, unstable, or mentally ill parents (Heide & Sellers, 2014). They hypothesise that when young people kill, severe pathology and/or overwhelming internal conflict are likely to be present, whereas adolescent homicidal behaviour is more likely to manifest in response to situational demands and environmental factors.

In one of the few studies to examine potential variations between younger and older juvenile homicide offenders, Shumaker and Prinz (2000) compared case reports drawn from several publications in order to identify any offender or offence factors that might differentiate between the two. They found that younger juvenile homicide offenders were more likely to have had negative relationships with male caregivers, to have histories of lying, fire setting, and engaging in cruelty to other children, and to have drowned or set fire to their victims. Older JHOs were more likely to have had unhealthy sexual experiences, to have histories of truancy and ruminating about murder, and to have used a gun in the commission of their offence. Overall, however, Shumaker & Prinz (2000) found little evidence to support the existence of different etiologies between child and adolescent homicide perpetrators. They suggest that, despite their differences, both share similarities in terms of background characteristics, such as domestic violence and abuse, poor parenting and instability.

Whilst the study of Shumaker & Prinz (2000) broke new ground in terms of hinting at the possibility of age-related differences in the perpetration of juvenile homicide, their study centred around a review of the literature and case comparisons drawn between just 11 pre-teens and 28 adolescents. Heide and Sellers (2014) argue that this is not a large enough sample to enable the derivation of any meaningful patterns. They investigated age differences between younger (aged 6–12 years) and older (aged 13–17 years) females arrested for murder in the United States between 1976 to 2007 (N = 3,556). They found significant differences between the two groups in terms of victim age, victim gender, victim–offender relationship, murder weapon, offender count, and homicide circumstance. Pre-teens were significantly more likely than their teen counterparts to kill victims between one and 12 years old, female victims, and siblings and family members other than parents or step-parents. They were also more likely to use personal weapons, fire and other means (drowning, explosives), and to be involved in conflict-related homicides. Teenage girls were significantly more likely to kill



victims aged 18–24, male victims, and strangers. They significantly more frequently used guns, operated with accomplices, and killed during the commission of another crime (Heide & Sellers, 2014).

In the only study to explore age and gender interactions in juvenile homicide, Heide et al. (2011) examined whether gender differences identified within the literature held when the effect of gender age was controlled for. They found that victim age, victim gender, victim-offender relationship, weapon use and crime circumstances all remained when offender age was taken into account. In terms of age-specific variations observed in the sample; younger boys, relative to older boys, were significantly more likely to kill children below the age of 6, to kill female victims, and to kill family members.

However, the data they employed was limited to basic offender, victim, and incident-related variables. Offender background or history factors were not included. They concluded their study by highlighting the need for more in-depth research examining age (and gender) differences in family history, psychiatric, psychological, and neurological data on juvenile homicide offenders (Heide et al., 2011).

Gerard et al. (2014) also exult the potential value of more detailed analyses of the potential risk factors that differentiate younger and older juvenile homicide perpetrators. This, they propose, would not only assist with identifying children at risk, but would help inform the development of prevention strategies. Potential avenues of prevention might be identified by better understanding the precursors and processes inherent to such offences, and developmental trajectories that underlie these (Shumaker & Prinz, 2000). Moreover, the ability to reliably distinguish between children and adolescents who kill, and of understanding how and in what important ways they differ, is of considerable import in designing treatment regimes and offender rehabilitation programmes (Heide, 2003). Thus; further research into age effects on juvenile homicide perpetration is evidently needed.

## **The Present Study**

To surmise; very little research has been conducted which has explored variations between homicides committed by children and adolescents. Further, no studies have directly compared child and adolescent homicide perpetrators across a range of offender attributes and offence features. The present study sought to remedy these shortfalls by addressing directly the question of whether there are any age-related differences in the perpetration of juvenile homicide using a large, multi-national sample.

## **Method**

### *Sample:*

The present sample used published, publicly-available accounts of juvenile homicide incidents in order to derive a dataset for exploring age-related differences in offender, victim and offence characteristics. These included media articles, court reports and published case studies. In all instances, material and data was verified between multiple sources. Any cases where sufficient amounts of information were available to classify offender demographic, background and history attributes, victim demographics and characteristics, victim-offender relationship and method of killing, and where this information could be corroborated, were included in the sample.

There were a numerous reasons for utilising such materials for this empirical analysis. Firstly, a large sample was required, and this methodology offered a means of obtaining this. The difficulties of obtaining detailed data on juvenile homicide offenders and offences have been noted by many (c.f. Shumaker & McKee, 2001; Heide & Sellers, 2014). For example; as Salfati (2003) discusses, files and case reports on young offenders are difficult to access due to restrictions in place to both protect them and to ensure their anonymity. The approach taken here allowed the problems associated with such restrictions to be circumvented.

Secondly, we wanted variety in the sources of the materials used; we did not want to rely on cases drawn from specific populations (such as psychiatric samples), and wanted to include cases from different parts of the world, in order to provide a more realistic portrayal of what might be 'typical' in juvenile homicide by controlling for potential environmental factors or influences.

Only cases that involved a single perpetrator and a single victim were included in the study population. Following the recommendations of Salfati (2003), all cases involved a victim who died due to the assault, in order to ensure that the offender's intention of using extreme force was taken into account and so that outside forces such as the emergency services did not influence the difference between legal definitions and attempted homicides and homicides (see Salfati, 2003; for further discussion of these issues).

The final sample consisted of 150 cases of juvenile-perpetrated homicide. Of these, 63 were committed by children under 14 years of age, and 87 were committed by adolescents aged between 14 and 17.

### *Procedure*

Cases files, court reports and media accounts were used to derive information on a range of variables using a content analysis method. Offender demographic information<sup>2</sup>, background characteristics and offender history variables were coded, along with victim demographics, different classes of victim-offender relationship, and the method of killing/weapon used. All variables were coded dichotomously, with 1 indicating presence and 0 indicating absence. In instances where data was insufficient or missing, variables were coded with missing values.

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<sup>2</sup> The socio-economic (SES) classification assigned to each offender was based on the occupation of their main caregiver(s).

Data for all cases was coded twice, by independent raters. All coefficients of inter-rater agreement (Pearson  $r$ ) were above 0.8 ( $p < 0.01$ ) for each of the variables, thus indicating good inter-rater reliability across the board (Busch et al., 1990).

Chi-square analysis and Fisher's Exact Test were used to compare differences in frequencies between the child and adolescent age-groups across the full range of variables. These were the most appropriate measures, given the nature of the data (c.f Lindberg et al., 2009; Heide & Sellers, 2014).

A logistic regression was then employed in order to determine whether certain variables distinguished adolescent and child offender, following the methodology detailed by Heide & Sellers (2014). The variables to be used in the regression analysis were decided on the basis of previous findings and/or hypotheses drawn from the existing literature. These were: Family Crime History; Offender Crime History; Drugs/Alcohol Abuse; Psychiatric History; Victim – Female; Victim – Known; and, Victim – Stranger.

## Results

Offender characteristics, background and history attributes are presented below in Table 1. Frequencies are provided for each of the two age groups under consideration, as well as for the sample as a whole.

Overall, the majority of the sample, including both child and adolescent offenders, was male (82.7%) and white (64%). They were more likely to come from low socio-economic population groups (67.3%), than middle (24.7%) or high (5.3%) SES groups. Roughly equal proportions of all juvenile offenders had parents who were married (35.3%) and divorced (32.7%); these were the highest frequency family background groups. The majority of the sample had biological siblings (52%). Relatively few offenders had any noted history of previous abuse, be it psychological, physical or sexual.

Table 1 Here

Offenders commonly had a history of previous behavioural and psychological problems (68% and 51.3%, respectively). 19.3% had a psychiatric history and 22% had been taking psychiatric medications prior to committing their crime. 16.7% had previously attempted suicide. 32.7% had a criminal record, and 57.3% had histories of previous violence. 25.3% had one or more family members with a criminal history, and 28% had a history of gang involvement. Many (46.7%) had a history of truancy, and a notable proportion (20.7%) had allegedly been bullied in the past. Only 33.3% had a history of drug or alcohol abuse.

As can be seen from Table 1, generally-speaking the proportional breakdowns of offenders falling into each of the different demographic classification categories were very similar. In addition, similar proportions of child and adolescent perpetrators had the different history variables present in their backgrounds. Chi-square analyses revealed no significant differences between the child and adolescent groups on any of the offender background measures.

Victim characteristics and demographics for the crimes committed by child and adolescent offenders, as well as for the sample as a whole, are presented below in Table 2. Victim ages were spread fairly evenly. The majority (70.7%) were white, and were either from low or medium SES groups (51.3% and 44%, respectively). Again, the proportional breakdowns for the two age groups were broadly similar. There was a slight tendency for child offenders to kill male victims and adolescent offenders to kill female victims, although the groups did not differ significantly in this respect. Neither did they differ in terms of the different ethnicity classifications, although a higher proportion of the adolescent offenders were white in comparison to the child offenders. Indeed; there were no significant differences

in any victim characteristic or demographic variables between the child and adolescent perpetrator groups.

Table 2 Here

Further; there were no significant differences between the children and adolescents in terms of the frequencies of different classes of victim-offender relationship (Table 3).

Table 3 Here

Victims were most likely to be known to offenders (37.3%) or family members (36.7%). Only 22.7% were strangers to the offender, a figure which contrasts to what has previously been suggested in the empirical literature (c.f. Carcach, 1997). No significant differences were found in terms of victim-offender relationship between the groups.

The frequencies with which different methods were employed in the homicides committed by child and adolescent offenders are presented in Table 4, alongside the totals for the sample as a whole.

Table 4 Here

There were no significant differences between the groups in terms of the frequencies with which any of the different methods of killing were employed. Overall, shooting was the most common method of killing (44.7%), followed by stabbing (32%) and bludgeoning (30%). The methods least likely to be employed were suffocation (7.3%) or ligature strangulation (6%).

Multivariate analysis yielded no statistically significant findings with regard to which variables best predict younger juvenile homicide offenders (i.e., those under 14 years of age) as the outcome (see Table 5).

As such, neither a criminal history nor a family crime history, drug/alcohol abuse or a psychiatric history, or any specific victim characteristics could be used to reliably differentiate between child and adolescent offenders.

Table 5 Here

## **Discussion**

The findings presented above provide a profile of the typical characteristics of juvenile homicides, both those committed by children and by adolescents. In line with much of the previous literature (c.f. Gerard et al., 2014), a picture emerges of perpetrators from a certain type of background, with a history of behavioural problems, psychological/psychiatric issues, and a range of previous deviant behavioural indicators.

Although differences were observable between the two age groups under consideration, findings did not reach significance on any of the variables measured. Whilst this could be due to the size of the sample employed (Heide, 2003), the sample here was notably larger than those employed in the majority of previous studies. What the results presented here therefore hint at, is the possibility that - contrary to the arguments of Heide (2003), Heide et al. (2011), Heide and Sellers (2014) and others - there are no distinct differences in the background characteristics or victim and crime attributes of child and adolescent homicide perpetrators. This accords with the tentative suggestions made by Shumaker and Prinz (2000) on the basis of their case analyses of juvenile homicide offenders; that child and adolescent perpetrators of homicide have similar aetiologies.

If this were indeed the case, then there are notable issues that might potentially need to be addressed in developing the policies and procedures used by practitioners and professionals throughout the criminal justice system and beyond.

As many authors have discussed (e.g. Carcach, 1997; Gerard et al., 2014), a detailed understanding of the complexities underlying the development of juvenile homicide perpetrators and the manifestation of different factors in the commission of juvenile homicides offers a range of practical implications and applications. These include the development of risk assessment tools and associated violence prevention strategies, including targeted intervention strategies. They also include the identification of appropriate treatment options and rehabilitation programmes. At the moment, the treatment systems commonly employed for child and adolescent offenders differ notably, in a variety of ways (see Heide, 2003; for a summary). The present findings suggest that this may not be appropriate; rather, similar strategies are likely to be effective and appropriate for all juvenile homicide offenders.

#### *Limitations and Directions for Future Research*

The derivation of the data utilised in the present study relied on published, publicly-available information on cases of juvenile homicide, and therefore both the quality and quantity of data was heavily dependent upon the level of detailed and accuracy with which cases were reported. This meant that there were certain attributes of offenders and/or offences that could not be included in the considerations made, for example; offenders' scores on different psychiatric assessment scales, or on specific behavioural elements of the crimes. This, certainly, limited the overall breadth and scope of the analyses undertaken. In addition, we recognise that the information included in the analyses presented here might not constitute a wholly accurate summary of the background of the individual's comprising the present



sample. Whilst every possible step was taken to try and minimise the likelihood of inclusion of inaccurate information by corroborating material and verifying between sources, this must also be noted as limitation of the present study.

As discussed previously, the sample utilised here was still relatively small. Only cases for which sufficient information was available and for which details could be corroborated were included in the sample, and – as such – the sample will have been biased towards cases that received larger amounts of media attention and/or which have been more heavily reported and discussed within the public domain. It might well be the cases that different results would be produced by analysis of less-high profile cases. Further research should examine whether this is, in fact, the case.

The present sample was drawn from around the world. This was a deliberate strategy employed to enhance the ecological validity of the study and minimise the potential influence of environment. However, it may be that – as Gerard et al. (2014) suggest – different samples drawn from different countries/contexts might produce substantially different findings.

Only single-offender, single-victim homicides were included in the present sample; it may be of value to examine different types of homicide event in considering age effects on homicide perpetration. It might also be worth exploring the impact of the context within which the homicide occurs (e.g. robbery, sexual assault) and preceding factors (e.g. argument, violation or assault) on age-patterns in juvenile homicide. Future examinations should also explore age-related differences in the commission of different types of juvenile homicide, such as those identified by Bailey (1996). This, as Gerard et al. (2014) discuss, would offer additional information that could assist with intervention and support prior to a case being committed.

Future research should examine in more detail the relationships between age and gender in juvenile homicide. It was not possible to examine these interactions in any detail in

the present study, due to the limited number of female perpetrators included in the sample. However, given that research has suggested that male and female juvenile homicide offenders are likely to differ across a range of attributes, including rates of reported childhood abuse, substance abuse and mental health problems (e.g. Roe-Sepowitz, 2009), and that they are likely to commit crimes targeted against different types of victims in varying ways (Heide et al., 2012), it would certainly be worth exploring whether age has an impact in generating these variations.

Finally; examination of the behaviours that occur in juvenile homicide, and whether these differ as a result of offender age, offender gender, offender background, victim characteristics or victim-offender relationship would be a fruitful endeavour for future research works. It would be interesting to compare how juvenile and adult homicide offenders differ in terms of would be useful of how they commit their crimes (and the background contexts to these events). Such avenues of research exploration should be possible using the types of data and methodologies presented here.

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**Table 1: Offender Characteristics, Background and History in Juvenile Homicides (N = 150)**

	<b>Child Offenders N (%)</b>	<b>Adolescent Offenders N (%)</b>	<b>Juvenile Offenders N (%)</b>
<b>Offender Gender</b>			
Male	55 (87.3)	69 (79.3)	124 (82.7)
Female	8 (12.7)	18 (20.7)	26 (17.3)
<b>Offender Ethnicity</b>			
White	39 (61.9)	57 (65.5)	96 (64.0)
Black	16 (25.4)	17 (19.5)	33 (22.0)
Indian	1 (1.6)	1 (1.1)	2 (1.3)
Asian	3 (4.8)	1 (1.1)	4 (2.6)
Latin-American	3 (4.8)	8 (9.2)	11 (7.3)
Other	1 (1.6)	3 (3.4)	4 (2.6)
<b>Family Situation</b>			
Married Parents	22 (34.9)	31 (35.6)	53 (35.3)
Divorced Parents	21 (33.3)	28 (32.2)	49 (32.7)
Parents Remarried	7 (11.1)	8 (9.1)	15 (10.0)
Adopted	1 (1.6)	6 (6.9)	7 (4.7)
Abandoned By Parents	3 (4.8)	3 (3.4)	6 (4.0)
Live With Other Family	4 (6.3)	8 (9.1)	12 (8.0)
Ran Away From Home	5 (7.9)	3 (3.4)	8 (5.3)
Family Off. History	17 (27.0)	21 (24.1)	38 (25.3)
<b>Siblings</b>			
No Siblings	15 (23.8)	28 (32.1)	43 (28.7)
Biological Siblings	34 (54.0)	44 (51.0)	78 (52.0)
Step-Siblings	9 (14.3)	9 (10.3)	18 (12.0)
Mixed Siblings	5 (7.9)	6 (6.9)	11 (7.3)
<b>Offender SES</b>			
Low	46 (73.0)	55 (63.2)	101 (67.3)
Medium	15 (23.8)	26 (29.9)	37 (24.7)
High	2 (3.2)	6 (6.9)	8 (5.3)
<b>History of Abuse</b>			
Physical	10 (15.9)	5 (5.7)	15 (10.0)
Psychological	4 (6.3)	5 (5.7)	9 (6.0)
Sexual	4 (6.3)	4 (4.6)	8 (5.3)
<b>Other Previous History</b>			
Behavioural Problems	47 (74.6)	55 (63.2)	102 (68.0)
Psychological Problems	30 (47.6)	47 (54.0)	77 (51.3)
Psychiatric History	14 (22.2)	15 (17.2)	29 (19.3)
Psychiatric Medications	12 (19.0)	21 (24.1)	33 (22.0)
Criminal History	18 (28.6)	31 (35.6)	49 (32.7)
Family Crime History	17 (27.0)	21 (24.1)	38 (25.3)
Previous Violence	41 (65.1)	45 (51.7)	86 (57.3)
School Truant	28 (44.4)	42 (48.3)	70 (46.7)
Victim of Bullying	14 (22.2)	17 (19.5)	31 (20.7)
Drug or Alcohol Use	19 (31.1)	31 (36.0)	50 (33.3)
Suicide Attempts	9 (14.3)	16 (18.4)	25 (16.7)
Gang Involvement	14 (22.2)	28 (32.2)	42 (28.0)

**Table 2: Victim Characteristics in Juvenile Homicide Cases (N = 150)**

	<b>Child Offenders N (%)</b>	<b>Adolescent Offenders N (%)</b>	<b>Juvenile Offenders N (%)</b>
<b>Victim Gender</b>			
Male	33 (52.3)	41 (47.1)	74 (49.3)
Female	30 (47.7)	46 (52.9)	76 (50.7)
<b>Victim Age</b>			
Under 14	27 (42.9)	10 (11.5)	37 (24.6)
14-17	5 (7.9)	12 (13.8)	17 (11.3)
18-25	7 (11.1)	11 (12.6)	18 (12.0)
26-35	9 (14.3)	16 (18.4)	25 (16.7)
36-45	4 (6.3)	16 (18.4)	20 (13.3)
46-55	7 (11.1)	13 (14.9)	20 (13.3)
56-65	2 (3.2)	3 (3.4)	5 (3.3)
Over 65	2 (3.2)	6 (6.9)	8 (5.3)
<b>Victim Ethnicity</b>			
White	41 (65.0)	65 (74.7)	106 (70.7)
Black	9 (14.3)	8 (9.2)	17 (11.3)
Indian	2 (3.2)	1 (1.1)	3 (2.0)
Asian	4 (6.3)	3 (3.4)	7 (4.7)
Latin-American	4 (6.3)	4 (4.6)	8 (5.3)
Other	3 (4.8)	6 (6.9)	9 (6.0)
<b>Victim SES</b>			
Low	36 (57.1)	41 (47.1)	77 (51.3)
Medium	25 (39.7)	41 (47.1)	66 (44.0)
High	2 (3.2)	5 (5.7)	7 (4.7)

**Table 3: Victim-Offender Relationships In Juvenile Homicide Cases (N = 150)**

	<b>Child Offenders N (%)</b>	<b>Adolescent Offenders N (%)</b>	<b>Juvenile Offenders N (%)</b>
<b>Family</b>	22 (34.9)	33 (37.9)	55 (36.7)
<b>Intimate</b>	1 (1.6)	3 (3.4)	4 (2.7)
<b>Known</b>	25 (39.7)	31 (35.6)	56 (37.3)
<b>Stranger</b>	14 (22.2)	20 (23.0)	34 (22.7)



**Table 4: Methods of Killing in Cases of Juvenile Homicides (N = 150)**

	<b>Child Offenders N (%)</b>	<b>Adolescent Offenders N (%)</b>	<b>Juvenile Offenders N (%)</b>
<b>Manual Strangulation</b>	8 (12.7)	10 (11.5)	18 (12.0)
<b>Ligature Strangulation</b>	3 (4.8)	6 (6.9)	9 (6.0)
<b>Suffocation</b>	5 (7.9)	6 (6.9)	11 (7.3)
<b>Victim Stabbed</b>	16 (25.4)	32 (36.8)	48 (32.0)
<b>Victim Shot</b>	30 (47.6)	37 (42.5)	67 (44.7)
<b>Victim Beaten</b>	12 (19.0)	27 (31.0)	39 (26.0)
<b>Victim Bludgeoned</b>	21 (33.3)	24 (27.6)	45 (30.0)
<b>Victim Throat Cut</b>	11 (17.5)	12 (13.8)	23 (15.3)

**Table 5: Logistic regression model by offender age group**

<b>Youngest Group (Under 14 Y.O.A)</b>				
<b>Variables</b>	<b>b</b>	<b>SE</b>	<b>Odds Ratio</b>	<b>95% CI</b>
<b>Family Crime History</b>	-0.279	0.457	0.757	0.309-1.852
<b>Offender Crime History</b>	0.323	0.480	1.381	0.539-3.540
<b>Drugs/Alcohol Abuse</b>	-0.011	0.434	0.989	0.422-2.316
<b>Psychiatric History</b>	-0.048	0.489	0.953	0.365-2.486
<b>Victim – Female</b>	0.161	0.382	1.175	0.556-2.483
<b>Victim – Known</b>	-0.068	0.415	0.934	0.414-2.108
<b>Victim – Stranger</b>	0.240	0.540	1.271	0.441-3.662
<b>-2 log-likelihood</b>	169.680			
<b>Model <math>\chi^2</math></b>	6.380			
<b>Nagelkerke <math>\chi^2</math></b>	0.065			
<b>N</b>	150			