Antisocial cognitions, emotions and violence in forensic youth populations

Thesis submitted for the degree of

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by

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Declaration

I hereby declare that this thesis and its contents are my own original work. It has been written and submitted as fulfilment of the Doctorate of Psychology degree. I also confirm that this thesis and its contents have not been submitted for any other degree or academic qualification.

Antisocial cognitions, emotions and violence in forensic youth populations

Thesis Abstract

Section 1: Literature Review

Literature on antisocial attitudes and violence in young people in a forensic setting was reviewed. Seven studies were reviewed, five of which supported the view that violent young people are more likely to hold antisocial attitudes compared to their non-violent peers. Homogeneous and heterogeneous attitudes are explored. A critique of the review is provided including limitations, implications and suggestions for future research.

Section 2: Research Report

Comparisons of the experience of emotions using the Strengths and Difficulties Questionnaire (SDQ) and antisocial cognitions using the How I Think Questionnaire (HIT) between violent (n = 74) and non-violent (n = 22) young people within a secure training centre were explored. Quantitative analyses indicated that the violent group did not experience significantly more emotions or cognitive distortions than the non-violent group. Results are discussed in relation to previous research. Clinical implications are considered, as well as possibilities for future research in light of the research limitations.

Section 3: Service Evaluation

An evaluation of the effectiveness of the Forward Thinking® 'What Got Me Here?' group intervention at a secure training centre for young people with a sample of $N = 18$. Non-parametric analysis of pre and post intervention outcome changes on the University Rhode Island Change Assessment Scale (URICA), and the What Got Me Here Facilitator Assessment of Participant indicated significant improvements on overall readiness to change, contemplation and action indices on the URICA, and on all indices in the facilitator assessment. Recommendations, future opportunities as well as a critique of the study is provided.

Section 4: Critical Appraisal

A critique of the research methodology and limitations, and setting and role challenges, is discussed. A reflection of personal and professional learning is explored.

Acknowledgements

This is for the young people who participated in the research. Despite challenges of their own, they were willing to contribute to something which had the potential to help other young people. And for my family who have consistently supported and encouraged me. To my husband, my son and another little blessing to come. You are my inspiration. I hope that I have made you proud.

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Section 3: Service Evaluation

Executive Summary 435

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Section 1: Literature review

List of Abbreviations

AAIS	The Adolescent Alcohol Involvement Scale
AAS	Antisocial Attitudes Scale
ABC	Antisocial Behaviour Checklist
ACE	Adverse Childhood Experiences
APSD	Antisocial Process Screening Device
AQ	Aggression Questionnaire
AR	Anomalous Responding
AV	Aggressive/Versatile
BEI	The Bryant Empathy Index
BIS-II	Barratt Impulsivity Scale – II
BPS	The British Psychological Society
CDSR	Cochrane Database of Systematic Reviews
CSEW	Crime Survey for England and Wales
CSS	Criminal Sentiments Scale
CYP	Children and Young People
EI	Emotional Intelligence
GDPR	General Data Protection Regulation
HIT	The How I Think Questionnaire
MANCOVA	Multivariate Analysis of Covariance
MI	Motivational Interviewing
MMAT	The Mixed Methods Appraisal Tool
NA	Non-aggressive
NASHS	National Adolescent Student Health Survey
PsyD	Doctorate of Psychology
PTSD	Post Traumatic Stress Disorder
RAPI	Rutgers Alcohol Problem Index
SD	Standard Deviation
SDQ	The Strengths and Difficulties Questionnaire

SMT	Senior Management Team
SOEQ	Sense of Entitlement Questionnaire
SRD	Self-Reported Delinquency Scale
STAXI	Stait Trait Anger Expression Inventory
STC	Secure Training Centre
URICA	University Rhode Island Change Assessment Scale
YJB	Youth Justice Board
YOSCA-A	The Test of Self-Conscious Affect – Adolescent Version

Section 1:

Literature Review

The relationship between antisocial attitudes and violence in forensic youth populations: a systematic review

Abstract

The aim of the current review was to examine if violent young people in a forensic population were more likely to hold antisocial attitudes compared to non-violent young people. The review also considered any similarities (homogeneous) or variations (heterogeneous) in the types of antisocial attitudes which may increase the likeliness of violence.

An initial scoping search identified a presence of available literature. Key terms were devised in the protocol and used to search five large bibliographic databases, from which 654 papers were found to be relevant. Of these, 103 duplicates were removed. Inclusion and exclusion criteria were applied which resulted in 18 studies which were obtained for full article review. Upon review, 11 articles were excluded based on age of sample, lack of comparison group, psychometric validation or a combination of these reasons. This resulted in seven studies which were quality assessed as adequate and were all included in the current review.

Five out of seven studies supported the view that violent young people, compared to non-violent, are more likely to hold antisocial attitudes. Three studies identified homogenous antisocial attitudes; approval of antisocial behaviour and violence, and anti-authority attitudes. Blaming attitudes were identified across two studies. Heterogeneous attitudes were identified which were different across all studies, and these were self-centred, minimising and mislabelling, assuming the worse, views of injustice, and a sense of entitlement.

Limitations of the review include a lack of a meta-analytic approach, the different definitions of violence, exclusion of qualitative research, and differences in comparison groups which may impact on comparison of studies. Recommendations are made for future research to take these limitations into account, and for exploration of specific attitudes held by violent young people which may have clinical implications for intervention development.

Introduction

Violence has been defined as inflicting physical injury using force, and aggression has been defined as inflicting harm with intent (Blackburn, 1993). Violence, therefore, describes the serious acts of force where extreme harm is a goal. Blackburn (1993) provided examples such as murder, assault and robbery. Low and Day (2017) discussed the common classification of violence as either instrumental or reactive. The former being violence that is committed for an identifiable purpose, and the latter being violence as a result of a reaction to a perceived provocation. The discussion around aggression appears to centre on the idea of intent. Whilst injury may be a result of surgery or dental care, the distinction between these benevolent acts and illegal acts is the intent to cause harm to another (Blackburn, 1993). Whilst there is a distinction between these two terms (Robertson, Daffern, & Bucks, 2015), the literature often puts them together. For instance where researchers have focussed on the relationship between anger with aggression and/or violent behaviour (Chereji, Pintea, & David, 2012). For the purpose of the current literature review, both terms will be used to capture all violent acts which inflict or intend to inflict harm.

Antisocial behaviours are violations of social norms which may cause direct or indirect harm to others, and may include aggressive behaviours (Barriga, Gibbs, Potter, & Liau, 2001). It is what underlies antisocial behaviours, specifically violence, which is of interest within the current review. It has been suggested that our beliefs or cognitions have a role to play in antisocial behaviour (Andrews & Bonta, 2003). Therefore, the development of antisocial attitudes may result in behaviours which are likewise antisocial.

Antisocial attitudes and offending

Since antisocial attitudes play a role in antisocial behaviours, it has been suggested that they are an important criminogenic risk factor (Andrews & Bonta, 2003; Palmer, 2007). One of the earliest studies of male offenders by Yochelson and Samenow (1976) concluded that offenders demonstrated distinctive criminal thinking patterns which included irresponsibility, concrete thinking, a lack of empathy, impulsivity, decision-making deficits and viewing themselves as victims. The study lacked a matched non-offender sample and sampled only those referred to hospital for mental state

assessments, but it did evoke interest in the role of thinking patterns in those who behave antisocially. A meta-analysis by Gendreau, Little, and Goggin (1996) looked at variables such as age, gender, race, criminal history, family, intellectual functioning, socioeconomic status, distress levels, social achievement and criminogenic needs in adult offenders. The results suggested that among criminogenic needs, antisocial attitudes was one of the best predictors of recidivism.

The literature outlines common antisocial attitudes experienced by those who behave antisocially. Barriga, Hawkins, and Camelia (2008) identified denial, blame denial, justification, minimisation, mislabelling, externalisation, self-serving cognitions, rationalisation, and a desire for immediate gratification. Chambers, Eccleston, Day, Ward, and Howells (2008) demonstrated that blaming others, external attributions, minimisation, hostile attributions and mislabelling are cognitions that offenders use to justify offending. Further research has found that those who engage in antisocial behaviours are more likely to hold attitudes which justify or minimise their actions (Landsheer & Hart, 2000). Negative attitudes directed towards authority and the law have also been found to be associated with antisocial behaviours in young offenders and students (Tarry & Emler, 2007).

Antisocial attitudes and violence

There is some evidence to support the view that antisocial attitudes play a role in violence. For instance, adults who have committed violence demonstrate significantly stronger antisocial attitudes compared to those who have not (Visu-Petra, Borlean, Chendran, & Bus, 2008). A meta-analysis by Chereji, Pintea, and David (2012) with a majority adult violent offender population, analysed whether there was a relationship between anger and violence, and also cognitive distortions and violence. The results indicated that there was a strong relationship between cognitive distortions and violence irrespective of the type of measure used. It has been suggested that it is higher risk violent offenders who demonstrate more ingrained criminal thinking styles than lower risk violent offenders. It suggests that high risk violent offenders rather than lower risk have social cognitions that are different to non-offenders (Gauci & Hollin, 2012). Within youth populations, some studies have shown that aggressive children are more likely to view their aggression positively, expect rewards for aggression and experience enhanced self-esteem when using aggression (Moffitt, 1993; Perry, Perry & Rasmussen, 1986; Schwartz et al., 1998).

When looking at the types of antisocial attitudes which have been linked with violence in adolescents, Dodge, Price, Bachorowski, and Newman (1990) found a significant correlation between hostile attribution and variables including: aggressive conduct disorder; reactive-aggressive behaviour; and the frequency of interpersonal violence. This is a specific area of interest in the current review.

Theories of aggression and violence

Beck (1999) suggested that violence occurs because the individual misinterprets a conflict situation, and then applies it to future situations. Violence takes place because of the individual protecting their threatened or hurt self-image. Beck postulated that violent offenders hold specific schemas against authority, partners and others. Schemas are the way the brain structures information, impacted by previous experience, which affects the way one perceives and interprets situations (DiMaggio, 1997). Examples of these could be: 'fighting back is the only way to maintain one's freedom/pride/security', 'physical force makes others respect you', and 'if you do not get even then people will walk over you'. Hence, Beck highlighted the rigid role of cognitions in violent behaviours.

The Social Information Processing model has been applied to aggressive behaviour in children (Dodge & Crick, 1990). It was suggested that children who behave aggressively perceive, interpret, make decisions and respond to social cues in ways that increase their likelihood of using violence because they readily attribute hostile intent. When presented with ambiguous situations, children may interpret hostile intent based on their historical experiences which become a blueprint for future interpretation. Factors that influence this include peer behaviours (Dodge et al., 2015) and even facial expressions (Hiemstra, De Castro & Thomaes, 2018). It has been suggested that young people are also more likely to attribute hostile intent when presented with hypothetical situations and were more likely to behave aggressively (VanOostrum & Horvath, 1997).

The current systematic review aimed to appraise the existing literature describing antisocial attitudes and whether these are linked to violent behaviour in the forensic youth population. One reason why young people are the focus of the present review is because this is the population the researcher works with. Additionally, whilst there is more emerging research into this population, most of this has been within the adult population to date, and therefore there is value in focussing on this group. It has

been stated that the brain of a young person continues to develop, with the frontal lobe reaching slow maturation between the ages of 20 and 25 years (Kolb & Fantie, 1989). Additionally, it has been suggested (Konrad, Firk, & Uhlhaas, 2013) that the adolescent brain may be underdeveloped in the prefrontal areas and is more developed within the subcortical areas, especially the limbic and reward system, and that this imbalance may account for typical adolescent behaviour patterns, including risk-taking behaviours. Therefore, it is possible that the underdevelopment of the prefrontal cortex may contribute to risk-taking behaviours such as violence and aggression. This provided guidance for the scope of the current search which will be outlined later. The specific aims of the review are:

1. Identify if violent young people in forensic settings are more likely to hold antisocial attitudes compared to those who are non-violent and review consistency of findings across studies
2. Identify homogeneous and heterogeneous attitudes which may increase likelihood of violence

The objectives will be met through the systematic processes used within a review of literature, to scientifically compare and analyse the best quality data for answering specific research questions. This includes identifying relevant research through strategic searching of bibliographic databases; applying inclusion and exclusion criteria; assessing the quality of included research; extracting the relevant data; and synthesising the data for conclusive outcomes.

Methodology

Scoping process

A systematic search of literature relating to antisocial attitudes and violence was carried out using the following electronic databases:

- PsychInfo
- Medline
- Web of Science
- Scopus
- Cochrane Database of Systematic Reviews (CDSR)

Search criteria

This initial scope took place on the 9th December 2016 and the search period was 1970 to 2016. A combination of the following search terms and synonyms were used in each of the electronic databases:

i. Key terms for antisocial cognitions: antisocial cognitions, antisocial attitudes, antisocial beliefs, criminal thinking, criminal sentiments, criminal attitudes, cognitive distortions

ii. Key terms for violence: violence, aggression.

Boolean operators ('and,' 'or,' 'not') were used to broaden and limit searches. Truncation was used where appropriate to ensure robustness of the search. These included:

Antisocial cognitions OR anti*social cognition* OR antisocial attitudes OR anti*social attitude* OR antisocial beliefs OR anti*social belie* OR criminal thinking OR criminal thought* OR criminal sentiments OR criminal sentiment* OR criminal attitudes OR criminal attitude* OR cognitive distortions OR cognitive distortion*

AND violence OR violen* OR aggression OR aggress*

The reason why the term 'youth' and variations on this term was not included in the initial search was because upon scanning some articles, it was not always clear what age range the term encompassed, and in some studies the age group was not specified. For example, one study (Fisher & Hall, 2011) did not specify the age range and it was only by reviewing the article that this information was available. To avoid missing any important literature, this search criteria was not applied initially, but after this initial scope.

A search of the database resulted in 654 articles. Once duplicates were removed (308), the inclusion and exclusion criteria were applied to the search. These were:

Inclusion criteria:

- Articles exploring antisocial attitudes and if there is a link with violent behaviour
- Quantitative studies using measure/s of antisocial beliefs or attitudes
- Peer reviewed articles
- Articles written in English

- General violence (as opposed to more specific violence such as sexual violence, domestic violence)
- Studies with at least one comparison group

Exclusion criteria:

- Books, book chapters and case studies to focus on quantitative data where a measure of antisocial beliefs or attitudes is employed
- Qualitative studies because the aim was to gain a quantitative measure of antisocial attitudes or beliefs
- Specific violence (intimate partner violence, sexual violence or fire-setting offences) because the research into these typologies of violence differ from general violence
- Studies where the focus is evaluation of an intervention
- Studies where the sample is drawn solely from mentally disordered participants because the focus of the current review is on youth forensic populations
- Studies where the primary focus is validation of a psychometric or risk assessment

Figure 1 demonstrates the phases of the systematic literature search. This resulted in a total of 103 articles. The abstracts for these articles were reviewed once again to further filter based on the following criteria:

- Forensic population
- Youth population up to 20 years of age due to research indicating slow maturation of the frontal lobe in the adolescent brain reaching maturity between 20 and 25 years (Kolb & Fantie, 1989)

The reason for applying these two criteria was because the youth forensic population is most relevant to the population the researcher currently works with, and because the aim was to see whether results from adult populations would also apply to a review of studies of a forensic youth population. It was beneficial to apply these after the first stage of filtering because it ensured that the scope was as wide as possible. As discussed before, this prevented missing any literature which may be relevant but was unclear based on title. Following the application of the further criteria, this resulted in 18 articles which were subject to a full review. This was either because it fit the

inclusion criteria fully or there was some uncertainty due to a lack of information from title and abstract. Following the retrieval of the full articles, seven articles were deemed relevant to the current systematic review and 11 were excluded.

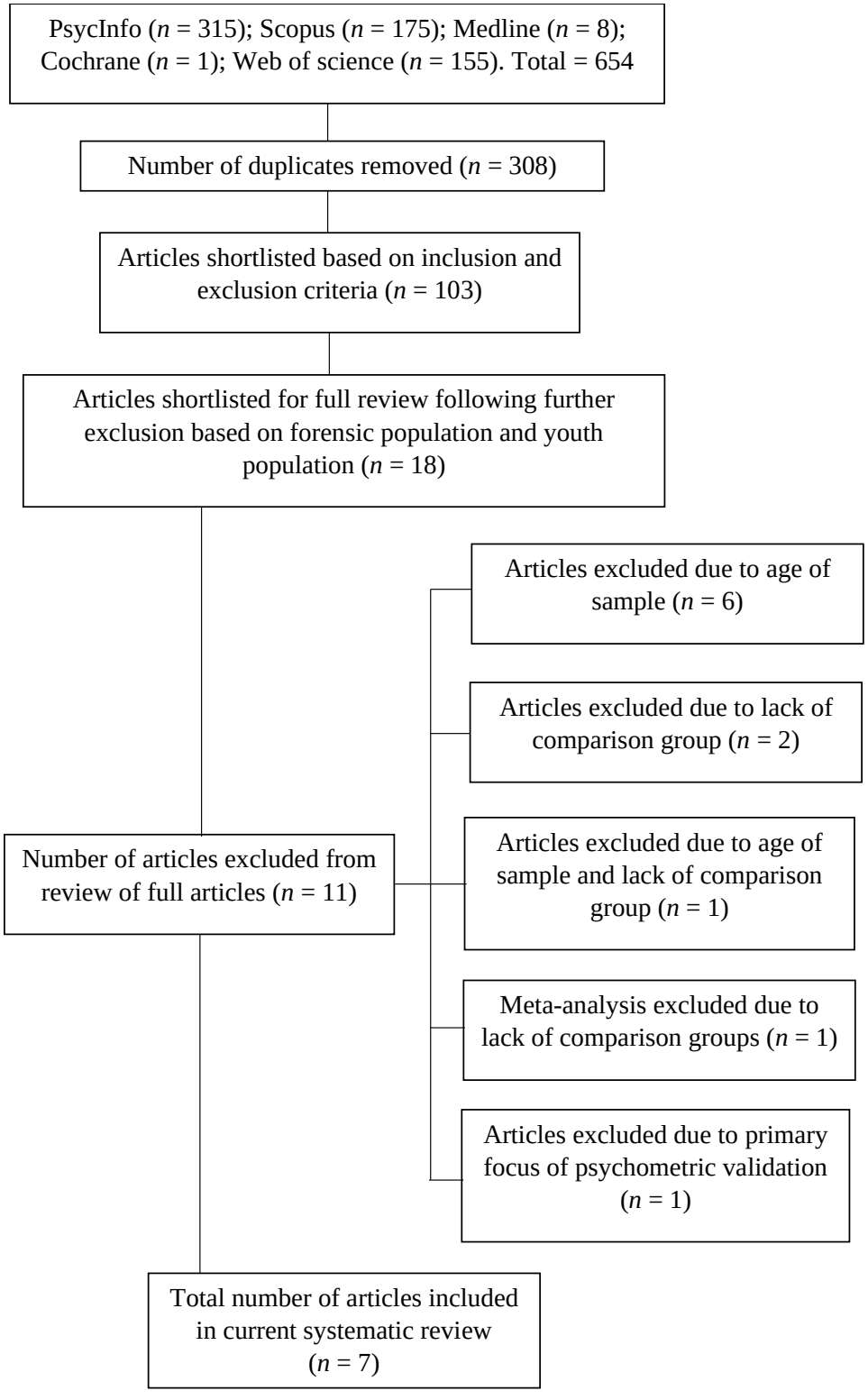

Figure 1. The phases of the systematic literature review search

Excluded articles

11 articles were excluded following a full review for one or more reasons. Six articles were from an adult population (Boduszek, Shevlin, Adamson, & Hyland, 2013; Chereji, Pintea, & David, 2012; Gauci & Hollin, 2012; Gilbert, Daffern, Talevski, & Ogloff, 2013; Low & Day, 2017; Visu-Petra et al., 2008), two had no comparison group and were purely correlational (Chui & Chan, 2013; Walters & Schlauch, 2008). There were articles which were excluded based on several reasons, for instance age and a lack of a comparison group (Grieger & Hosser, 2013). One study was a meta-analysis which used a correlational design from 39 studies and also due to the lack of a comparison group (Gendreau, Goggin, & Law, 1997). A further study was excluded because the primary focus was the validation and development of a psychometric measure (Butler, Parry, & Fearon, 2015). It is important to note that one study was included in the current review which had a sexual offender comparison group (Valliant & Clark, 2009). It was included upon full review because it involved comparison of three groups; non-assaultive, assaultive and sexual offenders. A further study involved a mixed methods methodology. This was included after further exploration because the aim of the qualitative element was to aid the design of a measure of entitlement which was then used within the quantitative component (Fisher & Hall, 2011). This study also did not specify the age of the sample but there was mention of students. Contact with the authors did not yield a reply, and therefore it was assumed that due to the student sample it is likely it fell in the inclusion criteria.

Quality assessment

The remaining seven articles were quality assessed to highlight any biases and evaluate their overall methodological quality using the MMAT (The Mixed Methods Appraisal Tool; Pluye et al., 2011) which is a tool for qualitative, quantitative and mixed methods studies used for systematic reviews. The areas critiqued include sampling, methodology, and analysis of results and/or outcome measures. For quantitative studies, depending upon the design of the study, the completion of data or response rates is also critiqued. To provide an overall quality assessment, each of the areas are coded as present, not present or ‘can’t tell’. Depending on the number of criteria met, scores range from 25% to 100% where the former is one criterion being met and the latter is all criteria being met. Scoring was based on specific guidance from the MMAT tutorial

where all criteria had equal weighting. Guidance was sought from one of the authors (Dr Pluye) with regards to ambiguous or partially met criteria and the appropriate scoring of these items. Despite this tool being relatively new, there are indications of its reliability (Pace et al., 2012). The tool has also been used in recent systematic reviews (e.g., Sturgess, Woodhams, & Tonkin, 2016). Whilst a quality score can be computed, the guidance states that this may not be informative in comparison with descriptive summaries.

Data Extraction

Data was extracted from the included seven studies using a standardised form, which helped to remain systematic and avoids bias towards one paper or another, so that validity and reliability of the review itself is upheld (Appendix C). The form considered the following:

- Where the study took place and year
- Publication type
- Aims of the study being analysed
- Research design within their methodology
- Sample size and sampling procedures
- Data collection methodology including measures used, validation of measures and what outcomes are being measured
- Analysis used and statistical techniques
- Reported results and those relevant to the present review
- Any issues highlighted regarding controls, validity and reliability
- Conclusions: what the findings mean, implications and recommendations, generalisation and limitations.

Results

Quality assessment

Seven studies were quality assessed using the MMAT (Appendix B). The criteria in each column of the table is further explained in the guidance written by the authors and the information elicited from each study is based on the design of the study. This quality assessment tool includes both a qualitative and quantitative component. This was chosen over other tools because one study in particular included both a qualitative

and quantitative component. Fisher and Hall (2011) first used a qualitative element to help devise their Sense of Entitlement Questionnaire, and then a quantitative component to compare the three groups on this measure. Therefore, it was important that all elements of the study were assessed for their quality. All studies scored an overall quality score of 50% or above indicating that they were of an adequate quality. Sukhodolsky and Ruchkin (2004) and Robinson, Roberts, Strayer, & Koopman (2007) were of highest quality with strength laying in their consideration of demographic variables and controlling for these within their main analyses. Both studies also had high completion rates of measures and had employed standardised validated measures. The remaining studies all had an overall quality score of 50% (Fisher & Hall, 2011; Fritz, Wiklund, Koposov, Klinteberg, & Ruchkin, 2008; Granic & Butler, 1998; Liau, Barriga, & Gibbs, 1998; Valliant & Clark, 2009). All employed standardised and validated measures, although it is important to note that for one study, the measure used was devised by the researchers, and whilst validated within their own study was not widely validated (Fisher & Hall, 2011). All the studies had a high completion rate, but all would have benefited from further minimisation of selection bias through either larger sampling, sampling from a wider population base to increase generalisability, and the analytic consideration of demographic variables within the main analyses. All seven studies were of adequate quality and included in the review.

Description of studies

Of the studies reviewed, the aim of four was to compare antisocial attitudes between a violent versus a non-violent sample (Granic & Butler, 1998; Liau et al., 1998; Sukhodolsky & Ruchkin, 2004; Valliant & Clark, 2009) whereas other studies measured antisocial attitudes in relation to a broader review question, such as psychopathy (Fritz et al., 2008), empathy and emotional responsivity (Robinson et al., 2007), and sense of entitlement (Fisher & Hall, 2011). In five studies, a two-group design was used where two groups were compared (Fritz et al., 2008; Granic & Butler, 1998; Liau et al., 1998; Robinson et al., 2007; Sukhodolsky & Ruchkin, 2004). In two of these studies, the groups compared were taken from an incarcerated population and then separated into violent and non-violent groups (Fritz et al., 2008; Granic & Butler, 1998). The other three studies compared an incarcerated young offender population with a non-incarcerated student population (Liau et al., 1998; Robinson et al., 2007; Sukhodolsky & Ruchkin, 2004). Two further studies employed a three-group design.

Valliant and Clark (2009) sampled adolescent offenders from one custodial setting and separated them into non-assaultive, assaultive and sexually assaultive groups. Fisher and Hall (2011) compared violent offenders, non-violent offenders and a sample of students.

Demographic characteristics

A total of 1,170 participants were recruited across the seven studies of which 0.7% were female (n = 8) and 99.3% were male (n = 1,162). The age range reported across all studies was between 12 and 19 years. One study failed to specify the age range (Fisher & Hall, 2011) but due to the student comparison group, and without clarification from the authors, it was judged that it fit the inclusion criteria. Of the seven studies, three did not report the ethnicity of the participants (Fritz et al., 2008; Granic & Butler, 1998; Sukhodolsky & Ruchkin, 2004). Fisher and Hall (2011) only reported that the participants were of Australian non-indigenous background but did not break this down further. The remaining three studies (Liau et al., 1998; Robinson et al., 2007; Valliant & Clark, 2009) reported that n = 172 of the sample were Caucasian, n = 50 were African American, n = 2 Hispanic, n = 18.36 Asian, n = 5.12 First Nations, n = 15.52 'Other' and n = 2 did not report ethnicity. Three studies were taken from samples from Canada (Granic & Butler, 1998; Robinson et al., 2007; Valliant & Clark, 2009), two studies from North Russia (Fritz et al., 2008; Sukhodolsky & Ruchkin, 2004), one study from Australia (Fisher & Hall, 2011), and one study from the United States of America (Liau et al., 1998). All seven studies took either their entire sample from a custodial setting (Fisher & Hall, 2011; Fritz et al., 2008; Granic & Butler, 1998; Liau et al., 1998; Valliant & Clark, 2009) or from a custodial setting and student sample for comparison (Robinson et al., 2007; Sukhodolsky & Ruchkin, 2004).

Descriptive data synthesis

Appendix A provides full details of extracted data from all studies. The aims of the current review were to identify if violent young people in a forensic setting are more likely to hold antisocial attitudes compared to those who are non-violent, review consistency of the findings across the studies included in the review and identify any homogeneous and/or heterogeneous attitudes which may increase likelihood of violence.

Identify if violent young people in a forensic setting are more likely to hold antisocial attitudes compared to those who are non-violent and review consistency of findings across studies

Five of the seven studies supported the view that violent young people are more likely to hold antisocial attitudes than non-violent young people (see Table 1). Most of these studies employed an analysis of variance. Fritz et al. (2008) compared high violence and low violence incarcerated young people. They classified high violence as those who had a conviction of a violent offence, including those with multiple offences including violence and non-violence. Low violence were those who were convicted of a non-violent offence only. They found that the high violence group perceived antisocial behaviour as more normative than the low violence group. Whilst this was significant ($p < .05$), the effect size was calculated to be .34 which can be described as small. Similarly, Fisher and Hall (2011), who also classified violence based on whether the index offence was for violence against a person and they had been incarcerated at least one previous time for violence, conducted analysis of variance with post hoc Tukey's HSD tests. They found a significant difference between groups for the specific attitude of entitlement ($p < .001$). Post hoc tests identified that this difference was between violent offenders and both non-violent offenders ($p < .001$) and male students ($p = .012$). Therefore, their violent sample had significantly higher scores on entitlement than both other groups. No effect size was reported and there was insufficient data within the paper for this to be calculated. Two studies (Liau et al., 1998; Robinson et al., 2007) employed multivariate analysis with covariates. For Liau et al. (1998) the covariate of anomalous responding scores on the measure of cognitive distortions significantly correlated with the antisocial behaviour measure ($r = -.25$, $p < .05$). For Robinson et al. (2007) the covariates of reading level and grade were both significantly correlated with the measure of antisocial attitudes ($r = -.26$, $p < .01$; $r = -.26$, $p < .01$ respectively). Liau et al. (1998) compared a male incarcerated sample with a student sample but also administered a measure of self-reported delinquency which measured categories of offending including crimes against the persons, against property, illegal services, public disorder, status crimes and hard drug use, and this helped to determine overt or covert antisocial behaviours. They found significant differences between the incarcerated group and student group ($p < .05$), and effect size was calculated to be .43 which borders small and moderate. Robinson et al. (2007) similarly compared a young offender and student sample, and also administered the Jesness Inventory to further

classify violence. They found that their incarcerated groups scored significantly higher than a student and community sample on antisocial attitudes ($p < .005$). However, Robinson et al. (2007) noted that their effect size was moderate, although the specific value was not reported within the paper. Granic and Butler (1998) employed t tests to compare aggressive and non-aggressive offenders. They based this on court reports, police records and developmental histories and based violence on the aggressive/versatile offenders and non-aggressive offenders classification of Loebers (1990). They found that the aggressive group significantly endorsed more antisocial attitudes than the non-aggressive group **(**$p < .02$), although it was not possible to calculate effect size due to insufficient data reported in the paper.

However, the remaining two studies did not support this view (Sukhodolsky & Ruchkin, 2004; Valliant & Clark, 2009). Sukhodolsky and Ruchkin (2004) compared an incarcerated and student group, and also administered a measure of physical aggression and non-aggressive antisocial behaviour (SAHA). They found through regression analysis, that there was a significant association between physical aggression and anger and antisocial beliefs in an incarcerated sample, but also in the combined student and incarcerated sample. However, when between groups t tests were conducted, no significant differences in the antisocial beliefs were held by both groups. Similarly, Valliant and Clark (2009) based their definition of violence on index offence; assaultive, non-assaultive and sexually assaultive. They conducted one-way analysis of variance with post hoc Scheffé's tests. They found no significant difference in antisocial attitudes between an assaultive group and a non-assaultive group. Therefore, based on the current systematic review, the studies did not conclusively support the idea that violent young people are more likely to hold antisocial attitudes than non-violent young people. However, most of the studies included in the review did provide some support for this view

Identify homogeneous and heterogeneous attitudes which may increase likelihood of violence

All seven studies used different measures of antisocial attitudes or cognitions, as well as violent or aggressive behaviour. All studies were filtered as using a measure of antisocial attitudes, but two studies used psychometrics which were less of a measure about violence-endorsing beliefs, but other attitudes which may link with the commission of violence. More specifically, Fisher and Hall (2011) used a measure of

entitlement which may impact upon use of violence, and Robinson et al. (2007) looked at, amongst other factors, antisocial attitudes in relation to the level of empathy and how this may differentiate between an offender and student sample. Previous research has helped to identify specific antisocial attitudes which may lead to the commission of antisocial behaviours and violence. Therefore it was useful in this review to see whether any homogeneous or heterogeneous characteristics were found in typology of attitudes.

Across several studies which supported the view that violent young people are more likely to hold antisocial attitudes than non-violent young people, anti-authority attitudes were prevalent, including attitudes towards the law, law enforcement and the courts (Fritz et al., 2008; Granic & Butler, 1998; Robinson et al., 2007). In the measures used by Granic and Butler (1998) and Fritz et al. (2008), these were direct measures of anti-authority attitudes. In Robinson et al. (2007), this was a measure of social maladjustment and alienation. More specifically, these scales assess the level of mistrust and estrangements in the individual's attitudes towards others, specifically those representing authority.

Attitudes relating to the approval of antisocial behaviours and violence were also common across several studies (Fritz et al., 2008; Granic & Butler, 1998; Robinson et al., 2007). These attitudes included tolerance for law violations, approval of violence and antisocial behaviours, and viewing these behaviours to be acceptable. Linked to this is identifying with those who commit crimes (Granic & Butler, 1998) and viewing crime as a normative and permanent way of life (Fritz et al., 2008).

Blaming others as an attitude was evident in two studies **(**Liau et al., 1998; Robinson et al., 2007). According to Liau et al. (1998) this attitude involves cognitive schemas whereby one misattributes the blame for their own behaviour to other things or people external to them.

There were heterogeneous characteristics in typology of attitudes in several studies. Liau et al. (1998) found that incarcerated youths held the following attitudes more than comparison students; self-centred, minimising and mislabelling, and assuming the worse. Self-centred is an attitude which allows the individual to focus more on their own views, needs and rights and disregard those of others. Minimising and mislabelling is defined as a thinking error in which antisocial behaviour is seen as an acceptable way to achieve what one wants as well as referring to others in a belittling and dehumanising way. Assuming the worst includes hostile attribution, always considering the worst-case scenario, or sees their own behaviour as beyond

improvement. Fritz et al. (2008) found that among other attitudes, views of injustice was an attitude held by a violent group compared to a non-violent group. Fisher and Hall (2011) found that a sense of entitlement is an attitude that is held more by a violent sample compared to non-violent sample. More specifically, a sense of entitlement related to three ways of responding; assault, confrontation or rejection. In other words, if the other person does not respond in a way that is consistent with what the individual believes they are entitled to, then assault, confrontation or rejection is justified.

Table 1:

Antisocial attitude measures and support of review question

Study	Measure	Attitudes	Are violent young people more likely to hold antisocial attitudes compared to non-violent young people?	*P* level where significant and effect size if available or calculable
Liau et al. (1998)	HIT	Self-centred Blaming others Minimising/mislabelling Assuming the worse	Yes	p <.05 Effect size = 0.43
Granic and Butler (1998)	Criminal Sentiments Scale	Attitudes Toward the Law Court Police Tolerance for Law Violations Identification with Criminal Others	Yes	p < .02 Effect size unreported and lack of data to calculate
Fritz et al. (2008)	Antisocial Attitudes Scale	General attitudes toward law breaking, and beliefs about a life-time perspective on criminal behaviour: Approval of violence Approval of antisocial behaviours Views of injustice Crime as a permanent way of life and unchangeable Anti-authority views	Yes	p < .05 Effect size = 0.34

Fisher and Hall (2011)	Sense of Entitlement Questionnaire	Assault – people should do what I say or I bash them Confrontation – If people don't do what I say I will challenge them Rejection – People should do what I say or I will reject them	Yes	$p < .001$ Effect size unreported and lack of data to calculate
Robinson et al. (2007)	Jesness Inventory	Social maladjustment - the extent to which the individual shares attitudes expressed by persons who do not meet, in socially approved ways, the demands of living. High scores in Social Maladjustment are usually associated with negative self-concept and sensitivity to criticism. Frequently these individuals feel misunderstood, unhappy, worried, and hostile. They are prone to distrust authority and tend to blame others for problems. Most important, they view as acceptable much behaviour that is generally regarded as antisocial. Alienation - Alienation measures the presence of distrust and estrangement in the person's attitudes towards others, especially those representing authority	Yes	$p < .005$ Moderate effect size reported in study but no specific value
Sukhodolsky and Ruchkin (2004)	National Adolescent Student Health Survey, 1990	Violence is legitimate form of interpersonal behaviour Approval of antisocial behaviours	No	NA

	Disapproval of Deviancy Scale			
Valliant and Clark (2009)	Carlson Psychological Survey	Measure has four scales: chemical abuse, thought disturbance, antisocial tendencies and built-in validity scale. Most relevant to current review is antisocial tendencies: Hostile animosity, socially defiant attitude, willingness to be assaultive or threatening. Cynical of others, interpret behaviour as unjust or always self-serving. Acceptance of criminal behaviour. Prefers values of those who commit offences.	No	NA

Discussion

Previous research has found that adults who have committed violence demonstrate significantly stronger antisocial attitudes compared to those who have not committed violence (Visu-Petra et al., 2008). A meta-analysis by Chereji et al. (2012) found this to be consistent irrespective of the measure used. There was also some evidence of this within a youth population (Moffitt, 1993; Perry et al., 1986; Schwartz et al., 1998). The purpose of the current review was to apply specific criteria for consistency in methodology of studies and conclude whether the findings were consistent.

Following a systematic structure, 654 initial research papers were condensed to seven studies based on inclusion and exclusion criteria and quality assessment. The data were extracted and compared with reference to the research questions outlined in the method. The studies included in the current review did not conclusively support the view that violent young people are more likely to hold antisocial attitudes compared to non-violent young people. Five studies supported this view (Fisher & Hall, 2011; Fritz et al., 2008; Granic & Butler, 1998; Liau et al., 1998; Robinson et al., 2007), which supports previous research with adults and adolescents. It is important to note that effect sizes were not available or calculable for all these studies, and for those which were, they ranged from small to moderate effect sizes. However, two studies did not support this view (Sukhodolsky & Ruchkin, 2004; Valliant & Clark, 2009).

Of the studies which supported previous research, homogenous and heterogeneous typologies of attitudes were identified to see whether these also supported those found in previous research. The reason was because each study used a different measure of antisocial attitudes and it was therefore useful to look specifically at what attitudes were being measured. There was some support for some specific attitudes identified from previous research. Three studies measured anti-authority attitudes including attitudes towards the law, law enforcement and the courts (Fritz et al., 2008; Granic & Butler, 1998; Robinson et al., 2007), and also the level of mistrust and estrangements in the individual's attitudes towards others, specifically those representing authority. This supports previous research where negative attitudes directed towards authority and the law have been found to be associated with antisocial behaviour in adolescents (Tarry & Emler, 2007).

The misattribution of blame to others or external things was evident in two studies **(**Liau et al., 1998; Robinson et al., 2007), which supports previous research (Barriga et al., 2008; Chambers et al., 2008). However, other homogenous attitudes identified from the current review do not appear to have been found in previous research. Attitudes relating to the approval of antisocial and violent behaviours were found in the current review (Fritz et al., 2008; Granic & Butler, 1998; Robinson et al., 2007), which include tolerating violation of law, seeing violence as acceptable, identifying with criminal others and viewing violence as a normal and permanent way of life.

On the other hand, some heterogeneous attitudes identified from the current review are supported by previous research. Self-serving cognitions such as minimisation/mislabelling found by Liau et al. (1998) has also been found by others (Barriga et al., 2008; Chambers et al., 2008). The self-serving cognition Assuming the Worse includes hostile attribution and this is also supported from previous research (Chambers et al., 2008; Dodge et al., 1990). It is likely that there is limited research into typology of attitudes within the adolescent population resulting in these findings. Indeed, whilst similar attitudes have been found in previous research, these tended to be within adult samples.

Limitations

The comparison groups employed by each study were different. This points to the different ways violence is defined and therefore which groups participants are allocated to. Some studies classified a violent group as an incarcerated sample and therefore a non-incarcerated group as non-violent. Other studies classified a violent group based on index offence or previous offence-type. However, other studies did not simply compare groups based on index offences, but also administered a measure of violence or aggression to compare differences between groups. The different measurements of violence and non-violence in these studies may mean that non-reported or non-convicted violence was not captured. This is especially plausible where only the index offence or file information is used to glean non-reported violence. These differences will inevitably impact on the ability to directly compare the studies. This disparity in methodology suggests that comparisons should be taken with caution and that a further review should be carried out when more relevant research is available. It is specifically recommended that more focus is placed on how violence is measured and that part of

the scope of the literature will be to have a consistent classification and measurement of what is violence and non-violence. This will ensure that the studies are more comparable.

Of the studies which found significant differences between the violent and non-violent groups, not only was effect size often not reported, two studies included insufficient data for effect size to be calculated for the current review. Effect sizes for three studies (Liau et al., 1998; Fritz et al., 2008; Robinson et al., 2007) were between small to moderate, and this is important because whilst significant, the effect sizes tell us that the size of the difference was small to moderate for these studies, irrespective of the different sample sizes. These are limitations to the studies included in the review and further reviews and meta-analyses would benefit from including the level of statistical significance and the effect size.

Only seven studies were included in the current review. It is likely that the paucity of studies available is because research with adolescent samples is not as prevalent as those with adult samples. However, it is also possible that this could relate to the methodology employed in the current review. Additionally, the exclusion of data from qualitative studies means research on characteristic variables was not included. The restrictions were placed upon the search due to keeping the search strategy concise, managing time constraints and placing a preference on comparing quantitative data, but this is certainly an area for future research. Although a considerable effort was made to ensure that all the studies relevant to the systematic review was included, this may not have included everything because of the lack of contact with key researchers within the field to further check if they had any articles which were not available through the databases or were as yet unpublished. On reflection, a further review of the bibliographies of retrieved articles may also have elicited further research which may have been relevant to the current systematic review.

A further limitation is the lack of a meta-analytic approach. Ideally the study methodology would be homogenous enough for statistical analysis to be carried out and therefore a quantitative outcome. If this were possible, it would allow for both a quantitative as well as a narrative descriptive data synthesis to take place. However, this was not possible in the current review due to the heterogeneous methodological characteristic and study aims, but this would be an area worth considering once more research has been conducted.

Based on the demographic variables taken from all the studies, only 0.7% were females. This is a limitation because it poses difficulties in generalisation of any findings to all young people. It is recommended that future research take this into account, as it is possible that young females may demonstrate entirely different antisocial attitudes compared to males.

Implications

Whilst the current review did not conclusively support the idea that violent young people are more likely to hold antisocial attitudes than non-violent young people, the majority of the studies did support this. The Social Information Processing model (Dodge & Crick, 1990) may provide some explanation for this. The model suggests that adolescents interpret social cues in such a way that their actions are based on a biased interpretation. Some of the homogenous attitudes found in the current review, such as anti-authority beliefs, blaming and approval of violence, may skew the way in which a young person interprets a social situation, thereby increasing the likelihood of violent behaviour. There may also be underlying neurological differences in the brain development of young people that increase the likelihood of risk-taking behaviours, particularly in the prefrontal cortex. (Konrad, Firk, & Uhlhaas, 2013). Specifically, research into Adverse Childhood Experiences (ACEs) indicates that offender groups tend to report more ACEs compared to non-offender groups, suggesting that criminality, including aggression and violence, may be a further outcome of ACEs (Reavis, Looman, Franco, & Rojas, 2013). Whilst this was beyond the scope of the current review, it is possible that the violent and non-violent groups differed in their neurology, especially as adverse childhood experiences such as trauma are found to impact on brain development (Schore, 2001). The possible implications of this and the current findings is that the different types of antisocial attitudes held by violent and non-violent groups may not simply be down to social learning, but may also be impacted by the way the brain has developed or under-developed within violent groups. Future research specifically in the brain differences between these two groups would be useful.

There are clinical implications of the current findings. If violent young people hold antisocial attitudes which increase the likelihood of violence, then treatment needs to address these antisocial attitudes. Interventions may include a cognitive element, where deeply embedded schemas, core beliefs or cognitive distortions are identified,

challenged and replaced with alternative helpful ways of thinking. However, due to the limited number of studies included in the current review, specific antisocial attitudes have yet to be consistently identified across sufficient research, and therefore further research is required to aid clinical understanding of what specific antisocial attitudes to address.

Future research

An area suggested for future research is adopting a meta-analytic approach to analysing and synthesising the data, once there is an increasing amount of research in this area. Ensuring that effect sizes are available alongside levels of statistical significance will also allow analysis of the size of differences irrespective of different sample sizes. Also, by adapting the methodology and inclusion/exclusion criteria to include qualitative research, this may offer up more studies, which may add to the current findings.

Future research will need to consider how violence is defined and measured, in order that studies are more comparable. Simply measuring violence based on current offending may not be reflective of non-reported or non-disclosed violence, which runs the risk of the non-violent group demonstrating more violence than is known. There is likely to be more strength in including studies which use a measure of violence to place participants into groups, or at least to include in their procedure a way to glean non-reported violence through clinical interviews.

There is value in research into typologies of antisocial attitudes in the adolescent population. This would add to current understanding of whether this is similar to those attitudes in adults. Specifically, whether there are common types of antisocial attitudes held by violent young people, which would help to design interventions that are tailored to their needs. This would be useful academically, but also clinically so that within secure settings or even as a preventative measure within community settings, violent young people can be supported to address these specific antisocial attitudes which will hopefully help to decrease risk of violence.

A further area worth researching in future is further exploring and adding to the literature on how violent and non-violent groups may differ in their brain development. There is a growing body of research indicating that a myriad of physical health, mental health, and possibly criminal behaviours, which include violence and risk of incarceration, is linked with early Adverse Childhood Experiences (ACE; Felitti et al., 1998), and that early trauma impacts on brain development (Schore, 2001). It is likely

that exploring this area will aid understanding of how violent and non-violent groups differ neurologically, but also how this neurological development may impact on antisocial attitudes, hostile attributions and the commission of violence. This may have implications for clinical practice in focussing interventions either on addressing antisocial attitudes, or addressing underlying traumas as a foundation.

Finally, a recommendation for future research would be conducting a systematic review once there are more studies conducted with more comparable groups. Comparing an incarcerated sample with a student sample, and a non-violent with a violent incarcerated sample is very different and impacts on how directly you can compare them. There would be more methodological strengths if studies included in the review included more comparable samples.

Conclusion

The current review aimed to appraise the available research to answer the question of whether violent youth offenders are more likely to hold antisocial attitudes compared to non-violent offenders. Of interest also was identification of any similarities and differences in typologies of antisocial attitudes across the studies. It was found that five of the seven studies supported this view and two did not. Furthermore, the specific attitudes of anti-authority views and approval of antisocial and violent behaviour were identified across three of the five studies, and the attitude of blaming was identified across two of the five studies. Heterogeneous typologies of attitudes were also identified which were different across all studies, and these included self-centred, minimising and mislabelling, assuming the worse, views of injustice and a sense of entitlement. There may be clinical implications to the appropriate design of interventions to help young people address specific attitudes which may increase the likelihood of violence, although more research is required to identify specific attitudes. Moreover, there is some evidence in the current review to suggest there may be common antisocial attitudes held by the violent groups. Further research is recommended to further identify homogenous attitudes which are found to be consistently linked with commission of violence. If there are homogeneous antisocial attitudes held by violent young people, then interventions may need to focus on addressing them specifically.

References

Andrews, D. A., & Bonta, J. (2003). *The psychology of criminal conduct* (3rd ed.). Cincinnati Ohio: Anderson.

Barriga, A.Q., Gibbs, J.C., Potter, G.B., & Liau, A.K. (2001). *How I Think (HIT) Questionnaire manual*. Champaign, IL: Research Press.

Barriga, A. Q., Hawkins, M. A., & Camelia, C. R. T. (2008). Specificity of cognitive distortions to antisocial behaviour. *Criminal Behaviour and Mental Health, 18,* 104-116. doi: 10.1002/cbm.683

Beck, A. T. (1999). *Prisoners of hate: The cognitive bias of anger, hostility and violence.* New York: Harper Collins.

Blackburn, R. (1993). *The Psychology of Criminal Conduct: Theory, research and practice.* Chichester: Wiley.

Boduszek, D., Shevlin, M., Adamson, G., & Hyland, P. (2013). Eysenck's personality model and criminal thinking style within a violent and nonviolent offender sample: Application of propensity score analysis. *Deviant Behavior, 34*, 483-493.

Butler, S. M., Parry, R., & Fearon, R. M. P. (2015). Antisocial thinking in adolescents: further psychometric development of the Antisocial Beliefs and Attitudes Scale (ABAS). *Psychological Assessment,* 27(1), 291-301.

Chambers, J. C., Eccleston, L., Day, A., Ward, T., & Howells, K. (2008). Treatment readiness in violent offenders: The influence of cognitive factors on engagement in violence programs. *Aggression and Violent Behavior, 13,* 276-284. Retrieved from https://doi.org/10.1016/j.avb.2008.04.003

Chereji, S. V., Pintea, S., & David, D. (2012). The relationship of anger and cognitive distortions with violence in violent offenders' population: A meta-analytic

review. *The European Journal of Psychology Applied to Legal Context*, *4*, 59-77.

Chui, W. H., & Chan, H. C. O. (2013). Psychological characteristics of male 14 to 20 year olds on probation and in a residential home in Hong Kong. *Criminal Behaviour and Mental Health*, *23*, 41-55.

DiMaggio, P. (1997). Culture and cognition. *Annual review of sociology*, *23*(1), 263-287.

Dodge, K. A., & Crick, N. R. (1990). Social information-processing biases of aggressive behavior in children. *Personality and Social Psychology Bulletin, 16,* 8-22. Retrieved from https://doi.org/10.1177/0146167290161002

Dodge, K. A., Malone, P. S., Lansford, J. E., Sorbring, E., Skinner, A. T., Tapanya, S., ... & Bacchini, D. (2015). Hostile attributional bias and aggressive behavior in global context. *Proceedings of the National Academy of Sciences*, *112*(30), 9310-9315.

Dodge, K. A., Price, J. M., Bachorowski, J., & Newman, J. P. (1990). Hostile attributional biases in severely aggressive adolescents. *Journal of Abnormal Psychology, 99,* 385- 392. Retrieved from http://psycnet.apa.org/doi/10.1037/0021-843X.99.4.385

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine*, *14*(4), 245-258.

Fisher, S., & Hall, G. (2011). “If you show a bit of violence they learn real quick”: Measuring entitlement in violent offenders. *Psychiatry, Psychology and Law, 18*(4), 588-598.

Fritz, M. V., Wiklund, G., Koposov, R. A., Klinteberg, B. A., & Ruchkin, V. V. (2008). Psychopathy and violence in juvenile delinquents: What are the associated factors? *International Journal of Law and Psychiatry, 31*, 272-279. doi:10.1016/j.ijlp.2008.04.010

Gauci, A., & Hollin, C. R. (2012). The social cognition of violent offenders. *Journal of Criminal Psychology, 2,* 121-126. Retrieved from: https://doi.org/10.1108/20093821211264432

Gendreau, P., Goggin, C. E., & Law, M. A. (1997). Predicting prison misconducts. *Criminal Justice and Behavior, 24*(4), 414-431.

Gendreau, P., Little, T., & Goggin, C. (1996). A meta-analysis of the predictors of adult offender recidivism: What works! *Criminology, 34,* 575-607. doi: 10.1111/j.1745-9125.1996.tb01220.x

Gilbert, F., Daffern, M., Talevski, D., & Ogloff, J. R. P. (2013). The role of aggression-related cognition in the aggressive behavior of offenders. A general aggression model perspective. *Criminal Justice and Behavior, 40*(2), 119-138.

Granic, I., & Butler, S. (1998). The relation between anger and antisocial beliefs in young offenders. *Personality and Individual Differences, 24*(6), 759-765.

Grieger, L., & Hosser, D. (2014). Which risk factors are really predictive? An analysis of Andrews and Bonta’s “Central Eight” risk factors for recidivism in German youth correctional facility inmates. *Criminal Justice and Behavior, 41*(5), 613-634.

Hiemstra, W., De Castro, B. O., & Thomaes, S. (2018). Reducing aggressive children's hostile attributions: A cognitive bias modification procedure. *Cognitive Therapy and Research*, 1-12. Retrieved from https://doi.org/10.1007/s10608-018-9958-x

Kolb, B., & Fantie, B. (1989). Development of the child's brain and behavior. In C. R. Reynolds & E. Fletcher-Janzen (Eds.), *Handbook of clinical child neuropsychology* (pp. 17-39). New York: Plenum.

Konrad, K., Firk, C., & Uhlhaas, P. J. (2013). Brain development during adolescence: neuroscientific insights into this developmental period. *Deutsches Ärzteblatt International*, *110*(25), 425-431.

Landsheer, J. A., & Hart, H. T. (2000). Punishments adolescents find justified: An examination of attitudes toward delinquency. *Adolescence, 35,* 683-693.

Liau, A. K., Barriga, A. Q., & Gibbs, J. C. (1998). Relations between self-serving cognitive distortions and overt vs. covert antisocial behavior in adolescents. *Aggressive Behavior, 24,* 335-346.

Loeber, R. (1990). Development and risk factors of juvenile antisocial behaviour and delinquency. *Clinical Psychology Review, 10,* 1-41.

Low, K., & Day, A. (2017). Toward a clinically meaningful taxonomy of violent offenders: The role of anger and thinking styles. *Journal of Interpersonal Violence, 32*(4), 489-514.

Moffitt, T. E. (1993). Adolescence-limited and life course persistent antisocial behaviour: A developmental taxonomy. *Psychological Review, 100,* 674-701. Retrieved from http://psycnet.apa.org/doi/10.1037/0033-295X.100.4.674

Pace, R., Pluye, P., Bartlett, G., Macaulay, A. C., Slasberg, J., Jagosh, J., & Seller, R. (2012). Testing the reliability and efficiency of the pilot Mixed Methods Appraisal Tool (MMAT) for systematic mixed methods studies reviews.

International Journal of Nursing Studies, 49, 47-53. Retrieved from https://doi.org/10.1016/j.ijnurstu.2011.07.002

Palmer, E. J. (2007). Criminal thinking. In D. Carson, B. Milne, F. Pakes, K. Shalev & A. Shawyer (Eds.), *Applying psychology to criminal justice* (pp. 147-165). Chichester: John Wiley & Sons Ltd.

Perry, D. G., Perry, L. C., & Rasmussen, P. (1986). Cognitive social learning mediators of aggression. *Child Development, 57,* 700-711. doi:10.2307/1130347

Pluye, P., Robert, E., Cargo, M., Bartlett, G., O'Cathain, A., Griffiths, F.,…& Rousseau, M. C. (2011). *Proposal: A mixed method appraisal tool for systematic mixed studies reviews.* Retrieved on December 3, 2017, from http://mixedmethodsappraisaltoolpublic.pbworks.com. Archived by WebCite® at http://www.webcitation.org/5tTRTc9yJ

Reavis, J. A., Looman, J., Franco, K. A., & Rojas, B. (2013). Adverse childhood experiences and adult criminality: How long must we live before we possess our own lives?. *The Permanente Journal*, *17*(2), 44-48.

Robertson, T., Daffern, M., & Bucks, R. S. (2015). Beyond anger control: Difficulty attending to emotions also predicts aggression in offenders. *Psychology of Violence, 5,* 74-83.

Robinson, R., Roberts, W. L., Strayer, J., & Koopman, R. (2007). Empathy and emotional responsiveness in delinquent and non-delinquent adolescents. *Social Development, 16*(3), 555-579. doi:10.1111/j.1467-9507.2007.00396.x

Schore, A. N. (2001). The effects of early relational trauma on right brain development, affect regulation, and infant mental health. *Infant Mental Health Journal: Official Publication of The World Association for Infant Mental Health*, *22*(1-2), 201-269.

Schwartz, D., Dodge, K. A., Coie, J. D., Hubbard, J. A., Cillessen, A. N. H., Lemerise, E. A., & Bateman, H. V. (1998). Social-cognitive and behavioral correlates of aggression and victimization in boys' play groups. *Journal of Abnormal Child Psychology, 26,* 431-440. Retrieved from https://doi.org/10.1023/A:1022695601088

Sturgess, D., Woodhams, J., & Tonkin, M. (2016). Treatment engagement from the perspective of the offender: Reasons for noncompletion and completion of treatment – a systematic review. *International Journal of Offender Therapy and Comparative Criminology, 60,* 1873-1896.

Sukhodolsky, D. G., & Ruchkin, V. V. (2004). Association of normative beliefs and anger with aggression and antisocial behavior in Russian male juvenile offenders and high school students. *Journal of Abnormal Child Psychology, 32*(2), 225-236.

Tarry, H., & Emler, N. (2007). Attitudes, values and moral reasoning as predictors of delinquency. *British Journal of Developmental Psychology, 25,* 169-183. doi:10.1348/026151006X113671

Valliant, P. M., & Clark, L. M. (2009). An evaluation of nonassaultive, assaultive, and sexually assaultive adolescents at pretrial sentencing: A comparison on cognition, personality, aggression, and criminal sentiments. *Psychological Reports, 105*(3), 1077-1091.

VanOostrum, N., & Horvath, P. (1997). The effects of hostile attribution on adolescents' aggressive responses to social situations. *Canadian Journal of School Psychology, 13*(1), 48-59.

Visu-Petra, G., Borlean, C., Chendran, L., & Bus, I. (2008). An investigation of antisocial attitudes, family background and moral reasoning in violent offenders and police students. *Cognition, Brain, Behavior, 2,* 143-159.

Walters, G. D., & Schlauch, C. (2008). The psychological inventory of criminal thinking styles and level of service inventory-revised: Screening version as predictors of official and self-reported disciplinary infractions. *Law and Human Behavior, 32,* 454-462.

Yochelson, S., & Samenow, S. E. (1976). *The criminal personality, volumes 1 and 2.* New York: Jason Aronson.

Section 2:

Research report

A comparison of the emotional symptoms and antisocial cognitions of violent and non-violent young people in a secure setting.

Abstract

A discussion of the existing literature on the relationship between violence and emotions and antisocial cognitions is presented to set the context for the study. A systematic review conducted by the author had also previously demonstrated some support for the link between violence and antisocial cognitions, and therefore this was explored in the current study. The current sample were youth (14 to 17 year olds) from a secure training centre. The aim is to see if a violent group demonstrates more emotional symptoms as measured by the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997) and antisocial cognitions as measured by the How I Think (HIT) questionnaire (Barriga, Gibbs, Potter, & Liau, 2001) than a non-violent group. A sample of 96 participants (male = 84, female = 12) took part in the study. Participants were allocated into the violent or non-violent group based on their index offence. All participants completed both measures. A t-test and Mann-Whitney test found that the violent and non-violent groups did not significantly differ on their overall difficulties or emotions on the SDQ measure. A MANCOVA with sentence length as a covariate, and a t-test found no significant differences between the two groups in the individual cognitive distortions (Self-centred, Blaming, Minimising or Assuming the worse), and on the overall HIT score. The results are discussed with previous research in mind. Clinical implications are considered given the non-significant findings, specifically about the design of interventions to meet the needs of these populations, how the methodological limitations may have impacted on results and therefore what this means for future research. The results add to the growing body of existing literature and create opportunities for further research. Possibilities for future research are discussed in light of the research limitations.

Introduction

Violence has been broadly defined as using physical force to intentionally inflict harm on others, and therefore may include actions where extreme harm is the ultimate goal, such as assault and murder (Blackburn, 1993). Aggression has been defined as the intentional infliction of harm, which does not just include physical harm but also psychological harm (Blackburn, 1993). As such, these not only include actions where the recipient receives physical injury or may be killed, but may also include emotional and psychological injury, including making threats to harm, threats using weapons and harassment. The central focus of this definition is the idea of intent. Whilst there is a distinction between these two terms (Robertson, Daffern, & Bucks, 2015), the literature often puts them together. For instance where researchers have focussed on the relationship between anger with aggression and/or violent behaviour (Chereji, Pintea, & David, 2012). For the purpose of the current literature review, both terms will be used in order to capture all violent acts which inflict harm, or with the intention to inflict harm. Another important consideration when looking at violence is whether it is classified as instrumental or reactive (Low & Day, 2017). The former being violence that is committed for an identifiable purpose, and the latter being violence as a reaction to a perceived provocation. It is important to note that the definition of violence also includes offences such as rape, sexual assault and intimate partner violence (Blackburn, 1993). However, for the purpose of the current study and also in line with the scope of the systematic literature review, the current study will focus solely on general violence.

Violent offending

According to The Office for National Statistics (2017) in the year ending March 2016, the Crime Survey for England and Wales (CSEW) reported that there were 1.3 million incidents of violence in the previous 12 months in England and Wales. This equated to 1.8% of adults aged 16 and over being a victim of violent crime. Whilst this appears to be a low percentage, this may not take into account any unreported incidents of assault. Previous research has indicated that reports of assault have been as low as 34% (Nicholas, Povey, Walker, & Kershaw, 2005). Additionally, the potential adverse consequences for victims of violence, both physical and psychological, means there is a very human cost to violent offending (Turanovic & Pratt, 2017).

Therefore it is particularly pertinent to explore violence through the lifespan in terms of predictors of violence from formative years through to adulthood. Research has indicated that childhood aggression is highly predictive of future violence (Zumkley, 1994), and childhood aggression can predict conduct problems in adolescence (Farrington & West, 1993). Understanding predictors of violence in childhood and adolescence may help to design interventions to address these criminogenic factors and so decrease the likelihood of continuity of violence into adulthood.

Factors predictive of violence

Research has explored whether there are certain predictors of violence. Hawkins et al. (1998) conducted a longitudinal systematic review within a non-incarcerated juvenile population. Amongst numerous factors identified as pertinent to violence in this population, they identified individual, psychological, family, school, peer-related and community factors. Amongst the psychological characteristics were impulsivity and risk-taking behaviours, internalising disorders which encompassed nervousness, worry and anxiety, aggressiveness, early initiation of violence, antisocial behaviours, and attitudes and beliefs. They also identified specific family factors such as familial criminality, childhood maltreatment, the parent and child relationship, family conflict and familial stress. Amongst school factors, they identified academic failure, lack of bonding in school, truancy and school drop-out, delinquency in school and transitions in school. Peer-related factors included peers and gang affiliation. Community factors included poverty, drugs availability, neighbourhood crime involvement and exposure to violence. The authors concluded that adolescent violence is a complicated combination of all these factors, and that further research was required to explore how factors were associated in order to develop interventions to reduce the risk of violence within this population.

The current research focuses on several of these individual factors; specifically how the experience of emotions and antisocial attitudes or cognitions may be linked to violence. The literature into these factors will be explored before presenting the current research.

Emotions and violence

Literature on the relationship between emotions and violence have tended to focus on anger and frustration, but there is a growing body of research into negative emotionality

in general and one's ability to regulate emotions and the link with violence. One of the first models was the Frustration-aggression hypothesis. Berkowitz (1989) commented on the Frustration-aggression hypothesis first postulated by Dollard, Doob, Miller, Mowrer, and Sears (1939, as cited in Berkowitz, 1989). The model proposed that all aggression is a result of frustration, and likewise that if there is frustration, then aggression will occur. This frustration referred to thwarting of a goal, but aggression would only occur if the individual was actively striving to reach this goal. Where the individual's ability to be aggressive because of frustration is impeded, this in itself can lead to frustration. This has been critiqued as too simplistic. Bandura (1973, as cited in Berkowitz, 1989) stated that frustrations would only lead to aggression if it increased the emotional arousal of the individual. Additionally, how they respond to this increased emotional arousal will be influenced by social learning. Berkowitz's (1989) reformulation of this hypothesis took into account the strengths of the model but also tried to address its limitations. He hypothesised that frustration would only lead to aggression if it is aversive, or that anything preventing the achievement of the goal evokes negative affect. It is the negative affect that leads to the aggression. This model suggests that there is an emotional component to aggression, in that one is more likely to commit an act of aggression if they struggle to achieve a goal, but that this thwarting of the goal leads to negative emotions.

Felson (1992) outlined the importance of social control processes in the decision to use aggression. The researcher outlined that aggression is usually preceded by the individual perceiving that someone has violated a rule. This Social Interactionist Approach also emphasises factors in aggression such as settling grievances, blaming the individual and then using aggression on the individual. The model suggests that not only might negative emotions be linked with aggression, there is also some form of thought pattern of grievance and blame of someone who has violated a rule. This indicates that there is not only an emotional but also a cognitive component to the commission of violence.

This may relate to a key distinction in the types of aggression or violent offending. Expressive aggression refers to behaviours that are triggered by an increased emotional state such as anger, whereas instrumental aggression relates to behaviours that is within the individual's control and is chosen to achieve a purpose (Blackburn, 1993). The Frustration-Aggression hypothesis may relate to the expressive forms of aggression where it is triggered by heightened emotions, whereas the Social

Interactionist Approach may relate to instrumental forms of aggression, in which there is a cognitive component and the desire to achieve a goal using aggression.

Increasingly, there has been a body of research exploring the role of emotions in general, as opposed to just anger or frustration, which may be linked with aggression. DuRant, Cadenhead, Pendergrast, Slavens, and Linder (1994) looked at the use of violence amongst black adolescents in a high violence area in the United States of America. 225 adolescents were assessed on levels of depression and hopelessness. They found that self-reported violence was associated with previous exposure to violence and victimisation, levels of hopelessness, depression and family conflict. Although the depression scale was associated with violence, it was not possible to say whether those who were depressed were more likely to commit violence, or that those who committed violence were more likely to experience depression as a result. However, it demonstrated the role of emotions outside of anger and the link with aggression. In another community adolescent sample, the authors looked at the relationship between daily emotions that adolescents experience and reactive and proactive aggression (Moore, Hubbard, Bookhout, & Mlawer, 2019). They found that more emotionality or higher reported levels of daily emotions was related to reactive aggression, whereas proactive aggression was unrelated to daily emotions. More specifically, reactive aggression was more highly associated with higher levels of reported daily anger, more angry reactivity to negative events, as well as lower levels of daily reported happiness. Therefore, the authors highlighted how emotionality is related differently to different types of aggression.

Similar results have been found in university populations. Shamsipour, Bazani, Tashkeh, and Mohammadi (2018) analysed levels of aggression, emotional regulation and positive and negative affect in their sample. They found correlations between aggression and gender, negative affect and maladaptive emotion regulation skills. One further finding when using regression analyses, was that negative affect explained more of the aggression variance than gender and emotion regulation. More specifically, gender and negative affect explained 21.6% of the aggression variance. When gender and emotion regulation was controlled within the analysis, negative affect alone explained 11.4% of the aggression variance. The authors concluded that experiencing unpleasant emotions and the difficulty with regulating these may increase the chance of aggressive behaviours. In another student sample, this relationship was further explored in terms of the different dimensions of emotional intelligence (EI); perceiving,

facilitating, understanding and managing emotions (Megías, Gómez-Leal, Gutiérrez-Cobo, Cabello, & Fernández-Berrocal, 2018). Whilst there was a negative relationship between EI and aggression, this relationship depended on different factors including the EI dimension, the influence of negative affect and gender. For instance, the EI dimension of emotional management showed a direct relationship with aggression, whilst the perception of emotion was indirectly related to aggression through the effect of negative affect. Gender differences were also found with females showing higher EI, higher negative affect and less aggression. Moreover, there was less of a relationship between negative affect and aggression in females than in males. This study demonstrated that the relationship between negative emotionality and aggression is not as simplistic as previous research has indicated.

However, the opposite has been found in a study with a younger population. Jambon and Smetana (2018) analysed data from a sample of four to seven year olds on their self-reported experience of emotions when presented with hypothetical moral and social-conventional wrongdoings, and the relationship with physical and relational aggression as rated by teachers. They found no association between negative emotions when the children were presented with hypothetical moral wrongdoings. Moreover, children who reported higher levels of negative emotions were less physically aggressive when they were told that the transgressions were not prohibited by rules or people in authority. The authors concluded that relational aggression was not associated with negative emotions within this young sample. This study was different from others in that emotions were self-reported based on hypothetical moral situations rather than other studies which have assessed negative emotions through psychometric measures of what is actually experienced by the individual. The psychological mechanisms underlying each may therefore differ.

The studies discussed have not been comparison studies; they have used tests of association, and by some of the authors' own admission, causation cannot be concluded. There is also limited research comparing a violent and non-violent sample to see whether they differ in their experience of negative emotions. One study employing such a design was by Chui and Chan (2013), who analysed data from violent and non-violent 14 to 20 year old participants who were on probation in Hong Kong. They were compared on their psychological characteristics, including positive and negative affect. A comparison between the two groups on their experience of negative emotions was non-significant. Furthermore, ordinary least-squares regression analyses to identify any

static or dynamic risk factors to re-offending for both groups came back as non-significant for negative emotions, meaning this was not a factor in either group in re-offending risk.

Other research has focussed not only on the experience of negative emotions, but on the role of emotional regulation. Robertson, Daffern, and Bucks (2015) studied the role of one's ability to attend to emotions and the link with aggression. They outlined the importance of a two-fold process in emotional regulation. First is the ability to contain the emotion experience so that it inhibits aggression, and the second is being able to attend to the emotion. This means paying attention to the emotion and not employing avoidance or suppression. Overregulation can lead to aggression either because suppression may lead to increased arousal and therefore the likelihood of an aggressive response, or affecting cognitive processes which may compromise the effectiveness of decision-making processes which may lead to aggression. In their sample of offenders, they found that those who reported more use of aggression also reported more difficulties attending to their emotions. Additionally, those who had more difficulties attending to upsetting emotions also had higher trait anger, were less likely to outwardly control their anger as well as inwardly through internal controls.

Recent studies have looked at the role of emotion regulation alongside negative affect. In a sample of undergraduate students, Donahue, Goranson, McClure, and Van Male (2014), found that emotion regulation fully mediated the relationship between negative affect and aggression in both males and females, and interestingly, that sex also mediated the relationship between negative affect and aggression. Garofalo and Velotti (2017) also demonstrated, with a sample of offenders, a significant link between negative emotionality and use of aggression, and also that emotion regulation skills can buffer this relationship, which the authors stated indicated the need for treatment to focus on negative emotionality and emotion regulation skills. A further study compared a violent and non-violent group. Garofalo, Velotti, and Zavattini (2018) compared a group of male violent offenders and community participants. In their study, they looked at emotion regulation and alexithymia, or the inability to identify and describe feelings. They found that offenders reported higher levels of difficulties in these areas as well as hostility and aggression than the community sample. The suggestion was that it is not simply the experience of negative emotions which can impact on levels of aggression, but one's ability to attend to and regulate these emotions.

Theories have been postulated to explain the link between emotions and violence, as well as the role of emotion regulation. Agnew's General Strain theory (Agnew, 2013) suggests that certain strains increase the likelihood of crime which includes aggression. The basic tenet is that these strains can lead to negative emotions, and these emotions increase the likelihood of crime by putting pressure on the individual to take action to move away from the strain. Crime can be seen as a way of coping, such as monetary gains to alleviate financial stress, and aggression against the perceived source of the strain. Baumeister presented a theory of self-regulation (Baumeister, Heatherton, & Tice, 1994) which outlined that one's ability to control their cognitions can be diminished when they are negatively emotionally aroused. During these times, individuals may be less emotionally aware, and therefore focus more on short term resolutions whether this be proactive aggression or trying to diminish or numb the negative emotion. The theory states that it is both the negative emotionality and the ability to regulate emotions which may increase the likelihood of aggression.

The literature discussed above outlines the relationship between emotions such as anger and frustration in the use of aggression, and also negative emotionality in general. Theories have been presented which explain this link, and some of these emphasise negative emotionality and one's ability to regulate these emotions. Furthermore, in reviewing the Frustration-aggression hypothesis, Felson (1992) suggests that there is not only an emotional component but also a cognitive component to the commission of violence, and this is of particular interest in the current study.

Antisocial attitudes and violence

Studies have demonstrated the link between recidivism and antisocial attitudes. A meta-analysis reported a number of different variables in adult offenders which are predictive of recidivism. They found that among the criminogenic needs, antisocial attitudes was one of the best predictors of future offending (Gendreau, Little, & Goggin, 1996). Yochelson and Samenow (1976) found that in a sample of male offenders, they demonstrated distinctive criminal thinking patterns which included irresponsibility, concrete thinking, a lack of empathy, impulsivity, deficits in decision-making and viewing themselves as victims. These studies suggested that the thinking patterns or attitudes of offenders were distinct and were predictive of future offending, and therefore are criminogenic risk factors (Andrews & Bonta, 2003; Palmer, 2007). The

current study explores whether antisocial attitudes are linked with violence, and the literature for this will be reviewed.

The relationship between antisocial attitudes and violence has been widely researched in the adult population. A lot of these studies have focussed on incarcerated populations. Walters and Schlauch (2008) sampled 159 adult male prisoners, assessing their criminal thinking patterns and following them up for 24 months for prison rule infractions, which included violence, rioting, possession of illicit substances, threats and escape. The researchers found a significant correlation between criminal thinking patterns and officially reported disciplinary infractions as well as self-reported infractions. A meta-analysis of 39 studies looking at 695 correlations demonstrated that antisocial attitudes was one of the strongest predictors of prison misconduct (Gendreau, Goggin, & Law, 1997). A meta-analysis of 19 studies found that 14 of these demonstrated a relationship between cognitive distortions and violence in incarcerated offenders, even when the type of measure used was taken into account (Cheriji, Pintea, & David, 2012). Some of the limitations of the correlational studies was that with a lack of a comparison group, it is not possible to determine whether antisocial attitudes are linked with those who commit violence specifically.

Further studies have compared violent and non-violent samples on their antisocial attitudes. Visu-Petra, Borlean, Chendran, and Bus (2008) compared antisocial attitudes, specifically criminal sentiments, in police students and offenders convicted of murder. They found the violent offender group demonstrated significantly more criminal sentiments than the police students. These sentiments related to attitudes towards law enforcement and identification with criminal others. Other comparison studies have not conclusively demonstrated this link solely with violent offenders. Gauci and Hollin (2012) compared violent and non-violent offenders and they showed there was no significant difference between the two groups on cognitions, but they found that high risk violent offenders were significantly different from low risk violent offenders in terms of cognitions. Therefore higher risk violent offenders may have more ingrained criminal thinking patterns than lower risk offenders.

When looking specifically at the youth population, there is some evidence to demonstrate the link between violence and antisocial attitudes. Hawkins et al. (1998) demonstrated through their longitudinal study that, in a non-incarcerated young offender population, one psychological and personal factor which may be predictive of violence is attitudes and beliefs. Dodge, Price, Bachorowski, and Newman (1990)

looked specifically at hostile attributional biases amongst adolescent males in a maximum security prison. Hostile attributional bias is the tendency to attribute hostile intent in a situation. They found significant correlations between these biases and aggressive conduct disorder, with reactive-aggressive behaviour, and with the number of interpersonally violent crimes. Fritz, Wiklund, Koposov, Klinteberg, and Ruchkin (2008) compared high violence and low violence incarcerated young people and found that the high violence group perceived antisocial behaviour as more normative than low violence group, both for self-reported violence as well as when violence classification was based on offence-type. Granic and Butler (1998) compared aggressive and non-aggressive offenders and found that the aggressive group significantly endorsed more antisocial attitudes than the non-aggressive group. Other studies have employed several comparison groups in the youth population. Fisher and Hall (2011) compared violent offenders, non-violent offenders and male students. They found significant differences in entitlement attitudes between violent and non-violent offenders as well as male students, suggesting that the violent sample demonstrated more entitlement than both other groups. Robinson, Roberts, Strayer, and Koopman (2007) found that an incarcerated group demonstrated significantly higher levels of antisocial attitudes than a student and a community sample when reading level and grade were controlled for within the analysis. Similarly, Liau, Barriga, & Gibbs (1998) found that an incarcerated group scored significantly higher than a student and community sample on self-serving cognitive distortions when they controlled for anomalous responding within the analysis.

However, findings have not been conclusive for the youth population. Chui and Chan (2013) compared violent and non-violent individuals on probation between the ages of 14 and 20 on psychological characteristics. They found that pro-criminal attitudes were independently associated with both violent and non-violent probationers, which indicates that these attitudes are not unique to those who have offended violently. Other studies have also found that violent samples do not hold more antisocial attitudes when compared to non-violent samples. Sukhodolsky and Ruchkin (2004) sampled an incarcerated youth sample as well as students. They found through regression analyses, that there were significant associations between physical aggression, anger, and antisocial beliefs in the incarcerated sample, but also in the combined student and incarcerated sample. However, no significant differences were found in the antisocial attitudes held by both groups when the groups were compared with between groups t

tests. Similarly, Valliant and Clark (2009) conducted one-way analysis of variance with post hoc tests, and found no significant difference in antisocial attitudes between an assaultive group and a non-assaultive group. Therefore, there are mixed findings about the relationship between antisocial attitudes and violence.

Theories have been developed to attempt to explain aggressive behaviour and antisocial attitudes. The Social Information Processing model (Dodge & Crick, 1990) explored the application of this model in children who behave aggressively. They stated that aggression in children was a result of how they perceive, interpret, make decisions and respond to social cues. There is evidence to support the view that children who interpret social cues as containing hostile intent when presented with hypothetically provocative situations may be more likely to employ aggression (Dodge & Tomlin, 1987). They explained that children may behave aggressively because of biased interpretations, and that they may lack access to non-aggressive responses. Therefore, children who behave aggressively are not only more likely to attribute hostile intent in their interpretation of situations, but also are more able to access aggressive responses (Dodge, Pettit, McClaskey, Brown, & Gottman, 1986). Other theories have not only looked at the interpretation of social stimuli and the selection of a response, but also what drives the interpretation process for those who act aggressively. Beck (1999) suggested that the interpretation of the situation is fuelled by the individual attempting to protect their threatened or hurt self-image. Beck suggested that those who behave violently hold specific schemas against authority, partners and others, which may increase likelihood of violence. Therefore, the models attempt to explain the role of antisocial attitudes or cognitions, in the commission of violence.

The impact of antisocial attitudes and emotions on violence

It has been suggested that both antisocial attitudes and emotions are factors which affect the likelihood of violence. The Social Interactionist Approach (Felson, 1992) outlines that it is not just negative emotions which impact on the risk of violence but also some form of thought pattern about grievances and blame of others. The Social Information Processing model (Dodge & Crick, 1990) also brings together the role of emotions and cognitions. Huesmann proposed a model which described the development of aggression during early childhood (Anderson & Huesmann, 2007; Huesmann, 1988; Huesmann & Guerra, 1997). This theory builds on that of Dodge and Crick (1990) in that it expands to try to explain how aggression develops in the first place. The theory

states that a child who behaves aggressively has learnt aggressive scripts which guide their behaviour. Script theory was first developed by Tomkins (1978) to explain how a sequence of events occur based on a set of expectations that may involve people, location of objects. These scripts are relatively consistent and follow the child into adulthood. Children learn these scripts through early life experiences and through what they observe. When the child is faced with a social situation, the model suggests that they enter into this situation in an emotionally aroused state already. This emotional arousal is not only physiological but also has a cognitive component. How the child responds is related to what script they choose, based on their early experiences and learning. Bandura's (1977) Social Learning theory highlights the importance of learning behaviour through observation of other people. Therefore a child's early exposure to certain behaviours may serve as a guide for their own future behaviours. For instance, if the child has multiple experiences of frustrations relating to other people blocking their ability to achieve their goals, they may be more likely to attribute hostile intention to other people. The emotional state the child is in at the time influences what social cues they pay attention to and how they evaluate the situation. They may focus just on a few prominent cues, even though other cues might be just as important. They may then evaluate these cues in a hostile manner, even when a threat may not be present. At this point, there is a review of the emotional state the child is in, as well as the cognitions, which determine which scripts for behaviour they retrieve from their memories. These scripts will in turn influence how the child responds behaviourally in the situation. It follows that a child tuned to aggressive scripts will be more likely to respond aggressively than a child who does not hold these scripts. This model demonstrates the relevance of emotions and cognitions when it comes to the commission of violence, how this might have developed in the child in the first place, and how it might persist into adulthood. Others have further developed Script theory to highlight that these scripts may be changeable throughout a lifetime. Schank (Schank & Abelson, 1977) theorised that scripts are like schemas, which include a memory component which takes into account one's personal experiences, proposing that new scripts are developed throughout the lifetime which can guide behaviours, as well as new scripts being developed based on new experiences, and therefore these scripts are not static. The role of both emotions and cognitions on the commission of violence is of particular interest in the current study.

The research to date has focussed on the role of either emotions or cognitions in violence. Whilst some studies have addressed cognitions and emotions simultaneously, the research into both factors with the adolescent population which adopts a comparison group rather than a correlational design is limited. Therefore, the objective of the current study is to address this limitation and build on the growing body of research into this area. The value is to build on clinical understanding of the needs of violent adolescents in a secure setting, ensuring that interventions can be tailored to respond to their needs.

Aims of the study

Research shows that there is a link between emotions and violence, as well as antisocial attitudes or cognitions and violence. Theories have suggested that emotions and antisocial cognitions are both factors that influence the likelihood of aggression and violence. Therefore, the aim of the current study is to see if, from a sample of youth, a violent group demonstrates more emotional symptoms and also more antisocial cognitions compared to a non-violent group.

The hypotheses for the study are:

1. *It is hypothesised that a violent group will demonstrate more emotional symptoms on the Strengths and Difficulties Questionnaire (SDQ) which is a self-reported measure, when compared to a non-violent group.*
   The SDQ measures emotional symptoms such as being fearful, anxious, worried, lonely and depressed. The literature indicates some evidence to support the idea that increased emotionality is associated with higher levels of violence, whether this is anger (Berkowitz, 1989) or other emotions such as depression and hopelessness (DuRant et al., 1994) and negative emotionality in general when comparing a violent and non-violent group (Garofalo & Velotti, 2007). Therefore the current study hypothesises that a violent group will demonstrate more emotional symptoms compared to a non-violent group.

2. *It is hypothesised that the violent group will demonstrate higher levels of antisocial cognitions on the self-reported How I think (HIT) questionnaire when compared to the non-violent group.*

The literature indicates some evidence to support the idea that violent groups demonstrate more antisocial attitudes or cognitions compared to non-violent groups. This has been demonstrated for high and low violence incarcerated young people (Fritz et al., 2008; Granic & Butler, 1998), and also when comparing multiple groups such as violent and non-violent offenders and students (Fisher & Hall, 2011), and incarcerated group compared to a community and student group (Robinson et al., 2007; Liau et al., 1998). Therefore the current study hypothesises that a violent group will demonstrate higher levels of antisocial cognitions compared to a non-violent group.

Methodology

Design

The study employed a between groups design to compare the differences in anti-social cognitions and emotions between two groups; those convicted of a violent offence and those convicted of a non-violent offence. The independent variable was whether the participants had a conviction for a violent offence or non-violent offence, whilst the dependent variable was their scores on the measures administered to them; How I think (HIT) and The Strengths and Difficulties Questionnaire (SDQ).

Participants

Participants were young people from a secure training centre. First, parents/carers were approached about providing informed consent for the child to take part. Once parent/carer consent was obtained, consent was discussed with these young people. If parents/carers did not provide consent, then these young people were not approached to discuss the research. Informed consent was discussed with each young person, and they had the choice to consent or not, with no negative repercussions for their sentence. In the initial phase of parents/carers informed consent, $n = 9$ opted out of the research and therefore these young people were not approached about the research. Of the parents/carers who provided their consent, all the young people also provided their consent to take part in the research. This resulted in a total sample size of 96 (male = 84, female = 12), representing over 95% of the total possible sample. Table 1 shows the demographic information for these participants including age and sentence length and

Table 2 shows the ethnicity breakdown. The participants were allocated to the violent and non-violent groups through their current offence. If there were several offences, the presence of a violent offence meant they were allocated to the violent group. In this study, previous convictions for non-violence or violence, as well as institutional violence were not taken into account when placing the participants into the violent and non-violent groups and it was based on the index offence information. This was because access to historical information, especially non-convicted violence, was not always available, and newly admitted participants may not have had sufficient time to demonstrate institutional violence. This is reflected on within the 'Research and methodological limitations' section. Violent offences (*n* = 74) included possession of weapons, assaults, Grievous Bodily Harm, robbery, murder, wounding with intent, manslaughter, threats and affray. Non-violent offences (*n* = 22) included breach of orders, drugs offences, burglary, vehicle offences, theft and criminal damage. Table 3 outlines the breakdown of these offences.

Table 1

Demographic information of participants

Group	Demographic	*M*	*SD*	*Range*
Violent *n* =74	Age	15.78	.86	14.00 – 18.00
	Sentence length (months)	26.86	35.53	3.00 – 240.00
Non-violent *n* =22	Age	15.91	.87	14.00 – 17.00
	Sentence length (months)	7.27	4.15	3.00 – 18.00

Table 2

Ethnicity breakdown

Group	Ethnicity	*N*	*Percentage*
Violent	White British	52	*54.2%*
n = 74	White Other	1	*1%*

	Asian Pakistani	3	*3.1%*
	Black Caribbean	5	*5.2%*
	Black Other	2	*2.1%*
	Mixed White and Black Caribbean	4	*4.2%*
	Mixed Other	3	*3.1%*
	Asian Indian	1	*1%*
	Black African	2	*2.1%*
	Mixed White Asian	1	*1%*
Non-violent	White British	15	*15.6%*
n = 22	White Other	5	*5.2%*
	White Irish	1	*1%*
	Black African	1	*1%*

Table 3

Breakdown of offence type

Group	Offence	*N*
Violent (*n = 74)*	Possession of weapons	6
	Assault and violence against the person	27
	Grievous Bodily Harm	4
	Robbery	20
	Murder and attempted murder	4
	Wounding with intent	4
	Manslaughter	3
	Threats	2
	Affray	2
	Terrorism offence	2
Non-violent (*n = 22)*	Breach of orders	5
	Drugs offence	1
	Burglary	7
	Vehicle offence	2
	Theft	6
	Criminal damage	1

The sampling procedure was non-probability. Participants had the opportunity to consent to take part in the research or choose not to, and it was clarified that there would be no negative consequences to not consenting. The sample was also drawn from the entire population of the secure training centre and then allocated to either group based on their current offence-type.

Materials

The following psychometric questionnaires were administered to participants once consent was gained from parents or carers as well as the participants.

The How I think (HIT) questionnaire

This questionnaire (Barriga, Gibbs, Potter, & Liau, 2001) contains 54 questions rated on a six-point Likert scale from agree strongly to disagree strongly. 39 on these relate to the cognitive distortions (appendix G). The higher the score, the more indicative of adherence to a self-serving cognition. The overall HIT score (minimum 1, maximum 6) is calculated by tallying the ratings on the items and dividing by 39. An overall score of 1 means no agreement with the self-serving cognitions, and 6 is complete agreement. The questionnaire helps to elicit four cognitive scales (Self-centred, Blaming others, Minimising/Mislabelling, Assuming the worst), and four behavioural scales (Lying, Stealing, Opposition and Physical aggression). The remaining 15 items are prosocial item fillers, and a measure of Anomalous Responding (AR) which measures social desirability. In the current study, where the AR criteria was met and therefore socially desirable responding was identified, this was eliminated from the data in order to only include data which was representative of true responses. Internal consistency for the psychometric has been measured to be .90 - .94 (Nas, Brugman, & Koops, 2008; Plante et al., 2012). Regarding the HIT's cognitive and behavioural dimensions, all alpha values were above 0.7. Barriga and Gibbs (1996) demonstrated the HIT to have a re-test reliability of .91 and internal consistency of .96. Construct validity was largely good and correlated well with self-report antisocial measures.

The Strengths and Difficulties Questionnaire (SDQ)

Goodman's (1997) widely used, self-report behavioural screening instrument assesses young peoples' positive and negative attributes across five scales (appendix H). These

are Emotional symptoms (fearful, anxious, worried, lonely, depressive), Conduct problems (losing temper, fighting, lying, stealing), Hyperactivity/Inattention (restless, fidgety, easily distracted), Peer problems (preference for being solitary, bullied, not liked), and Prosocial behaviour (considerate, sharing, helpful, kind). The total of the first four scales gives an overall difficulties score, which measures overall difficulties in psychosocial functioning. There are 25 questions, and each section can receive a maximum score of 10. In all of the scales, with the exception of pro-social behaviour, a higher score is indicative of a potential problem in that area. The measure can be used as a self-report measure, but also by observer reports (parents and teachers). In a British sample, the measure demonstrated satisfactory reliability and validity, with internal consistency of .73, and re-test stability after four to six months of .62 (Goodman, 2001). For the purpose of the current study, consent was gained only to gather data for the Emotional symptoms and the overall difficulties score because this related to the research question.

Procedure

The aim was to try to sample the whole population from the secure training centre in order to gather data regarding the emotional symptoms and antisocial cognitions of the whole centre. Information regarding the research and purpose of the research was communicated generally to the young people during the admission phase of their sentence so that they were able to consider it, but it was also clarified that the informed consent procedure would involve their parents/carers first and then themselves. The first stage was informed consent. Due to ethical guidelines relating specifically to young people, an information sheet and informed consent was sent to each parent or carer, providing all information regarding the research and giving two weeks for them to opt out of the research (appendix J and L). If they chose to opt out, the young person was not approached to take part in the research. If they chose not to opt out, the second phase was to provide the young person with an information sheet and consent form (appendix K and M). If consent was gained from the young person, only then would the SDQ data be gathered and the HIT be administered with them by the researcher or Assistant Psychologists. If they chose not to provide their consent, no further action was taken. It was clarified that if they chose not to provide consent, there would be no consequences.

Those who consented formed part of the overall sample. The SDQ data was already available because this psychometric was administered to all new admissions to the secure training centre. Their consent was for use of only the relevant data within the SDQ. After this, the second psychometric (HIT) was administered. The researcher or Assistant Psychologists explained the psychometric and gave the participants the choice to complete this independently if they wished to or for each statement to be read out if they required additional support. A debrief form was also discussed with each consenting participant following their completion of the psychometric measure (appendix N). The measure was scored and the data inputted onto the database ready for analysis. The HIT includes a social desirability scale (anomalous responding or AR) and if the AR score was 4.25 or above then the protocol was considered invalid and therefore this could not be used as part of the research. Where this was the case, the participant was removed from the sample.

Ethical Issues

Ethical issues were considered as part of the research. Informed consent when working with young people was the first consideration. This included participant information and consent forms which were sent to all parents or carers who had the opportunity to opt out of the research (appendix J and L). If they opted out of the research, the young person was not approached to discuss informed consent or anything relating to the research. If parents or carers did not choose to opt out, the research team which consisted of the researcher and two Assistant Psychologists who were trained in research and effective communication with clients, approached the young person to discuss the participant information sheet and informed consent process (appendix K and M). It was emphasised that they would have the opportunity to consent or not, without any negative consequences. Should they choose to provide their consent, they would become participants of the research. If they did not, they would not be approached about the research again and it was made clear to them that this would not impact upon their sentence. All forms and information sheets were designed to be as user-friendly as possible to aid understanding.

The informed consent form included information regarding the following: that the data was for a Doctorate of Psychology, Data Protection Act 1998 provisions, including that all participant information would be anonymised and they would be

assigned a number so it was not an identifiable feature. Only the researcher would have access to this data and it would be locked away in a secure cabinet. It was made clear to participants that all data would be stored securely for 10 years after the completion of the research, after which it would be destroyed. Only the researcher would have access to this data. Due to regulations within the secure training centre, it was clarified to participants that there may be exclusions to confidentiality which related to risk issues to others or themselves, in which case this information would need to be passed on. However, it was made clear that the questionnaires would not be shared with others.

The debriefing form (appendix N) provided information about what would happen with the data once they completed the psychometrics, what the data would be used for and a reiteration of the confidentiality of their data. Information was also provided about making inquiries or withdrawal procedures, how to obtain a summary of the results, or if they felt they had concerns with how the study was conducted. Contact details of the researcher and supervisor were provided in order to raise any concerns about the research. This was provided to each participant who consented to take part and completed the psychometric.

Because the sample was drawn from a child and adolescent population, there were considerations specifically relating to this. This included gaining informed consent from parents or carers before seeking consent from the young people. The researcher as well as the Assistant Psychologists were employed within the secure training centre meaning they had all been cleared through the Disclosure and Barring Service. All had been trained in legislation and safeguarding issues when working with the youth population.

Analysis

The data were analysed using independent t tests and a Multivariate Analysis of Covariance (MANCOVA). The assumptions of the tests were considered and will be outlined in preliminary analysis section. A power analysis was conducted for both independent t tests and a MANCOVA. G*Power 3 (Faul, Erdfelder, Lang, & Buchner, 2007) was used. For a MANCOVA with two levels and four dependent variables using an alpha of .05, a power of .80, and a medium effect size (f^2 = .25) indicated a required sample size of 54 which is met with the current sample size of 96. Where the group sizes were set at 74 (violent) and 22 (no-violent), for a two tailed independent t test where effect size was set at .5, and alpha level set at .05, the power of the test was .53.

Results

Analysis of tests of assumptions

Histograms and Shapiro-Wilks tests were conducted on the data to test for normal distribution. These indicated that the majority of the data were normally distributed, with the exception of the Emotions subscale of the SDQ measure, where both the histogram and Shapiro-Wilks tests indicated the data for both the violent and non-violent groups were not normally distributed ($p < .001$; $p = .031$ respectively). Therefore, parametric tests were appropriate for all variables except the Emotions subtest of the SDQ for which non-parametric tests were used.

Further assumptions are required for a MANCOVA analysis to be conducted on the HIT data. A linear regression was used to identify any outliers. The maximum Mahalanobis for the data was identified as 16.40 which did not exceed the Mahalanobis distance for the four dependent variables (18.47) and therefore no outliers were identified. A scatterplot indicated that no violations of a linear relationship existed. Data for the subtests of Self-centred, Blaming, Minimisation and Assuming the worst were normally distributed according to Shapiro-Wilks ($p = .305$, $p = .125$; $p = .438$; $p = .108$ respectively). An analysis of Pearson's values indicated that there was no multicollinearity, where values were between .2 and .9.

Further analysis with Box's M plots showed that the data for each dependent variable in each condition of the independent variable were normally distributed and therefore, there were no major violations of the assumption of multivariate normality. Box's M test indicated there was no violation of the assumption of homogeneity of variance-covariance matrices ($p = .049$). Because the assumptions were met, the Wilks' Lambda output was reported.

Preliminary analyses - covariates

An independent groups t test was conducted on the demographic variables of sentence length and age, to see if this differed significantly between the two groups. Where equality of variance was assumed, there was no significant difference in age between the two groups ($t(94) = .60$; $p = .552$). However, there was a significant difference in sentence length between the two groups ($t(79.28) = 4.64$; $p < .001$), where equal variance was not assumed on this variable. Additionally, correlational analyses were conducted to see whether sentence length correlated with any subtests of the HIT

measure, and these were significant for overall HIT, blaming others, minimisation and assuming the worse (r = .229, p = .025; r = .240, p = .018; r = .231, p = .024; r = .215, p = .036 respectively). The correlation was non-significant for sentence length and the subtest self-centred (r = .160, p = .120). Because of the significant independent groups t test and largely significant correlations, sentence length was set as a covariate within the main analysis.

Chi square (χ^2) test was conducted on the demographic variable gender because this is frequency data. Pearson's Chi Square for the variable yielded no significant association between the two groups on gender (χ^2 (1) = 3.09, p = .08). Therefore, this variable was not controlled for within the main analysis.

Main analyses

SDQ measure

Hypothesis 1: It is hypothesised that a violent group will demonstrate more emotional symptoms on the Strengths and Difficulties Questionnaire (SDQ) which is a self-reported measure, when compared to a non-violent group

Table 4

Descriptive statistics for the overall difficulties (SDQ) measure

		Mean	*SD*	Range
Overall difficulties (SDQ)	Violent (n = 74)	13.42	5.73	2.00 – 28.00
	Non-violent (n = 22)	13.55	4.89	5.00 – 24.00

For the overall difficulties (SDQ) score, an independent t test was conducted to compare any differences between the violent and non-violent group. The Levene's test indicated that the variance was not significantly different (p = .423) so equal variances could be assumed. The independent t test indicated that the violent group (M = 13.42, SD = 5.73) did not score significantly higher on the overall difficulties (SDQ) score than the non-violent group (M = 13.55, SD = 4.89). The mean difference between the

groups was .13. Therefore there were no significant differences between the two groups on the overall difficulties (SDQ) measure ($t(94) = .09$; $p = .925$).

Table 5

Descriptive statistics for SDQ Emotions subtest

		Median	*SD*	*Range*
Emotion	Violent ($n = 74$)	2.00	2.27	0 – 10.00
	Non-violent ($n = 22$)	2.00	2.03	0 – 6.00

A non- parametric test was conducted on the Emotions subtest of the SDQ measure due to the non-normally distributed data. A Mann-Whitney test for independent groups was conducted. This showed that there was no significant difference between the violent and non-violent group on the Emotion subtest of the SDQ measure ($U = 763$, $p = .652$).

HIT measure

Hypothesis 2: It is hypothesised that the violent group will demonstrate higher levels of antisocial cognitions on the self-reported How I think (HIT) questionnaire when compared to the non-violent group

Table 6

Descriptive statistics for the HIT measure

		Mean	*SD*	Range
Overall HIT	Violent ($n = 74$)	3.35	.74	1.86 – 5.86
	Non-violent ($n = 22$)	3.37	.67	2.12 – 4.40
Self-centred	Violent ($n = 74$)	3.30	.87	1.77 – 5.70
	Non-violent ($n = 22$)	3.40	.77	1.88 – 4.55
Blaming others	Violent	3.27	.76	1.50 – 6.00

	(*n* = 74)			
	Non-violent (*n* = 22)	3.41	.71	2.10 – 4.80
Minimising/mislabelling	Violent (*n* = 74)	3.44	.85	1.77 – 6.00
	Non-violent (*n* = 22)	3.40	.74	1.77 – 4.55
Assuming the worst	Violent (*n* = 74)	3.27	.78	1.63 – 5.73
	Non-violent (*n* = 22)	3.27	.72	1.73 – 4.45

For the overall HIT score, Levene's test indicated the variance was not significant (p = .710) and therefore equal variances could be assumed. The independent t test indicated that the violent group (M = 3.35, SD = .74) did not score significantly higher than the non-violent group (M = 3.37, SD = .67) on the overall HIT score. The mean difference between the two groups was .02. The analysis indicated there were no significant differences between the two groups ($t(94) = .14$; p = .887). Therefore, the two groups did not differ significantly on the overall score of cognitive distortions.

A multivariate analysis of covariance (MANCOVA) was conducted with sentence length as a covariate. The data were analysed with one independent variable (violent and non-violent) and the four dependent variables of the HIT measure (Self-centred, Blaming, Minimising and Assuming the worst) as the dependent variables. The analysis revealed that there were no significant multivariate differences between the two groups when sentence length was controlled for ($F(4, 102) = 1.067$, p = .377; Wilks' λ = .960, partial η^2 = .04). Therefore, there were no significant differences between the violent and non-violent groups on the cognitive distortions Self-centred, Blaming, Minimising or Assuming the worst.

Discussion

The current study looked at whether young people who have offended violently and non-violently differed in their experiences of emotional symptoms and anti-social cognitions. The first hypothesis was that the violent group would demonstrate more

emotional symptoms when compared to the non-violent group on the SDQ measure. No significant differences were found on either the overall difficulties (SDQ) or the Emotions subtest when comparing the violent and non-violent groups. The second hypothesis was that the violent group would demonstrate more antisocial cognitions when compared to the non-violent group. Analyses indicated no significant differences when comparing the violent and non-violent groups for the overall HIT measure as well as the four specific antisocial cognitions. These findings will be discussed in more detail.

Hypothesis 1: It is hypothesised that a violent group will demonstrate more emotional symptoms on the Strengths and Difficulties Questionnaire (SDQ) which is a self-reported measure, when compared to a non-violent group

The current study does not support this hypothesis. There were no significant differences between the violent and non-violent groups on the SDQ measure, including the overall difficulties and Emotions subtest. Previous studies have demonstrated an association between negative emotionality and aggression within various populations; black adolescents in the USA (DuRant et al., 1994), adolescents within the community in the USA (Moore et al., 2019) and student populations in Iran (Shamsipour et al., 2018) and Spain (Megías et al., 2018). Shamsipour et al. (2018) and Megías et al. (2018) did not just look at the experience of negative emotions but also emotional regulation skills. Shamispour et al. (2018) found that both the experience of negative emotions and regulation skills had an impact on aggression, and negative emotion alone explained a large amount of the aggression variance, whereas Megías et al. (2018) found that it was emotional regulation rather than simply the perception of emotions which was directly related to aggression. Direct comparisons between the current results and those outlined above cannot be drawn because these used tests of associations only and did not compare a violent and non-violent group. However, the results of the current study do not support the notion that the experience of negative emotions is related to violence.

The current results do, however, support the limited research which has used a comparison group of non-violent offenders. Chui and Chan (2013) compared violent and non-violent 14 to 20 year olds who were on probation in Hong Kong, and found that there was no significant difference in groups' experience of negative emotions, and they also found that negative emotions was not a significant factor in re-offending risk.

The current findings support Chui and Chan (2013) because it similarly found that there were no significant differences in the experience of emotions by both the violent and non-violent groups. It is quite possible that violent individuals do not experience higher levels of negative emotions than non-violent individuals, and that these two studies are evidence of this. However, there are also differences between these two studies which limit how much they can be compared. Chui and Chan (2013) analysed data from an older sample than the participants in the current study. Whilst Chui and Chan's (2013) sample were involved in the criminal justice system, they were probationers within the community, whereas the current sample were in a secure setting. This alone may have an impact on the experience and therefore self-reported experience of negative emotionality. Previous research has indicated that the emotional world within secure settings can be complex and therefore present unique challenges to those who reside there (Crewe, Warr, Bennett, & Smith, 2014).

Possible explanations for the current non-significant results might be a result of the choice of measure of emotions. The SDQ measures emotions using five questions, which ask about physiological complaints relating to negative emotionality such as headaches, feelings of worry, unhappiness, nerves in new situations and fear. Other studies have used more comprehensive measures of negative emotions, but more notably is the addition of a measure of emotional regulation alongside the experience of negative emotions. This facet has been highlighted as pertinent by various studies which have stated that the relationship between negative emotions and violence is more complex, in terms of the type of aggression, the different dimensions of emotional intelligence, and one's ability to attend to emotions and subsequently to regulate them. These studies have shown that emotional regulation skills can buffer or mediate the role of negative emotions and violence (Donahue et al., 2014; Garofalo & Velotti, 2017), and that violent offenders demonstrate more difficulties in identifying and describing emotions than non-violent individuals (Garofalo et al., 2018). This suggests that whilst the experience of negative emotions may have an impact on violence, it is possible that it is one's ability to identify emotions and regulate them which has more of an impact on risk of violence. The current study did not employ a measure of emotional regulation, and, therefore, may not have captured data for a pertinent area which affects violence. Previous comparison studies looking at emotions and violence with a young sample have been sparse, and therefore there is limited other research to compare the

current findings to. It may, therefore, suggest that drawing definitive conclusions may be premature.

Hypothesis 2: It is hypothesised that the violent group will demonstrate higher levels of antisocial cognitions on the self-reported How I think (HIT) questionnaire when compared to the non-violent group

The current results do not support this hypothesis. However, previous studies within a young sample that have used a comparison approach have demonstrated mixed findings, making it difficult to draw any firm conclusions. Some studies have shown that violent samples hold more antisocial attitudes or cognitive distortions compared to non-violent samples. In some of these studies, all groups have been drawn from incarcerated individuals (Fritz et al., 2008; Granic & Butler, 1998). Other studies, in which incarcerated individuals have been compared to multiple groups, including community samples, have also shown that violent groups are more likely to hold antisocial attitudes (Fisher & Hall, 2011). When various factors were controlled for, such as anomalous scores on the cognitive distortion measure, and reading level and grade, these findings remained consistent (Liau et al., 1998; Robinson et al., 2007). The current results do not support these findings.

The current results support several studies which found no significant differences in the antisocial cognitions of a violent and non-violent group. Chui and Chan (2013) found that within a sample of those on probation, pro-criminal attitudes were associated with both violent and non-violent probationers and therefore there were no differences between the two groups on this variable. Furthermore, the same has been found in comparison studies of incarcerated young people and community students (Sukhodolsky & Ruchkin, 2004), and between assaultive and non-assaultive groups (Valliant & Clark, 2009). Whilst Sukhodolsky and Ruchkin (2004) found significant associations between aggression and antisocial beliefs in the incarcerated group and also in the combined student and incarcerated sample, t tests did not yield any significant differences in the experience of antisocial beliefs in both groups. Likewise, Valliant and Clark (2009) found no significant difference in antisocial attitudes between an assaultive and non-assaultive group. The current findings support these two studies.

It is possible that the violent group in this study simply did not experience more antisocial cognitions than the non-violent group. This may be impacted by the way in which the sample were split into the violent and non-violent groups, in this case based

on the index offence only, which may not reflect previous offending or non-convicted offences (see discussion of research and methodological limitations below). A further explanation for the support for some previous studies but not others might lie in the use of measures of antisocial attitudes or cognitive distortions. Psychometrics used in research examining these issues measure anything from attitudes about law, authority and boundaries, through to attitudes of entitlement, and distorted cognitions. This variance of what is being measured might impact on the different findings and affect how directly each study can be compared. However, following this line of thinking, it would have been expected that the current results would have supported that of Liau et al. (1998) who employed the same measure of antisocial cognitions, but it does not.

Research and methodological limitations

There are limitations to the current study. There were unequal group sizes, with the violent group being much larger than the non-violent group. This can cause issues with unequal variance, affecting statistical power. The reason for this unequal group size was because at the time of data collection, there were more individuals who had been convicted of a violent offence. The nature of a secure training centre means that young people are more likely to be incarcerated for violent offences. However, given that the entire sample of the secure training centre was sampled, this represented the population at that moment in time. Testing at another point in time might have yielded different results. Considering the ever changing population within secure training centres, this would have been very likely. Therefore, the results of the current study were very time specific, and suggest that ongoing and potentially longer term research may yield different findings.

A further limitation relating to this is whether the research design allowed the capture of true emotional experiences and antisocial cognitions related to situations which may, in a normal situation, trigger these emotions and antisocial cognitions. The Social Information Processing model (Dodge & Crick, 1990) states that when encountering a situation, how a person chooses a script to respond depends on their emotional state, as well as their cognitions *at the time*, all of which is influenced by early experiences and learning. Given that the administration of the measures did not equate to the sample encountering a potentially provocative situation, it could be argued that it may not have triggered the same emotions or antisocial cognitions or scripts. A

research design that allowed for administration of measures alongside presenting the participants with hypothetical situations which may elicit emotions and antisocial cognitions may help to capture more rich data. A similar research design was employed by Robinson et al. (2007) who showed participants videotaped stimulus material, and they were required to rate their emotional response to scenarios. Whilst this would require specific ethical approval and more careful planning, it is an area worth exploring in future research.

Another limitation was the way in which the sample was allocated to the violent and non-violent groups based solely on the index offence. If there were multiple convictions with a mixture of violent and non-violent offences, they were allocated into the violent group. Some previous studies have also defined a violent group based on a similar idea; placing participants into a violent or non-violent group based on either index offence or conviction data, or file information solely (Fritz et al., 2008; Fisher & Hall, 2011; Granic & Butler, 1998). Other studies have looked at index offending information, but have also administered a further measure of violence or aggression, and this has helped to allocate into appropriate groups (Liau et al., 1998; Robinson et al., 2007). The limitation of the way the current study allocated into groups meant that it did not take into account non-convicted violence in the community as well as during their time in the secure training centre. Previous convictions, which may have included violent convictions, were also not taken into account when allocating participants into the two groups. Due to time constraints, it was not possible to conduct clinical interviews to glean this information, and so it is possible that there was more undisclosed violence in the non-violent group, which may have affected the results. On reflection, allocation to the violent and non-violent groups based on the limited index offence information presents as a major limitation to the study, in that lots of relevant information may have been omitted which may have helped to more accurately allocate into the groups. The current results may therefore be affected by this factor and needs to be taken into account when considering future research and implication of these results. Including a further measure of aggression or violence may not only have allowed for another way of allocating participants into groups, additionally, using such a measure may have provided the research with more scope for analysis of relationships between variables.

A major omission was the lack of a measure of emotional regulation which would have added an important dimension to the research. Previous studies have looked

not only at the role of experiencing emotions, but on one's ability to attend to, recognise and regulate these emotions (Donahue et al., 2014; Garofalo et al., 2018). Whilst this was discussed within the literature, it was not used within the current study and this meant that the role of emotional regulation in buffering antisocial attitudes and cognitions was not explored (Baumeister et al., 1994). In some studies, emotional regulation has been found to fully mediate the relationship between negative affect and aggression (Donahue et al., 2014), and therefore the suggestion was that intervention should not just focus on violence, but ability to regulate emotions. Given the value of this, the current study omitted to further explore this through administration of a measure of emotional regulation alongside the other measures, and this may have helped to explore not only if experiencing negative emotions impacts on violence, but also how ability to regulate emotions might do so.

Consideration of further important variables which may impact on risk of violence was also lacking in the current study. There is a growing body of research indicating that a myriad of physical health, mental health, and risk behaviours, which include violence and risk of incarceration, are linked with early Adverse Childhood Experiences (ACE; Felitti et al., 1998), and that early trauma impacts on brain development (Schore, 2001). The impact of these ACEs are wide-ranging, but include disrupted neurodevelopment, social, emotional and cognitive impairment, adoption of health-risk behaviours, disease, disability and social problems, and early death (Felitti et al., 1998). What is particularly relevant is impact on neurodevelopment and also social, emotional and cognitive impairment. It suggests that there may be fundamental differences in the neurological development of those who have experienced more ACEs compared to those who have experienced none or less ACEs, and this can impact on an individual's cognitive and emotional processes. The experience of ACEs was not explored in the current study and this means that there was no measure of the difference in the violent and non-violent groups' experience of early life trauma which may have impacted on their neurological development. Therefore it was not possible to rule out the impact of these variables on antisocial attitudes, hostile attributions, emotions and the commission of violence.

Implications

The hypotheses within the current study were unsupported. This means that for the current sample, there was no evidence to support the idea that violent young people

within a secure training centre are more likely to experience more emotional symptoms or antisocial cognitions than non-violent young people. Whilst non-significant, this has added to the existing body of literature into how emotions and antisocial cognitions impact on violence, especially within samples of young people, and more specifically within a secure training centre. It may be argued that the clinical implications of these findings are that there is no value in differentiating the treatment needs of violent and non-violent young people, and the same approaches and interventions can address the emotional and antisocial cognition needs of both groups. From a clinical perspective, this might make it easier to design and deliver interventions if all young people are targeted with a small number of interventions. However, this does not consider the clinical formulations which help to identify individual needs and therefore interventions that might help to address these. Whilst the clinical provision can be guided by findings within research, it also needs to be guided by the individual needs of the young people, which can change across time. Given the limitations of the study as well as how early on research remains with the population, it was considered premature to draw the conclusion that there are no differences in emotions and antisocial cognitions between violent and non-violent young people, and therefore base clinical interventions on this finding. It was felt that an individually assessed and tailored approach was most appropriate and ethical, and considering the limitations of the current research, that more research addressing these limitations was needed before a blanket application of the results to clinical input.

The impact of the current research on the existing knowledge is also in its early stages and affected by the limitations of the study. One interesting research implication raised by the current study and a reflection of its limitations is how the body of research in this area defines and therefore measures violence. The existing literature, and indeed the current study, varies greatly in the way it defines what violence is, the differentiation between reactive and instrumental forms of violence and aggression, and therefore how participants are allocated into violent and non-violent groups. It presents the question of what exactly the body of research is measuring, how comparable these studies are, and how representative they may be of violence. Perhaps it has raised the need for a more unified definition and measure of violence. A similar point could be made for what a measure of emotions means. Given the varied measures of emotions employed within the body of literature, it could be argued that the implications of all these studies may be different. The current study measured varied emotional symptoms;

from fear, to worry, anxiety, loneliness and depression. These are clearly very different emotional symptoms, hence why diagnostic criteria for disorders such as anxiety and depression within the International Diagnostic Criteria 10, are different (World Health Organization, 1992). The implications of this include what specifically is being measured when using a measure of 'emotions,' but moreover, what clinical implications there are for significant or non-significant results. An interesting consideration is whether significant results indicate that all emotions should be addressed in the same way and using the same approaches. Another interesting consideration following this, is whether it is more appropriate to measure *specific* emotions and the impact on violence. The current study has raised crucial questions and research implications in these areas, not necessarily through the results, but rather through a reflection on the methodological limitations of the study.

Another research implication raised by the current research is whether it is even realistic to condense the differences of violent and non-violent populations into discreet variables such as emotions and antisocial cognitions. Violence is clearly not a simple issue, and the growing body of research into ACEs demonstrate that the picture may be far more complex than early research demonstrated. The risk of behaviours such as violence may not be simply down to what antisocial cognitions one holds or how we experience emotions, but rather placing early life experiences at the heart of understanding these behaviours (Felitti et al., 1998). Whilst this has been discussed in theories such as the Social Information Processing model (Dodge & Crick, 1990), the full impact of these early life experiences have been highlighted through research into ACEs. Reflections on the current study and results has helped to clarify this, and points to the value of considering a much wider ranging number of variables which may impact on risk of violence; some examples including early life trauma, attachment difficulties, neurodevelopmental factors, and family circumstances. Exploring these may offer some explanation as to how violent and non-violent individuals fundamentally differ from one another.

Implications for clinical practice has previously been mentioned, and in particular whether the current findings suggest that clinical interventions should be the same for both violent and non-violent groups. The current body of interventions to address criminogenic and other therapeutic needs does not support this generalised approach. Accredited interventions within Her Majesty's Prison Service include different programmes to address violence. Resolve is aimed at medium to high risk

offenders who have been convicted of a violent offence, and Kaizen is aimed at high risk offenders convicted of general, intimate partner and sexual violence. There are also specific programmes aimed at intimate partner violence (Building Better Relationships) and sexual violence (Healthy Sex Programme). Programmes tailored specifically at youth populations also consider elements that address both instrumental and reactive aggression, such as Life Minus Violence. Therefore, existing intervention programmes have considered the complexity of violence, and the value of addressing specific needs within this area. Additionally, research into ACEs have led to models such as the Neurosequential Model of Therapeutics (Perry, 2006) which outlines the importance of sequencing interventions which address the basic survival needs of a young person within the brainstem, because this may be where they are neurologically stuck, before progressing onto more cognitive components within the cortical brain. The premise is that sensory and soothing interventions may be more useful first, before interventions that tap into the cognitive areas of the brain. This body of interventions and therapies highlight the importance of taking into account the typology of violence, the function of these behaviours, specific risk levels, and also appropriate sequencing based on what the overall identified needs of the individual is, irrespective of whether this is violence-specific or not. It would be too early to conclude that these approaches and models are not supported based on the current findings due to the methodological limitations of the current study. There would be more value in using future research to address such limitations to see if findings remain consistent, and therefore what clinical implications there may be for practice.

Future directions

Future research would benefit from addressing the limitations outlined. One suggestion is to consider the allocation of participants into a violent and non-violent group. There are limits to basing this solely on index offence, and therefore taking into account previous offending, non-convicted violence, undisclosed violence or institutional violence is also important. This may mean considering an appropriate time to administer measures, to allow for sufficient time for institutional behaviours to be demonstrated and recorded. Another important consideration when measuring violence would be to differentiate between what is instrumental and reactive aggression. This may not always be clear from index offence or file information alone, and may require qualitative clinical interviews. Additionally, employing a measure of violence or

aggression may help to appropriately allocate into groups, but also means this data can be considered within the analyses. Future research may also benefit from expanding on the comparison groups. Given that it is not always easy to allocate participants into violent and non-violent groups, comparing an incarcerated group with a community sample might be a more reliable way of comparing a violent and non-violent group. This type of research would mean further ethical considerations and applications to other institutions, but would be a useful way to glean further data from a non-violent sample.

Future research may also benefit from more careful consideration of what is measured and how. Employment of an emotional regulation measure is especially important given that there is research to indicate the role of emotional regulation in mediating violence. It follows that using an emotional regulation measure would help to explore any differences in a violent and non-violent groups' ability to manage their emotions, what role the ability to reduce their emotional arousal and regulate their emotions may play on the risk of violence, and what this may mean for clinical practice. Additionally, the type of measure of emotions should be carefully considered. More specific literature on different emotions and their impact on violence would be important, but using this to guide what emotional measures to use may provide more clarity on the needs associated with different emotional symptoms. It has previously been discussed that the measure of emotions and antisocial cognitions based on psychometric measures alone may not be representative of what an individual may experience in 'real time'. A research design that allowed for administration of measures alongside presenting the participants with hypothetical situations which may elicit emotions and antisocial attitudes may help to capture more rich data. A similar research design was employed by Robinson et al. (2007) who showed participants videotaped stimulus material, and rated their emotional response to scenarios. Other ways to capture this data may include presenting vignettes or computer priming tasks. This would be a valuable way to capture emotions and antisocial cognitions relating to specific situations presented in 'real time.'

Future research may benefit from exploring a wider range of variables which may impact upon violence. Given the literature on ACEs (Felitti et al., 1998), risk behaviours, including violence, is likely to have roots in some form of early trauma, and therefore future research would benefit from exploring how any adverse childhood experiences may differ in violent and non-violent groups. These may include emotional,

physical or sexual abuse, neglect, familial violence, substance abuse, mental illness, parental separation, and parental incarceration. Considering the impact on neurodevelopment, it may also be useful to include diagnostic variables including mental health and neurodevelopmental diagnoses. Measuring these variables may offer more understanding into how ACEs may impact on future risk behaviours. Measuring these variables may also offer opportunity for these variables to be factored within analyses; whether this is to partition out the impact of these variables or measure how much they impact on violence. It could also help to understand how interventions and therapies should be sequenced; whether addressing emotions and antisocial cognitions is enough, or whether focussing on trauma therapy as a foundation should be the focus.

Finally, longer-term analysis might be useful to see whether the current results remain consistent. This may help to gather a more equal sample size, and help to explore whether the current results are only relevant to the current sample.

Conclusion

The current research looked at whether a violent group within a secure training centre would experience more emotional symptoms and antisocial cognitions than a non-violent group. The results did not support the hypotheses. Non-significant results were found when comparing the groups on their experience of emotions and antisocial cognitions. The results may indicate that there are no differences in the emotions and antisocial cognitions of the violent and non-violent groups. Limitations have been discussed which may explain these non-significant results including an unequal sample size, allocation of participants into groups, the lack of measures of violence and emotional regulation, and a lack of consideration of other variables which may impact on violence. The research perspective is that longer term research, and suggestions for future direction, may help to explore whether these results remain consistent. Furthermore, the clinical perspective is that being responsive to the different needs of young people remains fundamental and whilst the non-significant results should be considered, this needs to be done so in the context of individual needs. The current research has added to the body of research in this field, and based on limitations, makes suggestions for further research in this population.

References

Agnew, R. (2013). When criminal coping is likely: An extension of General Strain Theory. *Deviant Behavior, 34,* 653-670.

Anderson, C. A., & Huesmann, L. R. (2007). Human aggression: A social cognitive view. In M. A. Hogg & J. Cooper (Eds.), *The Sage handbook of social psychology* (pp. 259-287). London: Sage Publications Limited.

Andrews, D. A., & Bonta, J. (2003). *The psychology of criminal conduct* (3rd ed.). Cincinnati Ohio: Anderson.

Bandura, A. (1977). *Social Learning Theory*. New York: General Learning Press.

Barriga, A. G., & Giggs, J. C. (1996). Measuring cognitive distortion in antisocial youth: Development and preliminary validation of the "How I Think" Questionnaire. *Aggressive Behavior, 22,* 333-343.

Barriga, A. G., Gibbs, J. C., Potter, G. B., & Liau, A. K. (2001). *How I think Questionnaire manual.* Champaign, Illinois: Research Press.

Baumeister, R. F., Heatherton, T. F., & Tice, D. M. (1994). *Losing control: How and why people fail at self-regulation.* San Diego, CA: Academic Press.

Beck, A. T. (1999). *Prisoners of hate: The cognitive bias of anger, hostility and violence.* New York: Harper Collins.

Berkowitz, L. (1989). Frustration-aggression hypothesis: Examination and reformulation. *Psychological Bulletin, 106,* 59-73.

Blackburn, R. (1993). *The Psychology of Criminal Conduct: Theory, research and practice.* Chichester: Wiley.

Chereji, S. V., Pintea, S., & David, D. (2012). The relationship of anger and cognitive distortions with violence in violent offenders' population: A meta-analytic

review. *The European Journal of Psychology Applied to Legal Context, 4,* 59-77.

Chui, W. H., & Chan, H. C. (2013). Psychological characteristics of male 14 to 20 year olds on probation and in a residential home in Hong Kong. *Criminal Behaviour and Mental Health, 23,* 41-55.

Crewe, B., Warr, J., Bennett, P., & Smith, A. (2014). The emotional geography of prison life. *Theoretical Criminology*, *18*(1), 56-74.

Dodge, K. A., & Crick, N. R. (1990). Social information-processing biases of aggressive behavior in children. *Personality and Social Psychology Bulletin, 16,* 8-22. Retrieved from https://doi.org/10.1177/0146167290161002

Dodge, K. A., Pettit, G. S., McClaskey, C. L., Brown, M., & Gottman, J. M. (1986). Social competence in children. *Monographs of the Society for Research in Child Development*, i-85. doi:10.2307/1165906

Dodge, K. A., Price, J. A., Bachorowski, J., & Newman, J. P. (1990). Hostile attributional biases in severely aggressive adolescents. *Journal of Abnormal Psychology, 99,* 385-392.

Dodge, K. A., & Tomlin, A. (1987). Cue-utilization as a mechanism of attributional bias in aggressive children. *Social Cognition, 5,* 280-300. Retrieved from https://doi.org/10.1521/soco.1987.5.3.280

Donohue, J. J., Goranson, A. C., McClure, K. S., & Van Male, L. M. (2014). Emotion dysregulation, negative affect, and aggression: A moderated, multiple mediator analysis. *Personality and Individual Differences, 70,* 23-28.

DuRant, R. H., Cadenhead, C., Pendergrast, R. A., Slavens, G., & Linder, C. W. (1994). Factors associated with the use of violence among urban black adolescents. *American Journal of Public Health, 84,* 612-617.

Farrington, D. P., & West, D. J. (1993). Criminal, penal and life histories of chronic offenders: Risk and protective factors and early identification. *Criminal Behaviour and Mental Health, 3,* 492-523.

Faul, F., Erdfelder, E., Lang, A. G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39,* 175-191.

Felitti, V. J., Anda, R. F., Nordenberg, D., Williamson, D. F., Spitz, A. M., Edwards, V., & Marks, J. S. (1998). Relationship of childhood abuse and household dysfunction to many of the leading causes of death in adults: The Adverse Childhood Experiences (ACE) Study. *American Journal of Preventive Medicine, 14*(4), 245-258.

Felson, R. B. (1992). "Kick 'em when they're down": Explanations of the relationship between stress and interpersonal aggression and violence. *The Sociological Quarterly, 33,* 1-16.

Fisher, S., & Hall, G. (2011). "If you show a bit of violence they learn real quick": Measuring entitlement in violent offenders. *Psychiatry, Psychology and Law, 18*(4) 588-598.

Fritz, M. V., Wiklund, G., Koposov, R. A., Klinteberg, B. A., & Ruchkin, V. V. (2008). Psychopathy and violence in juvenile delinquents: What are the associated factors? *International Journal of Law and Psychiatry, 31,* 272-279.

Garofalo, C., & Velotti, P. (2017). Negative emotionality and aggression in violent offenders: The moderating role of emotion dysregulation. *Journal of Criminal Justice, 51,* 9-16.

Garofalo, C., Velotti, P., & Zavattini, G. C. (2018). Emotion regulation and aggression: The incremental contribution of alexithymia, impulsivity, and emotion dysregulation facets. *Psychology of Violence, 8,* 470-483.

Gauci, A., & Hollin, C. R. (2012). The social cognition of violent offenders. *Journal of Criminal Psychology, 2,* 121-126.

Gendreau, P., Goggin, C. E., & Law, M. A. (1997). Predicting prison misconducts. *Criminal Justice and Behavior, 24,* 414-431.

Gendreau, P., Little, T., & Goggin, C. (1996). A meta-analysis of the predictors of adult offender recidivism: What works! *Criminology, 34,* 575-607. doi: 10.1111/j.1745-9125.1996.tb01220.x

Goodman, R. (1997). The Strengths and Difficulties Questionnaire: A Research Note. *Journal of Child Psychology and Psychiatry, 38*(5), 581-586.

Goodman, R. (2001). Psychometric properties of the Strengths and Difficulties Questionnaire. *Journal of the American Academy of Child and Adolescent Psychiatry, 40,* 1337-1345.

Granic, I., & Butler, S. (1998). The relation between anger and antisocial beliefs in young offenders. *Personality and Individual Differences, 24*(6), 759-765.

Hawkins, J. D., Herrenkohl, T., Farrington, D. P., Brewer, D., Catalano, R. F., & Harachi, T. (1998). A review of predictors of youth violence. In R. Loeber & D. P. Farrington (Eds.), *Serious and violent juvenile offenders,* (pp. 106-146). Thousand Oaks, CA: Sage Publications.

Huesmann, L. R. (1988). An information processing model for the development of aggression. *Aggressive Behavior, 14,* 13-24.

Huesmann, L. R., & Guerra, N. G. (1997). Children's normative beliefs about aggression and aggressive behavior. *Journal of Personality and Social Psychology, 72*, 408-419.

Jambon, M., & Smetana, J. G. (2018). Self-Reported Moral Emotions and Physical and Relational Aggression in Early Childhood: A Social Domain Approach. *Child development*. Retrieved from https://onlinelibrary.wiley.com/doi/full/10.1111/cdev.13174

Liau, A. K., Barriga, A. Q., & Gibbs, J. C. (1998). Relations between self-serving cognitive distortions and overt vs. covert antisocial behavior in adolescents. *Aggressive Behavior, 24*, 335-346.

Low, K., & Day, A. (2017). Toward a clinically meaningful taxonomy of violent offenders: The role of anger and thinking styles. *Journal of Interpersonal Violence, 32*(4), 489-514.

Megías, A., Gómez-Leal, R., Gutiérrez-Cobo, M. J., Cabello, R., & Fernández-Berrocal, P. (2018). The relationship between aggression and ability emotional intelligence: The role of negative affect. *Psychiatry research, 270*, 1074-1081.

Moore, C. C., Hubbard, J. A., Bookhout, M. K., & Mlawer, F. (2019). Relations between reactive and proactive aggression and daily emotions in adolescents. *Journal of Abnormal Child Psychology*, 1-13.

Nas, C. N., Brugman, D., & Koops, W. (2008). Measuring self-serving cognitive distortions with the "How I Think Questionnaire." *European Journal of Psychological Assessment, 24*, 181-189.

Nicholas, S., Povey, D., Walker, A., & Kershaw, C. (2005). *Crime in England and Wales 2004/2005.* Home Office Statistical Bulletin 11/05. London: Home Office.

Palmer, E. J. (2007). Criminal Thinking. In D. Carson, B. Milne, F. Pakes, K. Shalev & A. Shawyer (Eds.), *Applying psychology to criminal justice* (pp. 147-165). Chichester: John Wiley & Sons Ltd.

Perry, B. D. (2006). The Neurosequential Model of Therapeutics: Applying principles of neuroscience to clinical work with traumatized and maltreated children. In N. B. Webb (Ed.), *Working with traumatized youth in child welfare* (pp. 27-52). New York: The Guilford Press.

Plante, N., Daigle, M. S., Gaumont, C., Charbonneau, L., Gibbs, J. G., & Barriga, A. (2012). Validation of the "How I Think Questionnaire" in a population of French-speaking adolescents with externalizing behaviors. *Behavioral Sciences and the Law, 30,* 196-210.

Robertson, T., Daffern, M., & Bucks, R. S. (2015). Beyond anger control: Difficulty attending to emotions also predicts aggression in offenders. *Psychology of Violence, 5,* 74-83.

Robinson, R., Roberts, W. L., Strayer, J., & Koopman, R. (2007). Empathy and emotional responsiveness in delinquent and non-delinquent adolescents. *Social Development, 16*(3), 555-579. doi:10.1111/j.1467-9507.2007.00396.x

Schank, R. C., & Abelson, R. P. (1977). *Goals, and Understanding: An inquiry into human knowledge structures.* Hillsdale NJ: Lawrence Earlbaum Associates.

Shamsipour, H., Bazani, M., Tashkeh, M., & Mohammadi, S. (2018). The Role of Negative Affects and Emotion Dysregulation in Aggression. *Practice in Clinical Psychology*, *6*(4), 249-256.

Sukhodolsky, D. G., & Ruchkin, V. V. (2004). Association of normative beliefs and

anger with aggression and antisocial behavior in Russian male juvenile offenders and high school students. *Journal of Abnormal Child Psychology, 32*(2), 225-236.

The Office for National Statistics (2017). *Focus on violent crime and sexual offences, England and Wales, year ending Mar 2016. Analyses on violent crime and sexual offences from the year ending March 2016 Crime Survey for England and Wales and crimes recorded by police.* Retrieved from https://www.ons.gov.uk/peoplepopulationandcommunity/crimeandjustice/articles/thenatureofviolentcrimeinenglandandwales/yearendingmarch2017

Tomkins, S. S. (1978). Script theory: Differential magnification of affects. In *Nebraska symposium on motivation*. University of Nebraska Press.

Turanovic, J. J., & Pratt, T. C. (2017). Consequences of violent victimization for Native American youth in early adulthood. *Journal of youth and adolescence*, *46*(6), 1333-1350.

Valliant, P. M., & Clark, L. M. (2009). An evaluation of nonassaultive, assaultive, and sexually assaultive adolescents at pretrial sentencing: A comparison on cognition, personality, aggression, and criminal sentiments. *Psychological Reports, 105*(3), 1077-1091.

Visu-Petra, G., Borlean, C., Chendran, L., & Bus, I. (2008). An investigation of antisocial attitudes, family background and moral reasoning in violent offenders and police students. *Cognition, Brain, Behavior, 2,* 143-159.

Walters, G. D., & Schlauch, C. (2008). The Psychological Inventory of Criminal Thinking Styles and Level of Service Inventory-Revised: Screening Version as predictors of official and self-reported disciplinary infractions. *Law and Human Behavior, 32,* 454-462.

World Health Organization. (1992). *The ICD-10 classification of mental and behavioural disorders: Clinical descriptions and diagnostic guidelines*. Geneva: World Health Organization.

Yochelson, S., & Samenow, S. E. (1976). *The criminal personality, volumes 1 and 2.* New York: Jason Aronson.

Zumkley, H. (1994). The stability of aggressive behavior: A meta-analysis. *German Journal of Psychology, 18,* 273-281.

Section 3:
Service evaluation

Evaluation of the effectiveness of the Forward Thinking® 'What Got Me Here?' group intervention based on Motivational Interviewing techniques with youths at a secure training centre.

Executive summary

Research suggests that interventions employing motivational interviewing (MI) techniques, based on the transtheoretical model of change (DiClemente & Prochaska, 1985) are useful in helping people make changes in addictive, health and risk behaviours. However, there is less research into the use of MI techniques in helping incarcerated adolescents to enhance their motivation to make changes. The aim of the current service evaluation was to analyse the effectiveness of the Forward Thinking® 'What Got Me Here?' group intervention from the Forward Thinking Interactive Journaling® Series (The Change Companies®, 2010) in terms of increasing their motivation to change. This was in a youth secure training centre in England (12 – 18 years) and outcome data from groups covering a two year period were analysed.

The sample consisted of 18 males drawn from those young people who completed the intervention, and both measures pre and post-intervention, and who provided informed consent for their data to be included. The self-reported University Rhode Island Change Assessment Scale (URICA; DiClemente & Hughes, 1990), and the facilitator-rated What Got Me Here Facilitator Assessment of Participant were used to analyse pre-post intervention changes. The Forward Thinking® 'What Got Me Here?' group intervention was eight sessions long and the sample was taken from seven groups.

A quantitative repeated measures design was used. Eighteen participants completed the URICA measure and 15 of these were assessed using the What Got Me Here Facilitator Assessment of Participant because this was only made available after the first group had been completed. The pre and post-intervention outcome measures were analysed using Wilcoxon non-parametric tests due to the small sample size.

Analysis of the URICA measure demonstrated significant improvements in the overall readiness to change index, which meant that the sample moved from a stage of pre-contemplation to contemplation. Additionally, significant improvements were made on the contemplation and action indices, but not the pre-contemplation or maintenance indices. Analysis of the What Got Me Here Facilitator Assessment of Participant measure demonstrated significant improvements in all indices; overall level of participation, and the skills, behaviour and knowledge indices.

The results provide support for the effectiveness of the Forward Thinking® 'What Got Me Here?' group intervention in enhancing motivation to change. Therefore, recommendations are made for the intervention to continue at the secure training centre. A longer term evaluation is recommended with a larger sample so that parametric tests can be conducted to enhance the robustness of the analysis. Recommendations are also made to include a control group within the analysis so that comparisons to a baseline sample can be made, that high attrition rates are explored and individual experiences from participants are explored.

Introduction

When considering change, one may experience ambivalence, which is the conflict of wanting to but also not wanting to change. The transtheoretical model explains how an individual can progress through different stages towards readiness to change (DiClemente & Prochaska, 1985). The model views change as a progression from precontemplation, which is where change is not considered, to considering change (contemplation), planning to make changes (preparation), taking action towards behavioural changes, and long-term change maintenance (DiClemente & Velasquez, 2002). An individual's ability to progress through these stages is said to help them to resolve their ambivalence and move towards change behaviours. This model has played a role in developing motivational change interventions employing Motivational Interviewing (MI) techniques.

MI is a therapeutic approach that was designed initially for addictive behaviours and aims to help clients to escape the ambivalence that keeps them in cycles of destructive behaviours (Miller & Rollnick, 2002). Emphasis is placed on the client's autonomy, promoting self-efficacy and working in collaboration with the client. The authors of the approach emphasise that MI is about the principles that underlie it, rather than prescriptive techniques. Four of the underlying principles are to express empathy, develop discrepancy, 'rolling with resistance' and support self-efficacy. In their systematic review, Rubak, Sandbæk, Lauritzen, and Christensen (2005) describe the characteristics of MI which align with these principles. These include: eliciting motivation to change from the client without imposing it upon them; change being a dynamic process; the importance of the therapeutic relationship and respecting the client's autonomy; and MI being an approach of working *with* a client. Therefore, interventions using MI are likely to differ in content, but the important thing is that they are aligned with the underlying principles.

Motivational interviewing with addictive behaviours

Much of the initial application of MI has been in addictive behaviours, especially alcohol use (Resnicow et al., 2002). A systematic review found that MI for alcohol-use in adults demonstrated effectiveness in reducing alcohol consumption compared with no intervention, and also in other populations such as adolescents, college students, and more complex samples such as individuals with a dual diagnosis. However, there were

limitations in the primary studies, such as the lack of fidelity tests to monitor how closely the interventions aligned with MI techniques (DiClemente, Corno, Graydon, Wiprovnick, & Knoblach, 2017). Research has also shown the effectiveness of motivational interventions on other addictive behaviours such as the use of cannabis, cocaine or psychostimulants, and tobacco. A systematic review by DiClemente et al. (2017) showed strong support that motivational interventions impacted on tobacco-use and cannabis-use. This was not the case for cocaine use however, for which it showed no significant differences between those who undertook a motivational intervention and those who did not, although it was noted that a limited number of studies was included in the review.

Motivational interviewing in health settings

MI has also been applied within the healthcare setting for conditions including diabetes (Döbler et al., 2018), smoking cessation (Borrelli, Endrighi, Hammond, & Dunsiger, 2017), adherence to medication or treatment (Olsen, Smith, Oei, & Douglas, 2012) and HIV prevention (Starks et al., 2018). The efficacy of MI in health conditions has been demonstrated. In their meta-analysis of 72 randomised controlled trials in different areas of disease, Rubak et al. (2005) showed that MI did have an effect on body mass index, blood alcohol concentration and ethanol content, systolic blood pressure, and blood cholesterol. These effects were consistent even when the roles of the professionals were taken into account. However, clinical significance was not demonstrated for all health areas, with cigarettes per day smoked and blood glucose levels not being significant. Cushing, Jensen, Miller, and Leffingwell (2014) conducted a meta-analysis on the use of MI in health conditions in the adolescent population. The 15 studies that were included looked at sexual risk behaviours, physical activity, diet and medication adherence. They found that MI demonstrated a small but significant effect size post-intervention compared to control conditions, and also when looking at a follow-up period, these significant findings remained. Therefore, there is evidence within the adult and adolescent population that MI is effective in addressing health conditions. However, it is not possible to state that these findings are conclusive, but there is strong evidence to suggest MI can help with many health conditions.

Motivational interviewing and treatment adherence

Zweben and Zuckoff (2002) talk about treatment adherence as an individual starting, maintaining participation and completing a treatment, as well as how they actually progress. There is evidence to suggest that MI is a useful approach to enhance readiness to engage and adhere in further intervention. Murphy, Thompson, Murray, Rainey, and Uddo (2009) looked at a brief MI intervention and whether it helped enhance engagement in PTSD treatment in veterans. They found that MI was, on the whole, effective in enhancing readiness to change, perceived treatment relevance, and PTSD programme attendance, although predicted differences were not found on all measures.

Crane and Eckhardt (2013) demonstrated that a single session employing MI helped to increase treatment compliance and completion of an intimate partner violence programme. The results showed that the MI intervention helped to increase attendance at sessions but was not associated with any reduction in recidivism. These are promising results in the use of MI in increasing motivation to further engage in interventions to address other needs. This is particularly important in the current service evaluation given that young people's motivation to engage in any services or interventions in a secure training centre can be problematic. If interventions adopting the MI approach can be shown to help enhance readiness to engage in further interventions addressing specific needs, this would be beneficial to both the young people and the centre.

Motivational interviewing with adolescents

The MI approach has been used with the adolescent population in various settings and findings have been promising. There has been some evidence that MI is effective in reducing substance-use in the adolescent population. A meta-analysis of 21 studies (Jensen et al., 2011) demonstrated a significant, albeit small effect size, post-MI treatment for adolescent substance-use and the same at a follow-up period. The use of the MI approach in these therapies was effective even with varying session lengths, different settings and clinicians from different disciplines. Significant findings have also been found for mental health in adolescents. Freira et al. (2017) looked at adolescents with obesity. When comparing attendance at an MI group with a control group, they found that the group who attended the MI therapy demonstrated significantly reduced depression scores compared to the increase within the control group. Further evidence has been found specifically for MI's effectiveness in enhancing mental health treatment engagement. Dean, Britt, Bell, Stanley, and Collings (2016)

looked at a sample of adolescents with anxiety and mood disorders, specifically to see if a brief MI intervention, before a mental health intervention, would help to enhance engagement. The adolescents who attended the MI intervention, when compared to controls, attended significantly more group therapy sessions, demonstrated greater treatment initiation and rated their treatment readiness to be higher.

There is further evidence of the use of MI in the incarcerated adolescent population. Stein et al. (2011) found that MI helped to reduce alcohol and marijuana use in incarcerated adolescents when compared to adolescents who attended relaxation training upon release. Other studies have looked at substance-use and risk behaviours within this population and found support for the use of MI in reducing risk behaviours. Clair-Michaud et al. (2016) found that MI helped to reduce substance-related risk behaviours such as predatory aggression and alcohol-related aggression three months after release, compared to a group who attended relaxation training. Similarly, Cunningham et al. (2012) measured levels of alcohol-use and violence following a brief MI intervention with patients aged between 14 and 18, and reported that peer victimisation and aggression reduced significantly after 12 months for those who attended this intervention compared to a control group. There appears to be some emerging evidence for the value of MI techniques, not only in the field of addictive behaviours, but also in risk behaviours such as aggression, specifically in the adolescent population.

National Context

There is a growing body of evidence of the use of MI in the adolescent population in secure settings, in substance-use, and risk behaviours. However, compared to the research into MI with adults in criminal justice settings, there is limited research into the effectiveness in adolescent populations (Feldstein & Ginsburg, 2006). Given the challenges that young people face in custody, including fluctuating motivation for numerous reasons, possibly because of the compulsory nature of their residence, early negative care experiences or their own problems including mental health problems (Brauers, Kroneman, Otten, Lindauer, & Popma, 2016), there is the need for interventions specifically designed to motivate and engage young people in treatment in custodial settings.

Local Context

Secure training centres presents unique challenges when considering interventions, one of which is the short sentence lengths that are typically served, which impacts on whether young people have sufficient time to engage in and complete interventions. Whilst interventions offered within secure settings may include a module of motivational enhancement as part of a wider programme addressing other treatment needs, there are few interventions focussing solely on motivational enhancement that are brief and flexible enough for a secure training centre. In the current study, the need for such an intervention in one centre in the UK was identified through a needs analysis and then requested by the Senior Management Team (SMT). This service evaluation was conducted to evaluate the effectiveness of a motivational enhancement intervention in a child and adolescent secure training centre. The intervention was delivered by two Assistant Psychologists and supervised by a Registered Forensic Psychologist. The approach used within the intervention was based on the transtheoretical model of change.

Aims and Objectives

The aim of this service evaluation is to evaluate the effectiveness of the Forward Thinking® 'What Got Me Here?' Group work from the Forward Thinking Interactive Journaling® Series (The Change Companies®, 2010) in a secure setting in England with a youth population (12 to 18 years), by examining outcome data from groups covering almost a two-year period. This analysis allows for an evaluation of the impact of the intervention on the sample's motivational levels following participation. The outcome data included in this evaluation was collected from programme participants from July 2016 to July 2018 to explore the following;

- What is the effect of the Forward Thinking® 'What Got Me Here?' Group work on participants' levels of motivation using the URICA measure?
- What is the effect of the Forward Thinking® 'What Got Me Here?' Group work on facilitators' assessment of participants' level of motivation?

Methodology

Design

The service evaluation adopted a quantitative repeated measures design. A repeated measures design allows for any changes in the same group of participants to be

measured over time, following an intervention and reduces the effect of individual differences (Greene & D'Oliveira, 1999). The outcome variables were participants' readiness to change measured using the psychometrics outlined below.

Participants

Those who attended the Forward Thinking®: 'What Got Me Here?' Group Programme for the period from July 2016 to July 2018 were eligible to participate. All participants gave their informed consent to participate in the group and for their data to be used for evaluation. This comprised baseline information and outcomes for participants from seven groups who completed the intervention; group one consisted of three completions, group two consisted of six completions, group three consisted of three completions, group four consisted of one completion, group five consisted of two completions, group six consisted of one completion and group seven consisted of two completions. These varying completion numbers is due to the unpredictable nature of a secure training centre, where transfers to other residential placements are frequent, operational needs on site often impact upon interventions, and where young people may refuse to engage or have conflicting engagements. This provided a sample of 18 male participants. It is important to note that for the first group, only one of the measures was used because the second measure had not yet been made available. Therefore, the analysis for the URICA measure included $N = 18$ (age range = 14-18; mean age = 16.39 years; $SD = 1.04$) whilst the analysis for the What Got Me Here Facilitator Assessment of Participant included $n = 15$ (age range = 14-18; mean age = 16.27 years, $SD = 1.03$).

Measures

University Rhode Island Change Assessment Scale (URICA; DiClemente & Hughes, 1990)

The URICA is a 32-item self-rating measure (appendix O) that includes four subscales measuring the stages of change: Pre-contemplation, Contemplation, Action and Maintenance. Responses are given on a five-point Likert scale ranging from 1 (strong disagreement) to 5 (strong agreement). These are based on the stages of change from the transtheoretical model of change (DiClemente & Prochaska, 1985). The subscales can be combined (C + A + M - PC) to yield a second-order continuous Readiness to Change (RTC) score. A RTC score of eight or lower is classed as pre-contemplation, a score of between eight and 11 is contemplation, a score of between 11 and 14 is

preparation (action), and a score of 14 and above is maintenance. All participants ratings yielded a RTC score but also scores on each subtest, to demonstrate to what extent they fell into each stage of change. Participants were asked to complete the URICA pre and post intervention. Previous research with an adolescent population has shown coefficient alphas for each of the four scales of the URICA (Precontemplation, Contemplation, Action, and Maintenance) to have adequate internal consistency (Greenstein, Franklin, & McGuffin, 1999). Cluster analyses have been shown to organise participants into clinically meaningful groups that are aligned with the transtheoretical model of change.

The What Got Me Here Facilitator Assessment of Participant

The What Got Me Here Facilitator Assessment of Participant is a 13-item facilitator-rating measure (appendix P) that includes three subscales: Attitudes, Knowledge and Skills. The Attitude subscale measures changes in attitudes and intentions, Knowledge measures changes in factual knowledge of the intervention content, and Skills measures changes in behaviours and skills. Responses are given on a four-point Likert scale ranging from 1 (strongly agree) to 4 (strongly disagree). The subscales are combined to yield an overall level of participation. A high score means that participants require further practice or development or that there is a deficit in basic skill/knowledge. A low score means that participants require only maintenance, or further practice is desirable. This measure is completed by the facilitators, and there are limitations to measures such as these including the potential for human biases, including how facilitators might have come across, environmental pressures and other variables. Previous research into interviewer ratings have stated that standardised questions, appropriate training and scoring based on an existing mathematical model can minimise the chances of such biases and increase reliability (Conway, Jako, & Goodman, 1995). The impact of the facilitator measure will be reflected on as a limitation.

Procedure

Participants were recruited from young people who wished to attend the group. These were identified through initial assessments of need or self-referrals. Each young person was asked whether they wished to attend. If they did, informed consent was sought for their data to be included within the service evaluation. If they did not provide consent, they were still able to attend the group but their data was not included in the service

evaluation. Prior to the first session a facilitator completed the 'What Got Me Here?' Facilitator Assessment of Participation for each young person in the group based on discussion with the participant. At the beginning of the first session, the URICA measure was administered with the group. This allowed for facilitators to support completion of the measure. To preserve participant anonymity their responses were given a unique identifying code, which allowed for repeated-measures comparisons. At the final group session, participants completed the URICA again. After the final session a facilitator completed the 'What Got Me Here?' Facilitator Assessment of Participant for each participant.

Ethical Considerations

The collection of baseline and outcome data was explained to all participants through the informed consent process (appendix Q) and on the first and last session of the intervention. They were informed that the data would be used to monitor the effectiveness of the intervention. All data were confidential, anonymised so that no individual could be identified and held in line with the Data Protection Act 1998. If participants did not provide their consent for their data to be used as part of the service evaluation, they were still fully supported to attend the group.

Data Analysis

All statistical analyses are reported with two-tailed levels of significance unless otherwise stated. A repeated measures design was used to analyse pre and post intervention impact. The data in the current service evaluation failed to meet the assumptions for parametric tests due to the small sample size. There is the risk that this may skew the data and therefore the data may not be drawn from a normally distributed sample. Therefore, it was more appropriate to use non-parametric tests which make no assumption about the data (Dancey & Reidy, 2004). A series of Wilcoxon tests was used and the results are reported below.

Results

All participants consented to take part in the service evaluation (*N = 18)* and they were drawn from completions of the intervention. The sample were drawn from seven groups, all of which began with eight participants but due to attrition, this resulted in a sample of 18. The attrition rate for this service evaluation was 67.86%. As discussed,

there were various reasons for this including transfer to other residential placements, conflicting operational needs on site, and where young people may refuse to engage or have conflicting engagements. Where this occurred and participants no longer wished to attend, their data was removed from the service evaluation.

URICA outcome

This analysis came from a total sample *of N* = 18. Table 1 shows the descriptive statistics for the URICA.

Table 1

Descriptive statistics for URICA

N = 18		**Median**	**SD**	**Range**
Pre-contemplation	Pre	2.49	.60	1.57 - 3.71
	Post	2.43	.82	1.00 – 3.71
Contemplation	Pre	3.43	.72	2.42 – 4.86
	Post	3.93	.61	3.00 – 4.86
Action	Pre	3.71	.81	2.14 – 4.86
	Post	4.00	.55	2.86 – 5.00
Maintenance	Pre	2.93	.58	2.00 – 4.00
	Post	3.21	.61	1.86 – 4.00
Overall readiness to change	Pre	7.52	1.79	5.00 – 10.00
	Post	8.86	2.05	5.19 – 11.57

Table 2

Table to describe which stage the participants were at pre-intervention and post-intervention on the RTC score

Participant	**Pre-intervention score (RTC)**	**Post-intervention score (RTC)**	**Stage of change progress**
1	7.15	8.71	Pre-contemplation – Contemplation
2	7.15	11.57	Pre-contemplation – Action
3	10.00	11.42	Contemplation – Action
4	10.00	11.14	Contemplation – Action

5	8.00	9.28	Pre-contemplation – Contemplation
6	9.28	11.00	Contemplation – Action
7	5.29	8.42	Pre-contemplation – Contemplation
8	7.88	8.28	Pre-contemplation – Contemplation
9	10.00	11.14	Contemplation – Action
10	5.29	10.92	Pre-contemplation – Contemplation
11	5.00	5.19	Pre-contemplation – Pre-contemplation
12	6.42	9.00	Pre-contemplation – Contemplation
13	9.84	6.15	Contemplation – Pre-contemplation
14	6.29	6.71	Pre-contemplation – Pre-contemplation
15	6.29	6.00	Pre-contemplation – Pre-contemplation
16	8.14	9.31	Contemplation – Contemplation
17	6.42	7.00	Pre-contemplation – Pre-contemplation
18	9.33	8.15	Contemplation – Contemplation

Table 2 outlines that six participants moved from the pre-contemplation stage to contemplation stage after attending the group. One participant moved from pre-contemplation to action stage after the group. Four participants moved from the contemplation to the action stage after the group. Four participants remained at the pre-contemplation stage after attending the group, two remained at the contemplation stage, and one participant went from contemplation back to the pre-contemplation stage after attendance of the group.

Wilcoxon tests were conducted for each sub-test within the psychometric measure. No significant differences were found between the pre-contemplation scores

pre and post intervention (Z = -0.42, p = .678), and between the maintenance scores pre and post intervention (Z = 1.23, p = .221).

Significant differences were found between the contemplation scores pre (M = 3.43) and post (M = 3.93) intervention (Z = 2.34, p = .019) with a large effect size (0.55) according to Cohen's classification of effect sizes. This indicates that following the intervention, participants' scores on contemplation were significantly higher than before the intervention, and therefore they were contemplating change more.

Significant differences were found between the action scores pre (M = 3.71) and post (M = 4.00) intervention (Z = 2.44, p = .015) with a large effect size (0.57). This indicates that following the intervention, participants' scores on action scale were significantly higher than before the intervention, and therefore they were taking more action to making changes.

Significant differences were found between the overall readiness to change score pre (M = 7.52) and post (M = 8.86) intervention (Z = 2.55, p = .011) with a large effect size (0.6). This indicates that following the intervention, participants' scores on the overall readiness to change scale were significantly higher than before the intervention, which demonstrated progress in their readiness to change. The median score of 8.86 indicated they were at the contemplation stage which compares to pre-contemplation pre-intervention.

What Got Me Here Facilitator Assessment of Participant outcome

This analysis came from a total sample *of N* = 15. Table 3 shows the descriptive statistics for the measure.

Table 3

Descriptive statistics for the What Got Me Here Facilitator Assessment of Participant

N = 15		**Median**	**SD**	**Range**
Attitude	Pre	2.60	.54	2.00 – 3.80
	Post	1.60	.53	1.00 – 2.80
Knowledge	Pre	3.00	.44	2.67 – 4.00
	Post	1.60	.38	1.00 – 2.33
Skills	Pre	3.00	.68	2.40 – 5.00
	Post	2.00	.43	1.20 – 2.60

Overall facilitator rated level of participation	Pre	2.85	.47	2.15 – 3.69
	Post	1.69	.36	1.23 – 2.31

A significant difference was found between the facilitators' assessment of participant attitude pre (M = 2.60) and post (M = 1.60) intervention (Z = -3.43, p = .001) with a large effect size (0.88). This indicates that following the intervention, the facilitators rated the participants' attitude as improved compared to before the intervention.

A significant difference was found between the facilitators' assessment of participant knowledge pre (M = 3.00) and post (M = 1.60) intervention (Z = -3.42, p = .001) with a large effect size (0.88). This indicates that following the intervention, the facilitators rated the participants' knowledge as improved from before the intervention.

A significant difference was found between the facilitators' assessment of participant skill pre (M = 3.00) and post (M = 2.00) intervention (Z = -3.41, p = .001) with a large effect size (0.88). This indicates that following the intervention, the facilitators rated the participants' skills as improved compared to before the intervention.

A significant difference was found between the facilitators' assessment of participant overall level of participation pre (M = 2.85) and post (M = 1.69) intervention (Z = -3.41, p = .001) with a large effect size (0.88). This indicates that following the intervention, the facilitators rated the participants' overall participation as better than before the intervention. Then median score of 1.69 indicates that the overall participation rating was between the maintenance or further practice is desirable stage.

Discussion

This study explored whether the Forward Thinking®: 'What Got Me Here?' Group Programme impacted on participants' motivation to change; specifically their stage of change in accordance with the transtheoretical model of change, and as measured by the URICA. Additionally, it examined whether there was any improvement in motivation as measured by the facilitator-rated What Got Me Here Facilitator Assessment of Participant, which looks at any changes in attitudes,

knowledge, skills, and an overall assessment of participation. These were administered at the start and end of the intervention.

Non-parametric tests were conducted to analyse the pre and post intervention outcome measures. The analyses of the URICA measure indicated that there were significant improvements in contemplation, action and overall readiness to change indices. This showed that after attending the intervention participants were more ready to contemplate making changes, and were more likely to take action. Furthermore, the overall readiness to change significantly improved, moving from a stage of pre-contemplation to contemplation. This demonstrates that participants who completed the intervention were more ready to consider changes than before the intervention.

There were significant improvements in the facilitators' assessment of the participants' attitudes, skills, knowledge, and overall level of participation following completion of the intervention. The results indicate that participants demonstrated significant improvements in their attitudes and intentions relating to the areas addressed in the intervention. Changes in behaviour and skills were also significantly improved following completion, as were changes in the participants' knowledge. In terms of overall level of participation, the findings indicate that the participants were at a stage where they were aware of the need for behaviour change and for the most part were interested in the steps towards this, but may have needed to develop their self-confidence to attain and maintain changes. Following the intervention, they were fully aware of the need for change and placed importance on making them. They were more likely to make positive changes and did so with increased confidence. The findings of the current service evaluation suggest that the Forward Thinking® "What Got Me Here?" intervention is effective at improving motivation to change.

Previous research has indicated that MI is effective within adolescent samples in substance-use (Jensen et al., 2011), mental health symptoms (Freira et al., 2017), and in enhancing mental health intervention engagement (Dean et al., 2016). The current findings lend further support to the efficacy of MI within this population. MI has been found to be effective at reducing both alcohol and marijuana-use post-release with incarcerated adolescents (Stein et al., 2011) when compared to a group who attended relaxation training. Other studies in this population have shown MI's efficacy in reducing risk behaviours such as substance-related aggression (Clair-Michaud et al., 2016) and peer victimisation and aggression (Cunningham et al., 2012). The current study adds to the evidence of MI's efficacy in the incarcerated population, indicating

that it might be a useful approach to take irrespective of the setting of the intervention. These studies (Stein et al., 2011; Clair-Michaud et al., 2016; Cunningham et al., 2012) were more robust due to the use of comparison groups, and also there were measures of risk behaviours either post-release or at a longer follow-up period. These were able to demonstrate that not only was MI useful at decreasing the risk behaviours after the intervention, these were consistent at 3 months and 12 month follow-up periods. Additionally, these studies measured a reduction in specific risk behaviours such as peer victimisation or substance-related aggression. The current study adds to the body of literature supporting the effectiveness of MI in the incarcerated population in that there were improvements in self-reported as well as facilitator-reported measures of readiness to change, but there are limitations compared to previous studies which will be outlined in the 'Critical appraisal' section.

These findings are useful for a number of reasons. Firstly, the intervention's effectiveness at enhancing motivation are promising for the young people in breaking cycles of criminal behaviour. Additionally, there is an increasing body of literature about the use of MI techniques in treatment adherence (Zweben & Zuckoff, 2002; Crane & Eckhardt, 2013), and this is particularly important within the current population, in that a brief intervention may increase the likeliness of engagement in future intervention addressing other needs. The adolescent population may demonstrate fluctuating motivation for various reasons (Brauers et al., 2016) which may include the nature of their incarceration or their own mental health. Our experience of engaging our young people in and maintaining their engagement in interventions has been difficult. Hence, having a brief intervention which can help to enhance motivation may be beneficial in this population. Furthermore, having a brief 8 session intervention is valuable for those who may be serving short sentences and only have time for brief interventions.

Therefore, the service evaluation adds to the body of research into the efficacy of MI in the incarcerated as well as general adolescent research, and it contributes towards developing effective interventions for young people.

Dissemination process

The results of the evaluation were presented to the Psychology team within the centre, in order for a full discussion and feedback to take place. The results were then presented to the Deputy Director and within a Senior Management meeting through an executive

summary which included an overview of the statistical analysis and results (appendix R). Based on this feedback, the directions from senior management was to continue with the delivery of the intervention and with a long-term evaluation.

Clinical implications and recommendations for service

The findings of the current service evaluation provide evidence that Forward Thinking®: 'What Got Me Here?' Group in a secure setting for children and young people is effective at improving motivation to change. The brief eight session group can be delivered in a timely manner for young people who may be serving short sentences, but also in preparation for those who may engage in additional interventions. The findings are promising in that there is some evidence to suggest that it may help to enhance motivation to change and motivation to attend further interventions. This could have implications for not only the service provided in the centre, but also the young people's progress through their sentence.

Based on the findings of the current service evaluation the following recommendations are made;

- Longer term service evaluation on the effectiveness of the intervention given the small sample size;
- The use of parametric tests when the sample is larger;
- Employment of a control group;
- Exploration of individual experiences of attending the intervention;
- Exploration of the high attrition rates and what can be done to address this.

Critical Appraisal

The service evaluation met the aims outlined. It provided insight into the effectiveness of the intervention in terms of the impact on motivation to change and recommendations were made to the SMT which helped to make a decision about continuation of the intervention.

A strength of the service evaluation was the support from site which allowed for a streamlined process of selecting participants, delivering the intervention and data collection. This was because the site was fully invested in evidence-based interventions.

The author has reflected that had this not been the case, it would not have been easy to complete this service evaluation or make recommendations to the SMT.

There were limitations to the service evaluation. The use of only quantitative methods of analysis is one limitation. Although this approach allows for objective analysis of outcome measures of stages of change, it limits the amount of context that can be given to individual improvements. Qualitative interviews may have allowed for further exploration of factors that might affect participants' readiness to change, what might be happening in their environment or internally which might impact on their motivation, as well as any factors within their lives in the community or their upbringing which may have an impact on their more general motivation to change behaviours. Although qualitative interviews were beyond the scope of the current study due to time constraints, there would be value in future studies taking this into account.

A further limitation is the high attrition rate and a lack of information as to why. The attrition rate was 67.86% which is very high and meant that the majority of participants who started the group did not complete it and therefore did not form part of the completed dataset. It is reflected that this was not unique to the current study, and that attrition rates are high for all other interventions offered on site. This was reflected in the small sample size despite gathering data over a two-year period. As discussed already, the factors that tended to contribute to this did not solely relate to refusal to attend, but quite often were due to operational reasons such as conflicting engagements, transfer to other placements or lack of operational resources to support the intervention. It could be argued that the remaining sample may reflect those who may have higher levels of motivation to engage anyway, thus rating themselves higher on the psychometric measures, and this may have impacted the results. Future research is recommended in this area, to explore any individual, contextual, facilitator or programme-specific factors which may be contributing to high drop-out rates. As suggested previously, a qualitative component to the study may allow for further exploration of individual experiences with motivation and barriers for attendance to interventions. The small sample size presents problems with how much these results can be generalised to a wider adolescent sample. The small sample size also meant that non-parametric tests had to be conducted, which have lower statistical power than parametric tests.

Additionally, a lack of a control group means that there is no guarantee that the improvements in motivation would not have happened anyway, and therefore may not

be due to engagement in the intervention. Some previous studies have employed comparison groups (Stein et al., 2011; Clair-Michaud et al., 2016; Cunningham et al., 2012) and this has allowed for comparisons between the MI group and a comparison group. In these studies, the comparison groups were those who attended an alternative intervention such as relaxation. This is clearly a limitation of the current study, and it could be argued that without such a comparison group, it is not possible to link improvements in motivation to the 'What Got Me Here?' group programme. In order to make future research more robust, having a comparison group attending an alternative intervention may be valuable, but additionally, inclusion of a control group who do not receive any intervention could then be used as a baseline comparison and assess if any changes are due to engagement in the intervention.

Previous studies have measured whether there has been a reduction in risk behaviours following attendance of MI programmes (Clair-Michaud et al., 2016; Cunningham et al., 2012), and this was an omission in the current study. These studies found a reduction in risk behaviours such as predatory aggression and alcohol-related aggression, and peer victimisation respectively. The current study did not measure any reductions in risk behaviours. Whilst a measure of motivation is important and useful, in the context of a secure training centre, and also looking to the future of the young people, it would be useful to see whether this intervention had any impact on behaviours such as institutional violence, rule-breaking and peer problems. It is recommended that future service evaluations take this into account because this would add to the clinical implications of any findings.

A further limitation was the use of the What Got Me Here Facilitator Assessment of Participant measure. Due to the intervention being new and the measure having been developed by the authors of the intervention, there was a lack of information about the validity and reliability of the measure. Therefore, there is no way of determining whether this measure is accurate at measuring what it says it does. There are also limitations to the What Got Me Here Facilitator Assessment of Participant measure being facilitator-rated. This presents possible issues with subjectivity and therefore whether the ratings are truly representative of any changes. In particular, there is the possibility of human biases when it comes to the facilitator measure, given lots of variables such as the personality of the facilitator, environmental factors and pressures on site. Although these biases can be minimised through the fact the measure consists of standardised questions, scoring is based on a mathematical formula, and staff were

appropriately trained (Conway, Jako, & Goodman, 1995), this may not eliminate all risks of human biases. It would be useful for reliability and validity to be analysed for the facilitator-rated scale which may add more weighting to using this in the future. Future research could ensure that any facilitator rating scale is completed as a multidisciplinary team, thereby ensuring that discussions take place within a whole team, minimising the risk of it being based on one facilitator's views. Factoring in a professional external to the Psychology team may further minimise data being skewed by just the immediate team. This would have to be factored into any consent procedures.

Reflections on conducting the service evaluation highlighted several issues. Whilst it was positive that there was support from the SMT, this was in the context of an environment where there was growing pressure from the Youth Justice Board to run effective interventions for young people. It is important to recognise, especially having already discussed the impact of human biases, that this factor may have affected not only the way the facilitators delivered the intervention, but possibly the way in which they rated the facilitator scale. Research in any institution will always involve an element of managerial and operational impact, but it is important to reflect on this as well as minimise risk of it. This may be through involving a professional not within the Psychology team to sit as part of a multidisciplinary team to complete the facilitator rating scale as discussed before, or it may involve future research being conducted by external researchers who are not affiliated with the centre.

The final reflection is on the facilitator team itself. It was evident to the author that the staff are skilled at delivering interventions. Appropriate supervision was important throughout, especially in the face of the pressures highlighted before. Whilst the author provided clinical supervision to the facilitators for most of the time, a period of maternity leave meant that it was not entirely clear whether this was continued throughout the whole period of delivery and data collection. It would be of priority within long term evaluation, that clinical supervision is planned alongside the delivery of the intervention because this could directly impact on the effectiveness of the intervention.

Despite the limitations discussed, the service evaluation provides support for the effectiveness of the intervention, and is a sign of progress that this intervention may help to improve motivation to change, and break cycles of destructive behaviours.

References

Borrelli, B., Endrighi, R., Hammond, S. K., & Dunsiger, S. (2017). Smokers who are unmotivated to quit and have a child with asthma are more likely to quit with intensive motivational interviewing and repeated biomarker feedback. *Journal of consulting and clinical psychology*, *85*, 1019-1028.

Brauers, M., Kroneman, L., Otten, R., Lindauer, R., & Popma, A. (2016). Enhancing adolescents' motivation for treatment in compulsory residential care: A clinical review. *Children and Youth Services Review, 61,* 117-125.

Clair-Michaud, M., Martin, R. A., Stein, L. A., Bassett, S., Lebeau, R., & Golembeske, C. (2016). The impact of motivational interviewing on delinquent behaviors in incarcerated adolescents. *Journal of substance abuse treatment*, *65*, 13-19.

Conway, J. M., Jako, R. A., & Goodman, D. F. (1995). A meta-analysis of interrater and internal consistency reliability of selection interviews. *Journal of Applied Psychology*, *80,* 565.

Crane, C. A., & Eckhardt, C. I. (2013). Evaluation of a single-session brief motivational enhancement intervention for partner abusive men. *Journal of counselling psychology*, *60*, 180-187.

Cunningham, R. M., Chermack, S. T., Zimmerman, M. A., Shope, J. T., Bingham, R., Blow, F. C., & Walton, M. A. (2012). Brief motivational interviewing intervention for peer violence and alcohol use in teens: One year follow-up. *Pediatrics*, *129*(6), 1083-1090.

Cushing, C. C., Jensen, C. D., Miller, M. B., & Leffingwell, T. R. (2014). Meta-analysis of motivational interviewing for adolescent health behavior: Efficacy beyond substance use. *Journal of Consulting and Clinical Psychology*, *82*, 1212-1218.

Dancey, C. P., & Reidy, J. (2004). *Statistics without maths for psychology. Using SPSS for Windows. Third edition.* Harlow England: Pearson Education Limited.

Dean, S., Britt, E., Bell, E., Stanley, J., & Collings, S. (2016). Motivational interviewing to enhance adolescent mental health treatment engagement: a randomized clinical trial. *Psychological medicine*, *46*, 1961-1969.

DiClemente, C. C., Corno, C. M., Graydon, M. M., Wiprovnick, A. E., & Knoblach, D. J. (2017). Motivational Interviewing, enhancement, and brief interventions over the last decade: A review of reviews of efficacy and effectiveness. *Psychology of Addictive Behaviors, 31*(8), 862-887.

DiClemente, C. C., & Hughes, S. O. (1990). Stages of change profiles in alcoholism treatment. *Journal of Substance Abuse, 2,* 217-235.

DiClemente, C. C., & Prochaska, J. O. (1985). Processes and stages of change: Coping and competence in smoking behavior change. In S. Shiffman & T. A. Wills (Eds.), *Coping and substance abuse* (pp. 319-342). New York: Academic Press.

DiClemente, C. C. & Velasquez, M. M. (2002). Motivational Interviewing and the Stages of Change. In W. R. Miller & S. Rollnick (Eds.), *Motivational Interviewing. Preparing people for change. Second Edition* (pp. 201-216). New York: The Guilford Press.

Döbler, A., Herbeck Belnap, B., Pollmann, H., Farin, E., Raspe, H., & Mittag, O. (2018). Telephone-delivered lifestyle support with action planning and motivational interviewing techniques to improve rehabilitation outcomes. *Rehabilitation psychology*, *63*, 170-181.

Feldstein, S. W., & Ginsburg, J. I. (2006). Motivational interviewing with dually diagnosed adolescents in juvenile justice settings. *Brief Treatment and Crisis Intervention*, *6*(3), 218.

Freira, S., Lemos, M. S., Williams, G., Ribeiro, M., Pena, F., & do Céu Machado, M. (2017). Effect of Motivational Interviewing on depression scale scores of adolescents with obesity and overweight. *Psychiatry research, 252*, 340-345.

Greene, J. & D'Oliveira, M. (1999). *Learning to use statistical tests in psychology. Second Edition*. England: Open University Press.

Greenstein, D. K., Franklin, M. E., & McGuffin, P. (1999). Measuring motivation to change: An examination of the University of Rhode Island Change Assessment Questionnaire (URICA) in an adolescent sample. *Psychotherapy: Theory, Research, Practice, Training, 36*(1), 47-55.

Jensen, C. D., Cushing, C. C., Aylward, B. S., Craig, J. T., Sorell, D. M., & Steele, R. G. (2011). Effectiveness of motivational interviewing interventions for adolescent substance use behavior change: a meta-analytic review. *Journal of consulting and clinical psychology*, *79*(4), 433-440.

Miller, W. R., & Rollnick, S. (2002). *Motivational interviewing. Preparing people for change. Second edition*. New York: The Guilford Press.

Murphy, R. T., Thompson, K. E., Murray, M., Rainey, Q., & Uddo, M. M. (2009). Effect of a motivation enhancement intervention on veterans' engagement in PTSD treatment. *Psychological Services*, *6*, 264-278.

Olsen, S., Smith, S. S., Oei, T. P., & Douglas, J. (2012). Motivational interviewing (MINT) improves continuous positive airway pressure (CPAP) acceptance and adherence: a randomized controlled trial. *Journal of consulting and clinical psychology*, *80*, 151-163.

Resnicow, K., Dilorio, C., Soet, J. E., Borrelli, B., Ernst, D., Hecht, J., & Thevos, A. K. (2002). Motivational interviewing in medical and public health settings. In W.

R. Miller & S. Rollnick (Eds.), *Motivational Interviewing. Preparing people for change. Second Edition* (pp. 251-269). New York: The Guilford Press.

Rubak, S., Sandbæk, A., Lauritzen, T., & Christensen, B. (2005). Motivational interviewing: a systematic review and meta-analysis. *British Journal of General Practice, 55*, 305-312.

Starks, T. J., Millar, B. M., Doyle, K. M., Bertone, P., Ohadi, J., & Parsons, J. T. (2018). Motivational interviewing with couples: A theoretical framework for clinical practice illustrated in substance use and HIV prevention intervention with gay male couples. *Psychology of Sexual Orientation and Gender Diversity*, *5*, 490-502.

Stein, L. A. R., Lebeau, R., Colby, S. M., Barnett, N. P., Golembeske, C., & Monti, P. M. (2011). Motivational interviewing for incarcerated adolescents: effects of depressive symptoms on reducing alcohol and marijuana use after release. *Journal of studies on alcohol and drugs, 72*, 497-506.

The Change Companies ® (2010). *Forward Thinking Interactive Journaling® Series* California, United States: The Change Companies ®

Zweben, A., & Zuckoff, A. (2002). Motivational interviewing and treatment adherence. In W. R. Miller & S. Rollnick (Eds.), *Motivational Interviewing. Preparing people for change. Second Edition* (pp. 299-319). New York: The Guilford Press.

Section 4:
Critical Appraisal

Introduction

Reflection is an integral part of the clinical practice of a practitioner psychologist. It does not simply relate to reflections within clinical case work but all aspects of the role, including consultation, training and research. The British Psychological Society states that psychologists should be "cognisant of the importance of self-awareness and the need to appraise and reflect on their own practice" (The British Psychological Society, 2008, p. 8). The importance of reflection was emphasised to me during my training as a Forensic Psychologist in Training. As part of the qualification process, I was required to maintain a daily practice diary. According to the Qualification in Forensic Psychology (Stage 2) Candidate handbook (The British Psychological Society, 2017), the function of the practice diary was for candidates to reflect on areas of work relevant to the Core Roles that had to be submitted. We were encouraged to reflect on our supervisions, professional development, major learning points, as well as ethical and diversity issues and our overall learning journey.

As a qualified Forensic Psychologist, the process of reflection continues to integral in daily practice. I have found that bearing in mind models of reflection have helped to guide what I would benefit from reflecting on and ensuring that it is a useful process. Gibbs' model (1988) has been particularly useful in describing one's feelings about the learning, evaluating what was positive or negative about the learning, making sense of what it means, and looking to the future and considering what can be done differently to improve learning. I have found that this reflective approach allows me to value my own feelings and interpretations of my learning, whilst also ensuring that I consider what is best practice and what is sound psychological theory in future learning. This critical appraisal documents my personal reflections on the journey of planning for, conducting and writing up this doctoral thesis. It also provides me with an opportunity to reflect on my personal learning and growth throughout this process.

Choice of project

In my role as a Forensic Psychologist, my experience has been predominantly within secure settings, and specifically working with those of various ages who have offended violently. My experience delivering anger and emotional regulation programmes, and conducting psychological risk assessments of violence, means that this is an area that I am interested in. When I took on the role of Lead Psychologist at a Secure Training

Centre for young people, this presented me with the opportunity to reflect on how much my previous experience within the adult population applied. Specifically, how relevant and beneficial these anger and emotional regulation programmes were in addressing the needs of this young population. Alongside this, the role was brand new and therefore the company was invested in developing interventions which were not just evidence-based, but also were responsive to the needs of the population. This presented me with the opportunity to explore the specific needs of the young people, with the aim that this would help us to develop interventions which would help to meet them.

From the outset, it was clear that there were several main issues on site; the large proportion of violent offenders amongst the population, the emotional dysregulation demonstrated daily, and the lack of interventions to address these needs. I thought that it would be useful to conduct research which allowed me to develop interventions which were tailored to the specific needs of the young people. Looking at the emotional and cognitive needs of violent and non-violent young people was chosen because these two areas were considered important in how our young people presented. An initial appraisal of the literature also indicated to me that there was some research into the emotional and cognitive experiences of violent and non-violent samples, but scope for further research within the adolescent population where violent and non-violent samples are compared. Therefore, when deciding upon my research project, I was excited to embark on something that not only helped the clinical input on site, but also allowed me to contribute something to the body of research already out there.

Research design and methodology

I have reflected on the limitations of the research within the research report. In this reflective critique I will present a more in-depth view of some of these limitations.

I chose to use a quantitative approach to explore the research question because of the comparison of the two groups and because I wanted to maximise the possibility of any findings being generalisable to the whole population at the centre. This was driven by the desire for the research to benefit the young people on site. I knew that if I used qualitative approaches, this would allow me to have an in-depth look at individual experiences but there would be difficulties in applying any findings to all the young people on site. I stated that my epistemological position is aligned with positivism and empiricism. This allowed me to gather quantitative data using standardised approaches

to explore the research question. I realise there are limitations to this. The main limitation from my perspective as a psychologist is the assumption that science is value-free and facts can only be derived from the data itself (Robson, 2005). This conflicts with my clinical practice where assuming a client-centred approach means being guided by the client's perception of themselves rather than the therapist's interpretation. It means that we value the views and opinions of the client because this is the only way to truly understand what they are going through. This is more aligned with the constructivist position. Using a purely quantitative approach could also have resulted in the non-significant findings. I reflected before that using file and conviction data to decide whether participants should be placed in the violent or non-violent group may not have reflected the actual experiences of the individuals. I did not conduct any clinical interviews with the sample which would have allowed identification of any further violence throughout their lifespan which may have indicated they should be placed in the violent group. Therefore, there may have been more violence in the non-violent group than was known which may have affected the results of the research. Future research could take these limitations into consideration. Specifically, a mixed methods design including clinical interviews to glean any violence throughout the lifespan to more accurately place participants into the two groups and adopting a qualitative approach to exploring the research question.

A true experimental design is the most accurate form of research design. Part of achieving this is using a control group who can be the standard to which comparisons can be made. In this study this could be a non-violent sample taken from the community. Including this control group could have helped to determine whether the needs of violent and non-violent participants are truly different, and therefore limit the possibility of making an erroneous conclusion. Future research could compare a violent and non-violent sample from the centre, as well as comparison with a community sample. There are more ethical considerations and processes to plan for, which would have been beyond the time scope of the current study. I would have to consider where to draw this group from, how to gain informed consent and what ethical considerations to take into account with a community sample.

A further reflection on the methodology is in the data collection phase of the research. The administration of both the SDQ and HIT psychometric measures was aided by two Assistant Psychologists. Having their assistance was beneficial in getting

as large a sample as possible. Had it not been for the assistance of the team, the dataset would have been significantly smaller. Given that data was collected for over a year, some data had to be removed because of incomplete psychometrics, anomalous scoring and other missing information, and this resulted in a total sample size of just under 100. Having the help of suitably trained staff was essential in this research, not only for data collection purposes but also this becomes a piece of work that has shared value across site. An additional learning point was that providing staff with the relevant training to administer and score measures relevant to any research is crucial. I was fortunate that both Assistant Psychologists were experienced in administration of psychometrics and that I had adequate time to train and supervise their initial understanding and use of both measures. At first this appeared to create additional work for myself, but the laying of this foundation was paramount in ensuring that the data collection could continue during my maternity leave. Providing the Assistant Psychologists with adequate training and supervision in psychometric administration and scoring is also important in order to adhere to guidelines and ethical practice. It meant that by the time I began my maternity leave, both staff were fully trained and competent in continuing the work.

Ethical considerations

Working with children and adolescents presents more layers to ethics. Unlike previous research for both my Bachelor and Masters degrees where I used adult samples, this research focussed on a children and adolescent sample and it was paramount to gain consent not just from them, but from parents and carers. Although this added more time to the data collection phase, I believe it was a really important step of the process. From my experience working with young people in secure settings, especially those who are new to the centre, they are generally more likely to consent than to refuse. Young people experience an enormous amount of anxiety once admitted to the centre. This can be further exacerbated by the numerous assessments conducted by various professionals within the first few days of admission. I found that young people are more likely to agree to the assessments that are presented to them in order to progress through their sentence. This may affect how much information they are able to process and understand. Therefore, including parental and carer informed consent in addition to their own consent helps to properly safeguard the wellbeing of the young people. I believe that future research should take this safeguarding further. Identifying the most

appropriate point in time to administer the psychometrics should be done for the wellbeing of the young people, but also to ensure that responses are not loaded with the emotions associated with admission to a new secure setting. This could be when the young people have had more time to settle in and may be less inundated with various other assessments.

Future research should also consider any factors which might impact on responses to the psychometrics. Where a young person has mental health issues, this is likely to affect how they respond to the measure and therefore skew the data. Taking this into account means that any emotional dysregulation problems identified from the SDQ is not related to mental illness. It does not necessarily mean those with diagnosed mental illness should not be included in the sample, but it certainly means that this can be accounted for within the analysis as covariates. This helps to partition out the effect of this variable.

Another ethical consideration was the legal and ethical processing of personal data. Whilst the proposal and ethical approval was sought under the previous Data Protection Act 1998, the new General Data Protection Regulation (GDPR) came into effect from 2018. I needed to ensure that the processing of any participant data adhered to these. Part of the regulations focusses on the lawful basis for processing, and that any personal data processed should be necessary. From a legal and professional perspective this makes sense to me. I should only use the necessary information and data relevant to my research question. In this case, since the SDQ measure is administered to all young people as part of the admission process, the data was already available for me to access providing I gained informed consent to do so. The SDQ has various subscales; emotional symptoms, conduct problems, hyperactivity, peer relationships and prosocial behaviours. I needed to ensure that the consent I gained was only for access to the necessary data which would help me to explore my research question, in this case this was the emotional symptoms subscale. I believe this was the correct stance to take in order to protect any sensitive information relating to the young people. In the dual role of psychologist and researcher, the importance of this was all the more emphasised because I worked with the young people daily, developed good working relationships and therefore was more aware of the need to safeguard them.

Research setting and role difficulties

One of the initial challenges of conducting the research was ascertaining what the research application process was with the company and with the Youth Justice Board. Both had to be consulted about the research, and with the centre being run by a new company, they had yet to establish what the process was. It took much discussion with both to establish how I would gain approval to begin the research process. However, the challenges relating to these did not cease once I had gained all the relevant approval and had begun the research. The historical politics of the centre meant that the Youth Justice Board had more hand in all areas of the running of the centre, and this meant that there was increasing pressure to demonstrate a service of adequate quality in their eyes. I felt this pressure as a Lead Psychologist in all areas of my work, and I also experienced this with the research. Whilst they did not directly have a hands-on approach in the research, there is no doubt that the pressurised atmosphere affected the demands I placed on myself to get things 'right.' Throughout my practice, I have reflected on my perfectionist personality and I believe that the external pressure simply added to the already existing intrinsic pressure. This became particularly evident when I became pregnant and I realised that there would be a portion of time that I would not be present for the data collection. Having to adjust my mindset and my personal expectation was difficult, but I certainly believe that in the long term, it was beneficial. It meant that I had to plan data collection ahead of time, invest more time and effort in staff training and supervision in data collection, and to ensure that my maternity cover was also onboard with everything that had already started.

I believe that this type of challenge relates both to the research setting and also my own personality. I have learnt much along this journey and whilst it would have been easier to conduct research within a more established setting, this would not have achieved the goal of researching the needs of this particular population. I know also that my initial hard work finding out the research application process has helped others who have conducted research, including an Assistant Psychologist looking to complete her own doctoral research.

Analysis and results

Having not conducted a significant piece of research since my Masters, the analysis of the data was one of the more challenging aspects of this research. It took a lot of

reading, researching, discussion and headache to decide how to analyse my data. One of the biggest lessons I learnt during this process is to be guided by the data. That is, I am simply figuring out what the most appropriate statistical analysis should be conducted based on the data and the research aims. Thinking of it in this way allowed me to feel more at peace that the answer was already in the data. Additionally, it also meant that I did not feel the need to choose analyses which in my head were 'more complex.' I was able to reason with myself that it was about choosing appropriate statistical analyses rather than the complexity of it, and this is dictated by the aims of the research, the research design, sample size and test assumptions. I surprised myself by enjoying this stage of the research once I had become more comfortable with the idea of it. I found a great sense of achievement when I was able to go through each step of the analyses systematically; from testing the assumptions of tests right through to the analysis of the data. I came away with an improved understanding and a sense of pride that someone whose strength does not lie in this area, was able to get through it.

Finding non-significant results can cause anxiety about what this means, whether I conducted the study correctly, what this mean about the research question and whether I failed in my goal. These are certainly some questions that ran through my mind when I analysed my data and they indicated non-significant findings. What I found once I had time to reflect on this was that this was not necessarily a 'bad' thing or indicative of something having gone 'wrong.' In fact, it created lots of opportunities to discuss what factors might have affected the results and what methodological considerations should be considered for future research to account for these factors. Additionally, it helped me to consider that perhaps the results do mean that there are no differences in the emotional and cognitive experiences of the two groups and how this does not tally with previous research and theory. As a researcher, we are not in control of what the outcome is, but it is our responsibility to report what was found transparently and think critically about what this means.

The implications for my clinical practice was also reflected upon in light of these findings. I asked myself "does this mean I do not have to tailor intervention to the different needs and those who have offended violently and non-violently because their needs are no different?" From a clinical perspective, this neither makes sense nor is it best practice. This research does not indicate to me that I do not have to be responsive to the individual needs of the client, it simply told me that there were no significant differences between the two groups within this sample. I continue to employ a client-

centred approach to intervention, using clinical formulation as an approach to help understand the specific needs of each client, and therefore what intervention may be most beneficial to them.

Reflections on personal and professional development

I chose to undertake this Doctorate to further develop my skills as a practitioner psychologist. Whilst clinical work was part of my daily practice, research was not and I felt it was important that I kept my research skills up-to-date. Additionally, taking on the role as Lead Psychologist at the secure training centre presented with many opportunities to use research to enhance clinical practice. I began the Doctorate with strict timelines and goals to complete it within two years. What I had not planned for was falling pregnant shortly after I started. This presented a whole set of challenges that I had not even considered when I applied to undertake my studies including the additional fatigue and stress, planning for ongoing data collection during my maternity leave, and continuing my studies with a young child. I found myself quite naïve during this early stage, believing that I would be able to continue with the Doctorate with a new-born baby. It was with the encouragement of my supervisor that I decided to take a period of suspension and this was indeed the correct decision to make in order that I had dedicated time for family, but that upon resuming my studies, I was more mentally and physically ready to engage in the work again.

I have learnt much about my own resilience and capability. Juggling employment, the Doctorate and being a new mother has taught me the importance of compartmentalisation; being able to dedicate time to each of my duties. Although this has not been without a lot of stress and tears, I know that I can remain resilient, not giving up at the sign of difficulties, and keeping my ultimate goal in mind. Engaging in research has also added to my professional development as I continue to use what I have learnt regarding research design, methodology and analyses to ongoing service evaluations. I have made a professional goal to ensure that these skills are used to enhance any clinical intervention introduced, specifically to use statistical analyses to assess the efficacy of interventions with the young people.

I have learnt a lot about being more autonomous during the research process. I have certainly had the invaluable support and advice from my supervisor, but being a part-time Doctorate student means that much of the work had to be completed independently. There were times when all I wanted was for someone to tell me what to

do and how to do it, but my supervisor was integral in guiding me through this and encouraging me to think critically and independently.

I am profoundly grateful for the opportunity to complete this Doctorate, for the lessons that I have learnt about the research question, but more so about myself.

References

Gibbs, G. (1988). *Learning by Doing: A guide to teaching and learning methods. Further Education Unit*. Oxford: Oxford Polytechnic.

Robson, C. (2005). *Real world research. Second edition*. United Kingdom: Blackwell Publishing.

The British Psychological Society (2008). *Criteria for the accreditation of postgraduate training programmes in clinical psychology*. Leicester: The British Psychological Society.

The British Psychological Society (2017). *Qualification in Forensic Psychology (Stage 2) Candidate handbook*. Leicester: The British Psychological Society.

Appendices

Appendix A

Table to summarise included studies in systematic review

No.	Author, year and title	Aims of study	Methodology	Sample and how violence is defined	Analysis/measures	Results/outcomes	Reliability and limitations
1	Fritz et al. (2008) Psychopathy and violence in juvenile delinquents: What are the associated factors?	To examine the discriminative power of the Antisocial Process Screening Device, aggressive traits, impulsiveness, antisocial attitudes and alcohol-related problems with low versus high levels of violent behaviour	Cross-sectional design 2 x group design	Russian juvenile detention centre recruited voluntarily (n=175). High violence group (n=69) Low violence group (n=106) Violence: based on conviction data. Where multiple convictions then placed in high violence group if violent conviction present.	Antisocial Process Screening Device (APSD) Antisocial Behaviour Checklist (ABC) Aggression Questionnaire (AQ) Barratt Impulsivity Scale (BIS-11) Antisocial Attitudes Scale (AAS) The Adolescent Alcohol Involvement Scale (AAIS) Rutgers Alcohol Problem Index (RAPI)	High violence group significantly more impulsive, angrier, have more psychopathic traits, showed more verbal and physical aggression (AQ), and more problems with alcohol-use. Perceived antisocial behaviour as more 'normative.' High violence group compared to low violence group viewed antisocial behaviours as more normative (M=34.35, SD=8.42, versus M=31.62, SD=7.34; F=5.06, p<.05)	Cross sectional design makes it difficult to draw conclusions on the causal relationships between the variables Reliance on self-reports for violence and aggression may mean underreporting No control group meaning all were drawn from delinquent population

No.	Author, year and title	Aims of study	Methodology	Sample and how violence is defined	Analysis/measures	Results/outcomes	Reliability and limitations
					Multiple regression and one-way ANOVA tests		
2	Granic and Butler (1998) The relation between anger and antisocial beliefs in young offenders	Examine the relation between anger and antisocial beliefs in sample of young offenders, and investigate whether scores on either variable differentiated aggressive/versatile from non-aggressive offenders.	2 x group design	Aggressive/versatile offenders (AV) n=22 Non-aggressive offenders (NA) n=20 Violence: based on court reports, police records and developmental histories and based violence on the aggressive/versatile offenders and non-aggressive offenders classification of Loebers (1990).	State Trait Anger Expression Inventory (STAXI) Criminal Sentiments Scale (CSS) Correlational analysis and one-tailed t tests	Significant correlation between anger and antisocial beliefs AVs scored higher than NAs on TA scale of STAXI AVs (*M*=25.00) found to endorse significantly more antisocial beliefs on CSS than NAs (*M*=16.33), *t*=2.45, *p* < 0.02	Small sample size and therefore generalizability of the findings Correlational design which does not explain precise process by which anger and antisocial beliefs interact
3	Sukhodolsky and Ruchkin (2004)	Explore whether normative beliefs are specific to	Cross-sectional design	Juvenile offenders n=361	Six items from the SAHA scale of delinquent behaviour	Regression analysis demonstrated that higher frequency of	Cross sectional design which does

No.	Author, year and title	Aims of study	Methodology	Sample and how violence is defined	Analysis/measures	Results/outcomes	Reliability and limitations
	Association of normative beliefs and anger with aggression and antisocial behaviour in Russian male juvenile offenders and high school students	physical aggression and non-aggressive antisocial acts, and also the combined effects of anger and normative beliefs on aggressive and non-aggressive antisocial behaviour.	2 x group design	High school students n=206 Sampling by convenience Violence: young offender sample which consisted of 47.9% convicted of non-violent offences (e.g., theft), 40.2% for a violence (e.g., assault, robbery), and 4.4% for murder and 4.4% for sexual violence. SAHA scale measured physical aggression, as well as items to measure non-aggressive antisocial.	to measure physical aggression Six items from SAHA scale of delinquent behaviour to measure non-aggressive antisocial behaviour Five-item measure from the National Adolescent Student Health Survey (NASHS) Six items from the seven-item Disapproval of Deviancy Scale Aggression Questionnaire (Buss and Perry, 1992) Correlations for the five measures	aggressive acts was significantly associated with higher levels of anger and stronger beliefs that physical aggression is appropriate in conflicts. When non-aggressive antisocial behaviour controlled, the relationship between physical aggression and antisocial beliefs was not significant. Independent t tests indicated differences between two groups on physical aggression, antisocial behaviour and anger (juveniles reporting higher levels). No significant	not enable causal inferences Male sample so not generalizable to female population Measure administered to incarcerated individuals may have been confounded with the stressors of being in a correctional institution Possible social desirability effect Size of observed relationships may be exaggerated by the mono-response bias

No.	Author, year and title	Aims of study	Methodology	Sample and how violence is defined	Analysis/measures	Results/outcomes	Reliability and limitations
					Independent samples t tests to examine differences between groups	differences founds between groups for normative beliefs.	
4	Liau et al. (1998) Relations between self-serving cognitive distortions and overt vs. covert antisocial behaviour in adolescents	Explore the relation between cognitive distortions (inaccurate thoughts, attitudes or beliefs) and antisocial behaviours that is either overt/confrontational (e.g. fighting) or covert/non-confrontational (e.g. stealing)	2 x group design	Male Juveniles delinquents n=52 High school adolescents n=51 Violence: comparison of the above 2 groups but administration of SRD which measured categories of offending including predatory crimes against the persons, against property, illegal services, public disorder, status crimes and hard drug use, and this	The How I Think questionnaire (HIT) to measure self-serving cognitive distortions as they relate to externalising behaviours. The adapted Self-reported Delinquency scale (SRD) to measure overt and covert antisocial behaviours Correlation to explore relationship between HIT and SRD scores One way ANCOVA to explore if the HIT discriminated between the criterion groups	Juvenile delinquents found to score significantly higher than students on cognitive distortions and also antisocial behaviours. Cognitive distortions relate specifically to overt and covert antisocial behaviours in both groups, e.g. cognitive distortions which demonstrated overt antisocial behaviours evidenced a significant path to overt but not covert antisocial behaviours.	Small sample size and therefore generalizability issue Only 12 items in the self-report measure of antisocial behaviour

No.	Author, year and title	Aims of study	Methodology	Sample and how violence is defined	Analysis/measures	Results/outcomes	Reliability and limitations
				helped to determine overt or covert antisocial behaviours.	Path analysis to investigate overt and covert cognitive distortions relate to overt and covert antisocial behaviours		
5	Robinson et al. (2007) Empathy and emotional responsiveness in delinquent and non-delinquent adolescents.	Exploring whether youth offender population perform more poorly than comparison group on responsive empathy as well as other related measures such as emotion recognition, emotional responsiveness, perspective-taking, guilt, shame, antisocial attitudes and behaviours.	2 x group design	Youth offender sample (n=64) incarcerated for juvenile offences in Canada Male volunteers from high school as comparison group (n=60) Violence: young offenders consisted of 30% convicted of a non-violent offence (e.g., breach of probation, vandalism), 19%	Jesness Inventory – assessing antisocial attitudes and aggressive behaviours The Interpersonal Reactivity Index – measures affective and cognitive dispositions central to empathy The Bryant Empathy Index (BEI) The Empathy Continuum	Young offenders described themselves as more aggressive and anti-authority and distrustful than the comparison group $f(3, 120) = 5.74$, $p < .005$ However, regression analysis indicated that Empathy was found to be a defining deficit, above aggression and antisocial attitudes, in differentiating young offender sample from non-offender	Correlations of measures with guilt and shame need to be interpreted cautiously because shared method and source variance may play a role in some of the correlations.

No.	Author, year and title	Aims of study	Methodology	Sample and how violence is defined	Analysis/measures	Results/outcomes	Reliability and limitations
				convicted for violence (e.g., assault, murder), and 51% for a combination of the two. Jesness Inventory helped to further classify violence.	The Emotional Response Questionnaire The Test of Self-Conscious Affect – Adolescent Version (YOSCA-A) Multivariate ANCOVA	sample. Therefore, the critical factor is empathy as opposed to antisocial attitudes and aggression.	
6	Valliant and Clark (2009)	Investigate cognition, personality, anger and criminal sentiments of young offender populations.	3 x group design, cross sectional design	39 male adolescent offenders from one facility, undergoing psychological assessment prior to court appearance 12 non assaultive (M age = 15.5, SD = 1.5)	Wechsler Intelligence Scale for Children – Third Edition Wide Range Achievement Test-Revised State-Trait Anxiety Anger Expression Inventory-2 Carlson Psychological Survey	Significant differences were found: - Block Design subtest of the WISC - Social Introversion and Addiction acknowledgement of the MMPI - Inhibited, Sexual discomfort, peer insecurity, substance abuse	A major limitation is that the researchers did not critique their own study and present any limitations Limitations identified include - Cross sectional design may limit finding's generalisability

No.	Author, year and title	Aims of study	Methodology	Sample and how violence is defined	Analysis/measures	Results/outcomes	Reliability and limitations
				14 assaultive (M = , SD = 1.3) 13 sexually assaultive (M = 15.8, SD = 1.2) Violence: based on conviction data (non assaultive, assaultive and sexually assaultive)	Minnesota Multiphasic Personality Inventory-Adolescent Millon Adolescent Clinical Inventory A series of one way analyses comparing the three groups across the different measures with Scheffe's post hoc tests	proneness and anxious feelings of the MACI - State anger, Feel like expressing anger verbally, Feel like expressing anger physically, Trait anger, Anger temperament, Angry reaction, Anger expression-Out, and Anger expression Index of the STAXI - Chemical abuse, and Antisocial tendencies in the CPS	- Small sample again limiting generalisability - A lack of consideration and control for any differences due to demographic factors between the three groups
7	Fisher and Hall (2011). "If you show a bit of violence they learn real quick": Measuring	Exploring whether non-offenders, non-violent offenders and violent offenders differ in their sense of entitlement as a	3 x group design	60 violent offenders in Western Australia 60 non-violent offenders in Western Australia	Sense of Entitlement Questionnaire (SOEQ) Test construction and validation procedures for SOEQ	Significant differences in entitlement-attitude and entitlement-behaviour between violent offenders and both non-violent offenders and male	Differences in the time of incarceration and therefore impact on overall sense of entitlement. Additionally, any prospect of early release may shape

No.	Author, year and title	Aims of study	Methodology	Sample and how violence is defined	Analysis/measures	Results/outcomes	Reliability and limitations
	entitlement in violent offenders.	criminogenic need, and if violated, whether this is more likely to lead to violent behaviour.		Unclear how many male students included in the sample Violence: they were placed into the violent group if their current offence was for a crime of violence against a person and they had been incarcerated at least one previous time for violence	2 x 2 MANOVA to investigate the two dependent variables simultaneously across the two independent variables. ANOVA to investigate sense of entitlement in sample of male students, non-violent offenders and violent offenders	students. Therefore, an inflated sense of entitlement is both clinical and statistically significant for violent male offenders and is a criminogenic need.	any pro-social behaviour in incarcerated sample.

Appendix B

MMAT tool and Table summarising quality assessment of studies

PART I. MMAT criteria & one-page template (to be included in appraisal forms)

Types of mixed methods study components or primary studies	Methodological quality criteria (see tutorial for definitions and examples)	Responses			
		Yes	No	Can't tell	Comments
Screening questions (for all types)	• Are there clear qualitative and quantitative research questions (or objectives*), or a clear mixed methods question (or objective*)?				
	• Do the collected data allow address the research question (objective)? E.g., consider whether the follow-up period is long enough for the outcome to occur (for longitudinal studies or study components).				
	Further appraisal may be not feasible or appropriate when the answer is 'No' or 'Can't tell' to one or both screening questions.				
1. Qualitative	1.1. Are the sources of qualitative data (archives, documents, informants, observations) relevant to address the research question (objective)?				
	1.2. Is the process for analyzing qualitative data relevant to address the research question (objective)?				
	1.3. Is appropriate consideration given to how findings relate to the context, e.g., the setting, in which the data were collected?				
	1.4. Is appropriate consideration given to how findings relate to researchers' influence, e.g., through their interactions with participants?				
2. Quantitative randomized controlled (trials)	2.1. Is there a clear description of the randomization (or an appropriate sequence generation)?				
	2.2. Is there a clear description of the allocation concealment (or blinding when applicable)?				
	2.3. Are there complete outcome data (80% or above)?				
	2.4. Is there low withdrawal/drop-out (below 20%)?				
3. Quantitative non-randomized	3.1. Are participants (organizations) recruited in a way that minimizes selection bias?				
	3.2. Are measurements appropriate (clear origin, or validity known, or standard instrument; and absence of contamination between groups when appropriate) regarding the exposure/intervention and outcomes?				
	3.3. In the groups being compared (exposed vs. non-exposed; with intervention vs. without; cases vs. controls), are the participants comparable, or do researchers take into account (control for) the difference between these groups?				
	3.4. Are there complete outcome data (80% or above), and, when applicable, an acceptable response rate (60% or above), or an acceptable follow-up rate for cohort studies (depending on the duration of follow-up)?				
4. Quantitative descriptive	4.1. Is the sampling strategy relevant to address the quantitative research question (quantitative aspect of the mixed methods question)?				
	4.2. Is the sample representative of the population understudy?				
	4.3. Are measurements appropriate (clear origin, or validity known, or standard instrument)?				
	4.4. Is there an acceptable response rate (60% or above)?				
5. Mixed methods	5.1. Is the mixed methods research design relevant to address the qualitative and quantitative research questions (or objectives), or the qualitative and quantitative aspects of the mixed methods question (or objective)?				
	5.2. Is the integration of qualitative and quantitative data (or results*) relevant to address the research question (objective)?				
	5.3. Is appropriate consideration given to the limitations associated with this integration, e.g., the divergence of qualitative and quantitative data (or results*) in a triangulation design?				
	Criteria for the qualitative component (1.1 to 1.4), and appropriate criteria for the quantitative component (2.1 to 2.4, or 3.1 to 3.4, or 4.1 to 4.4), must be also applied.				

*These two items are not considered as double-barreled items since in mixed methods research, (1) there may be research questions (quantitative research) or research objectives (qualitative research), and (2) data may be integrated, and/or qualitative findings and quantitative results can be integrated.

Study	Are participants recruited in a way that minimises selection bias?	Are measurements appropriate (clear origin, or validity known, or standard instrument; and absence of contamination between groups when appropriate) regarding the exposure/intervention and outcomes?	In the groups being compared (exposed vs non-exposed; with intervention vs. without; cases vs. controls), are the participants comparable, or do researchers take into account (control for) the difference between these groups?	Are there complete outcome data (80% or above) and, when applicable, an acceptable response rate (60% or above), or an acceptable follow-up rate for cohort studies (depending on the duration of follow-up?)	Overall quality score
Fritz et al. (2008)	- Cross sectional design - Sample size 175 - All participants recruited from delinquent population - All volunteers from one juvenile centre - All participants Caucasian - Exclusion criteria for alcohol-users - Volunteers allocated to high vs low violence groups based on conviction	- Antisocial Process Screening Device (Cronbach α = .79) - Antisocial Behavior Checklist (Cronbach α = .93; test-retest reliability .91; internal consistency in study α =.84 - Aggression Questionnaire (test re-test reliability .80, current study Cronbach α =.92) - Barratt Impulsiveness Scale (Cronbach α = .72) - Antisocial Attitudes Scale (Cronbach α = .82)	- Demographic data included: age, offences - No table indicating the breakdown of demographic factors - No statistical control for demographic factors	- Response rate of 79% (out of n=221 excluding incomplete completion of measures, and release prior to completion)	50%

		- The Adolescent Alcohol Involvement Scale (Cronbach α = .83; additional studies demonstrate good validity and reliability) - Rutgers Alcohol Problem Index (Cronbach α = .88)			
Granic and Butler (1998)	- Sample size 42 - All selected from court referrals and then separated into aggressive and nonaggressive groups	- State-Trait Anger Expression Inventory (well established reliability and validity) - Criminal Sentiments Scale (well established reliability and validity)	- Few demographic data within article - Age controlled for within analysis	- 100% completion rate	50%
Sukhodolsky and Ruchkin (2004)	- Male, north Russian population - Juveniles court ordered to the only centre in the location - Comparison students selected through convenience sampling from 4 schools - Sample 361 juveniles, 206 students	- SAHA scale of delinquent behaviour (Cronbach α = between .74-.81 - National Adolescent Student Health Survey (Cronbach α = .78 and .79 in current study) - Disapproval of deviancy Scale (Cronbach α = .82 and .88 in current study) - Aggression Questionnaire (well	- Comparable groups - Independent t tests and Chi square tests completed to compare demographic factors - Significant age differences taken into account in main analysis	- 2% juveniles and 1% students refused participation - High completion rate	75%

		established reliability and validity)			
Liau et al. (1998)	- Convenience sampling of juveniles who went to court for plea - Recruitment of students unclear - Groups stated to be "generally comparable" on ethnicity and socioeconomic status but not statistically tested - Sample size 103	- HIT questionnaire (well established reliability and validity) - Self-reported Delinquency Scale (original scale Cronbach α =91, current study .85)	- Groups stated to be "generally comparable" on ethnicity and socioeconomic status but not statistically tested - Demographic data shown for ethnicity	- Of 103, outliers analysis eliminated 2 students and 1 juvenile - 5 juveniles eliminated for AR score of 4 plus - 1 Juvenile eliminated due to incomplete questionnaire - High completion rate	50%
Robinson et al. (2007)	- Cross sectional and correlational - Sample size young offenders 64, comparison group 60 - Convenience sampling and non-random from custody and schools in two districts chosen from near provincial mean of income - Use of incentive to take part in study	- Jesness Inventory (Subscales Cronbach α =.82, .82, .72) - The Interpersonal Reactivity Index (Subscales Cronbach α =.80, .74) - The Bryant Empathy Index (Cronbach α =.84) - The Empathy Continuum (has been validated in children and youth samples across various studies)	- Demographic factors considered included age, ethnicity, grade and special placement, family circumstances and abuse - Analysis found that these factors did not affect main analysis - Any which did were set as covariates within analysis - Limitations discussed where factors may affect outcome	- All young offenders completed measures - 3 students withdrew and 2 excluded for previous violence - High completion rate	75%

		- The Test of Self-Conscious Affect-Adolescent Version (Subscales Cronbach α =.80, .86)			
Valliant and Clark (2009)	- Cross sectional design - Sample size 39 - All taken from one facility - All Caucasians - Limits to generalisation	- Weschler Intelligence Scale for Children-Third edition (widely used and standardised clinical measure) - Wide Range Achievement Test-Revised (coefficients range from .91-.98 on various subtests) - State-Trait Anger Expression Inventory (Cronbach α =.87) - Carlson Psychological Survey (some evidence from studies as to validity and reliability, also has a built in validity scale) - Minnesota Multiphasic Personality Inventory-Adolescent (reliable and valid widely used measure)	- Only age is identified as a demographic factor - No further demographic factors identified or controlled for within analysis	- 100% completion rate	50%

		- Millon Adolescent Clinical Inventory (reliable and valid widely used measure)			
Fisher and Hall (2011). (Mixed methods study)	**<u>Quantitative component</u>** **Are participants recruited in a way that minimises selection bias?**	**Are measurements appropriate (clear origin, or validity known, or standard instrument; and absence of contamination between groups when appropriate) regarding the exposure/intervention and outcomes?**	**In the groups being compared (exposed vs non-exposed; with intervention vs. without; cases vs. controls), are the participants comparable, or do researchers take into account (control for) the difference between these groups?**	**Are there complete outcome data (80% or above) and, when applicable, an acceptable response rate (60% or above), or an acceptable follow-up rate for cohort studies (depending on the duration of follow-up?)**	50%
	- Sample size 120 - Inclusion and exclusion criteria identified and same as qualitative component - Offenders from Western Australia	- Sense of Entitlement questionnaire designed and validated by researchers (Cronbach α =.96) but not widely validated	- Not evidence of demographic factors - No information regarding controlling for these factors	100% completion rate	
	<u>Qualitative component</u> **Are the sources of qualitative data (archives, documents, informants, observations) relevant to**	**Is the process for analysing qualitative data relevant to address the research question (objective)?**	**Is appropriate consideration given to how findings relate to the context, e.g. the**	**Is appropriate consideration given to how findings relate to researchers' influence, e.g. through their**	

	address the research question) objective? - 27 interviews (11 general public, 16 prisoners) - Inclusion and exclusion criteria outlined - Aim to find out thoughts, feelings and behaviours relating to domains of entitlement to help construct the entitlement measure	- In-depth interviews but unclear as to specific content - Data recording methods unclear - Data analysis method is unclear but themes identified from the results	**setting, in which the data were collected?** - Members of the public and prisoners were interviewed - General public interviews were used to contrast any differences in the nature of entitlement - Context in which prisoners' data were collected were in custody because overall aim was to develop a measure of entitlement in violent males	**interaction with participants?** Unclear
	<u>Mixed methods component</u> **Is the mixed methods research design relevant to address the qualitative and quantitative research question (or objectives), or the qualitative and quantitative aspects of the mixed methods question (or objective)?**	**Is the integration of qualitative and quantitative data (or results) relevant to address the research question (objective)?**	**Is appropriate consideration given to the limitations associated with this integration e.g., the divergence of qualitative and quantitative data (or results)?**	

	- Sequential exploratory design - Both qualitative and quantitative components relevant to address the research question – qualitative to design measure and quantitative to compare the groups with the measure	- Evidence of data gathered by both methods being brought together to answer question relating to testing entitlement as a criminogenic risk factor - Data collection for both components explained; sampling, participants	- Limitations regarding sentence length and early release discussed - No further considerations relating to divergence of data from both components

Appendix C

Data Extraction table

Article number
Title
Author/s
Publication date and place
Journal
Volume, number, pages
Keywords/definitions
Aims
Sampling/participants (total number of participants? Age range? Who was studied? How were they recruited? Response rate?)
Study type (randomized allocation? Control group?)
Outcomes and measures (What outcomes are being measured? What measurements are used? Are they valid? At what time points are measures completed self-report or clinician-rated?)
Analysis (What statistical methods were used? Was power calculated? Incentive to treat?)
Findings

Controls, validity, reliability

Conclusions (What do the findings mean? Generalisability? Implication and recommendations?

Additional comments

Appendix D

Guidelines to authors for Journal targeted for Literature review

For the *Journal of Forensic Psychiatry & Psychology*. Retrieved from https://www.tandfonline.com/action/authorSubmission?show=instructions&journalCode=rjfp20

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Contents

- My Authored Works
- Reprints

About the Journal

The Journal of Forensic Psychiatry & Psychology is an international, peer-reviewed journal publishing high-quality, original research. Please see the journal's Aims & Scope for information about its focus and peer-review policy.

Please note that this journal only publishes manuscripts in English.

The Journal of Forensic Psychiatry & Psychology accepts the following types of article:

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- case reports
- brief reports
- review articles
- book reviews
- review essays

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Preparing Your Paper

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- Should be written with the following elements in the following order: title page (including Acknowledgements as well as Funding and grant-awarding bodies); abstract; keywords; main text; references; appendices (as appropriate); table(s) with caption(s) (on individual pages); figure caption(s) (as a list).
- Should be no more than 5000 words, inclusive of the abstract, tables, figure captions, footnotes, endnotes.
- Should contain an unstructured abstract of 200 words.
- Should contain between 3 and 6 **keywords**. Read making your article more discoverable, including information on choosing a title and search engine optimization.
- Please include a word count.

Case reports

- Should be written with the following elements in the following order: title page (including Acknowledgements as well as Funding and grant-awarding bodies); abstract; keywords; main text; references; appendices (as appropriate); table(s) with caption(s) (on individual pages); figure caption(s) (as a list).
- Should contain an unstructured abstract of 200 words.
- Should contain between 3 and 6 **keywords**. Read making your article more discoverable, including information on choosing a title and search engine optimization.

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- Should contain a structured abstract of 200 words.
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- Should contain a structured abstract of 200 words.
- Should contain between 3 and 6 **keywords**. Read making your article more discoverable, including information on choosing a title and search engine optimization.
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Book reviews

- Please include a word count

Review essays

- Please include a word count.

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- References can be in any style or format, so long as a consistent scholarly citation format is applied. Author name(s), journal or book title, article or chapter title, year

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2. You can opt to include a **video abstract** with your article. Find out how these can help your work reach a wider audience, and what to think about when filming.
3. **Funding details.** Please supply all details required by your funding and grant-awarding bodies as follows:
   For single agency grants
   This work was supported by the [Funding Agency] under Grant [number xxxx].
   For multiple agency grants
   This work was supported by the [Funding Agency #1] under Grant [number xxxx]; [Funding Agency #2] under Grant [number xxxx]; and [Funding Agency #3] under Grant [number xxxx].
4. **Disclosure statement.** This is to acknowledge any financial interest or benefit that has arisen from the direct applications of your research. Further guidance on what is a conflict of interest and how to disclose it.
5. **Data availability statement.** If there is a data set associated with the paper, please provide information about where the data supporting the results or analyses presented in the paper can be found. Where applicable, this should include the hyperlink, DOI or other persistent identifier associated with the data set(s). Templates are also available to support authors.

6. **Data deposition.** If you choose to share or make the data underlying the study open, please deposit your data in a recognized data repository prior to or at the time of submission. You will be asked to provide the DOI, pre-reserved DOI, or other persistent identifier for the data set.
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Updated 14-08-2019

Appendix E

Statement of epistemological position

It is important to establish one's epistemological position due to the impact on the design, methodology, data analysis and interpretation of research and outcomes. One end of the epistemological position is based on positivism, empiricism and an objective view of the world. The assumptions of this position are on facts, the testing of hypotheses, and largely based on quantitative data (Robson, 2005). The other end of the position are relativistic approaches including constructivism and a subjective view of the world. This position postulates that quantitative measurements do not capture the meaning of social behaviour, and that real meaning only exists in the minds of people and their interpretations. Participants in research are not seen as passive objects but rather experts who we seek to gain valuable information from (Robson, 2005).

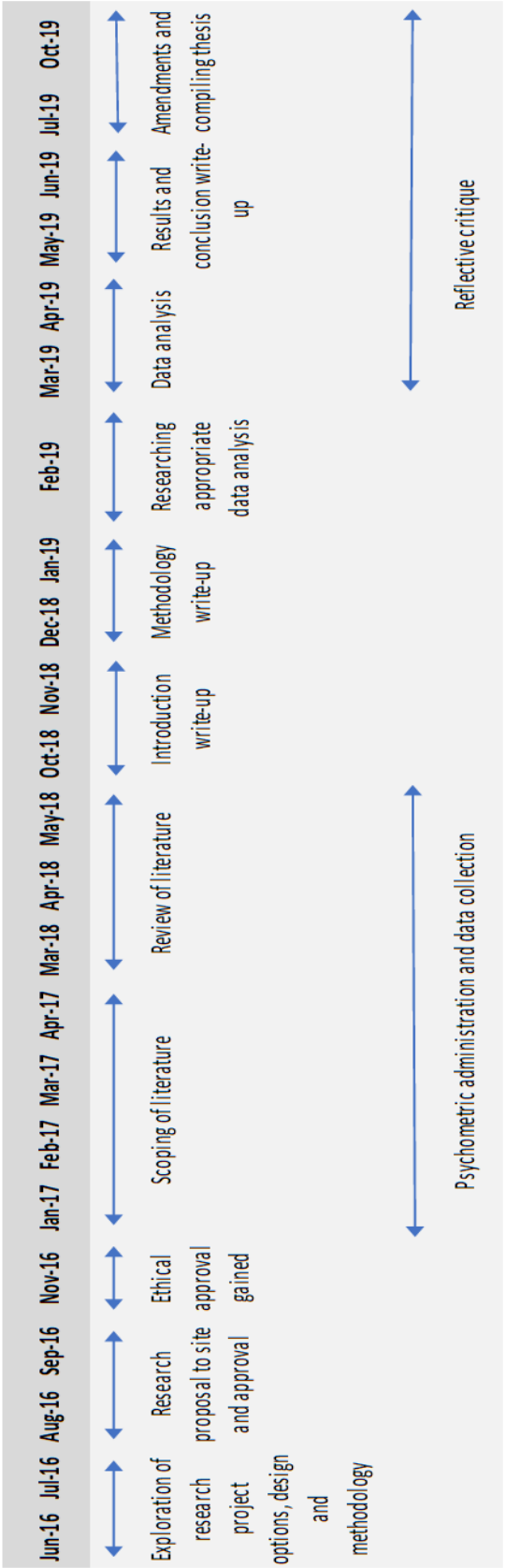
Based on these descriptions, my epistemological position is more aligned with positivism and empiricism in that quantitative measures and data are used to answer the research question. This position has been helpful to ensure standardised approaches in the design, methodology and analysis of the data. I realise that there are limitations to this position, which I have reflected on in my reflective critique. In short, positivism and empiricism does not allow for individual factors to be considered, and personal experiences to form part of the interpretation of results. As a practitioner psychologist, taking a client-centred approach relates more to the constructivist approach and therefore something that I practice all the time. I believe that both positions have their value and there would be scope in future for exploration of the research question through qualitative and constructivist approaches, which can only add to what the current research has offered.

References

Robson, C. (2005). *Real world research. Second edition*. United Kingdom: Blackwell Publishing.

Appendix F

Chronology of the research process



Appendix G

HIT measure

†Sample questions

1. People should try to work on their problems

Strongly agree Agree Agree slightly Disagree slightly Disagree Disagree strongly

2. I can't help losing my temper a lot

Strongly agree Agree Agree slightly Disagree slightly Disagree Disagree strongly

† Due to copyright issues this psychometric questionnaire has not been reproduced here

Appendix H

Strength and Difficulties Questionnaire

Strengths and Difficulties Questionnaire

For each item, please mark the box for Not True, Somewhat True or Certainly True. It would help us if you answered all items as best you can even if you are not absolutely certain or the item seems daft! Please give your answers on the basis of how things have been for you over the last six months.

Your Name ..... Male/Female

Date of Birth.....

	Not True	Somewhat True	Certainly True
I try to be nice to other people. I care about their feelings	☐	☐	☐
I am restless, I cannot stay still for long	☐	☐	☐
I get a lot of headaches, stomach-aches or sickness	☐	☐	☐
I usually share with others (food, games, pens etc.)	☐	☐	☐
I get very angry and often lose my temper	☐	☐	☐
I am usually on my own. I generally play alone or keep to myself	☐	☐	☐
I usually do as I am told	☐	☐	☐
I worry a lot	☐	☐	☐
I am helpful if someone is hurt, upset or feeling ill	☐	☐	☐
I am constantly fidgeting or squirming	☐	☐	☐
I have one good friend or more	☐	☐	☐
I fight a lot. I can make other people do what I want	☐	☐	☐
I am often unhappy, down-hearted or tearful	☐	☐	☐
Other people my age generally like me	☐	☐	☐
I am easily distracted, I find it difficult to concentrate	☐	☐	☐
I am nervous in new situations. I easily lose confidence	☐	☐	☐
I am kind to younger children	☐	☐	☐
I am often accused of lying or cheating	☐	☐	☐
Other children or young people pick on me or bully me	☐	☐	☐
I often volunteer to help others (parents, teachers, children)	☐	☐	☐
I think before I do things	☐	☐	☐
I take things that are not mine from home, school or elsewhere	☐	☐	☐
I get on better with adults than with people my own age	☐	☐	☐
I have many fears, I am easily scared	☐	☐	☐
I finish the work I'm doing. My attention is good	☐	☐	☐

Your signature ..... Today's date .....

Thank you very much for your help

Appendix I

Ethical proposal and approval letter

PLEASE CHECK THE RELEVANT BOX	
PsyD (Doctorate of Psychology) post graduate student	
SECTION 1: PERSONAL DETAILS *Please complete the header with your name and Department*	
Name (lead):	Katie Kwok
Other investigators:	NA
Correspondence address:	[redacted]
Telephone no:	[redacted]
Email:*(all correspondence will be sent by email unless otherwise requested)*	Katie.kwok@[redacted]
FOR STUDENTS ONLY:	
Programme of Study & Department:	PsyD (University of Leicester School of Psychology)
Mode of study (full-time/part-time)	PT
Academic Supervisor	Dr Emma Palmer

SECTION 2: PROJECT DETAILS	
Title of project:	Are those convicted of a violence offence more likely to demonstrate antisocial cognitions using the HIT measure, and emotions as measured using the SDQ than those convicted of a non-violent offence?
Proposed start date:	September 2017
Duration:	6 months

Purpose of the proposed investigation:

The purpose of this study is to compare the cognitive and emotional needs of those who have offended violently and non-violently to see whether their needs differ. This may have clinical implications to the types of interventions for offender types and whether there is value in interventions which help offenders address their cognitions and levels of distress and stress. During a phase of change in the interventions strategy at the secure training centre, this is of particular value so that we design and implement interventions which meet the needs of the clients.

There is existing research which indicates that antisocial cognitions, thinking styles and attitudes are linked with antisocial behaviours, which includes the commission of violence in various populations including forensic population (Zwets, A. J., Hornsveld, R. H. J., Muris, P., Huijding, J., Kanters, T., Snowden, R. J., van Marle, H. 2015) and juvenile populations (Wiklund, G., Ruchkin, V. V., Koposov, R. A., af Klinteberg, B. (2014). The theoretical basis for this is the Social Cognition model.

The SDQ is a self-reporting behavioural screening instrument assessing young people's positive and negative attributes across 5 scales: 1) Emotional Symptoms, 2) Conduct Problems, 3) Hyperactivity/Inattention, 4) Peer Problems, 5) Prosocial Behaviour. The current study will focus specifically on the emotional symptoms element of the measure in order to investigate whether there are any significant differeneces in these emotional components between those convicted on a violent or non-violent offence.

Outline of the project:

This section should include the details of the methods i.e. what will be done and how.

Participants

This will be a centre-wide study. The first area to consider is informed consent from legal guardians as per guidelines from the British Psychological Society. All participants come from the current cohort at [redacted] secure training centre and young people are 18 or under, therefore ethical considerations needs to be made regarding research with children. All legal guardians will be contacted via a letter to provide them with information about the study, and all the information that is contained within the informed consent form. A timeframe of two weeks will be given for them to respond to opt out of the study. If they choose to opt out, the young person will not be approached to discuss informed consent.

After the two week period, participants, whose legal guardians have not opted out, will be approached by a member of the psychology team, which consists of the researcher, or two assistant psychologists, in order to discuss informed consent and the participant information sheet. If they do not consent then this will not be taken forward. They will also be given some time to reflect on if they wish to take part if they wish.

If consent is provided, the HIT (How I think) will be administered. The SDQ data has already been administered as part of the admissions process therefore no further psychometric is needed. However, the informed consent will gather their consent to access the SDQ data within an existing database and for use as part of the research.

Procedure

A member of the Psychology team will administer the HIT with participants who have consented. These will be scored and the data entered onto a database. All information is anonymised and participants will be given a participant number. The SDQ which contains data regarding distress and stress have already been administered to all CYP from admissions therefore the data will be accessed and inputted into SPSS. Likewise offence details are contained within existing databases so these will be identified and inputted into SPSS for analysis. Once all data is gathered, statistical analysis will take place to explore the research

question. A scientific report will be written detailing the results of the research which will be disseminated to the SMT and YJB.

Materials

- How I think (HIT) questionnaire – Barriga, Gibbs, Potter and Liau (2001). – This questionnaire contains 54 questions relating to how the participant thinks about life and self-serving cognitive distortions. Participants are asked to respond on a Likert scale from agree strongly, agree, agree slightly, disagree slightly, disagree and disagree strongly. It takes approximately 5 to 15 minutes to complete and requires only a fourth grade reading level (UK Year 5).
- SDQ – (Goodman, R, 1997). The Strengths and Difficulties Questionnaire: A Research Note. Journal of Child Psychology and Psychiatry, 38(5), 581-586. This is a widely and internationally used, self-reporting behavioural screening instrument assessing young people's positive and negative attributes across 5 scales: 1) Emotional Symptoms, 2) Conduct Problems, 3) Hyperactivity/Inattention, 4) Peer Problems, 5) Prosocial Behaviour. There are 25 questions, and each section can receive a maximum score of 10. In all of the sections – with the exception of pro-social behaviour; the higher the score is the more indicative it is of potential problems in that area.
- Existing database with participant information about offences and SDQ data.

Ethical issues raised by the project and how these will be addressed:

(Points that should be considered include: participants and consent; permissions from organisations involved; confidentiality and anonymity; whether any inclusion/exclusion criteria or special/ vulnerable populations are involved (including under 18s); right to withdrawal; deception; potential risks to participants or researchers)

Informed consent

To take into account the BPS guidelines, participant information and consent forms will be sent to all legal guardians who have the opportunity to opt out of the research. In addition, the participants themselves will be given the same information and opportunity to consent or not, without any negative consequences. Should they choose to give their consent, they will become participants of the research. If they do not, they will not be approached about the research again and it will be made clear to them that this will not impact upon their sentence. All forms and information sheets are designed to be as short and comprehensible as possible to aid understanding.

Permissions

Clarity has been provided by the YJB regarding the ethical research application process and as per guidelines, the current proposal has been put forward to the Director of [redacted] for permission to carry out the research. Further to this, ethical approval has also been sought from the University of Leicester's ethics board. No data gathering will take place until such a point that approval has been sought from both.

Confidentiality and anonymity

As part of the informed consent phase, confidentiality will also be discussed with the participants. The Data protection act will be adhered to in all cases. All participant information will be anonymised and they will assigned a number so it is not an identifiable feature. Only the researcher will have access to this data and it will be locked away in a secure cabinet. It will be made clear to participants within informed

consent and information sheet that all data is stored securely for 10 years after the completion of the research, after which it will be destroyed. Only the researcher will have access to this data. Due to regulations within the secure training centre, it will be made clear to the participants that there may be exclusions to confidentiality and this is when there is a risk to others or themselves, in which case this information will need to be passed on. However, it will be made clear that data collected within the questionnaires will not be shared with others.

Participant feedback

A debrief form will be devised which will be shared with participants following completion of the measures. The staff will talk the participant through this sheet and answer any questions which may be asked. Contact details will be provided for the participants to contact the researcher should they wish to ask anything or raise any concerns post-participation.

Participant withdrawal

At informed consent stage, it will be made clear to all participants that they have the right to withdraw from the research and choose not to have their data included, and that there are no negative repercussions to this. Any data that is withdrawn will be destroyed.

SECTION 3: RESEARCH INVOLVING PARTICIPANTS

- You should download the Participant Consent Form template and amend it as necessary
- You should also attach any other information to be given to participants
- You should consider carefully what information you provide to participants, e.g. scope of study, number of participants, duration of study, risks/benefits of the project. It is recommended that the participant has two copies of the consent form so they can retain one for information.
- If images or anything else which might allow the identification of participants is to be publicly accessible (e.g. on the web), further written consent must be secured. A separate section regarding this should be included on the participant consent form.

Give details of the method of recruitment, and potential benefits or incentives to participants if any (include any financial benefits where appropriate).

There will be no financial incentives or other incentives for participants to take place, and potential participants will be given the choice to take part or not, and to withdraw their data if they wish.

All legal guardians will be contacted via a letter to provide them with information about the study, and all the information that is contained within the informed consent form. A timeframe of two weeks will be given for them to respond to opt out of the study. If they choose to opt out, the young person will not be approached to discuss informed consent.

After the two week period, participants, whose legal guardians have not opted out, will be approached by a member of the psychology team, which consists of the researcher, or two assistant psychologists, in order to discuss informed consent and the participant information sheet. If they do not consent then this will not be taken forward. They will also be given some time to reflect on if they wish to take part if they wish.

A potential benefit for the participants is to contribute to research which may help to inform future interventions at the centre.

SECTION 4: PUBLICATION OF RESULTS

How will you disseminate your findings? (e.g. publication)

A report will be written which outlines the research. The resulting report will be disseminated to the establishment with the Senior Management Team and results shared with the Youth Justice Board. There is the potential that the research will be published in a peer reviewed academic journal with the prior approval of the site Director.

How will you ensure the anonymity of your participants?
(If your participants do not wish to remain anonymous you must obtain their written consent.)

All data will remain anonymous. This will be outlined clearly in the informed consent form which will be discussed with each participant, and also within the consent form sent to legal guardians before any participant is approached. Once participants have completed the relevant questionnaires, they will be assigned a number and therefore no identifiable information is used. Any raw data is securely stored and saved with access only being the researcher.

SECTION 5: STORAGE OF DATA

Data should be collected and processed in accordance with the Data Protection Act 1998 and with the University's Data Protection Policy.

Describe how and where the following data will be stored and how they will be kept secure:

Data generated in this study will be kept and stored in accordance with the Data protection act and secure training centre policies. These procedures will be made clear to participants within the informed consent and participant information sheet. The participant will be asked to provide consent which includes about appropriate and confidential storage of data.

All paper copies of psychometrics will be stored in a locked filing cabinet for ten years after the completion of the research project, whereupon it will be disposed in accordance with procedures for confidential material.

SECTION 6: EXTERNAL GUIDELINES, APPROVAL & FUNDING

Are there any relevant subject-specific ethics guidelines (e.g. from a professional society)? If so how will these inform your research process?

Please refer to section 2 for details

Has/will the project be submitted for approval to the ethics committee of any other organisation, e.g. NHS ethics approval? (Please see Section 4.3, Ethics Guidelines)

Once approval is gained from the Director of the secure training centre as per Youth Justice Board guidelines for research ethics proposals, it will be sent to the University of Leicester's ethics board for consideration and approval before any data is collected.

Is your project externally funded?
(Please note: you do not need to submit an ethics application or gain ethics approval for a project when applying for funding – this can be done when you receive confirmation that the application for funding has been successful)

YES ☐ NO ☒

SECTION 7: RISKS

Are there any risks to individuals, including research staff, participants, other individuals not involved in the research and the measures that will be taken to minimise any risk and the procedures to be adopted in the event of mishap?

Working in a custodial will always hold some risk, but the researcher is a member of staff within the secure training centre and therefore has experience in working in such environment. Custodial staff will also be made aware when the researcher engages with the participants.

Any risk to self or others which the participant may disclose will be shared with relevant professionals to ensure safety. This will be made clear in the informed consent form.

No other risks are anticipated.

SECTION 8: APPLICANT'S CONFIRMATION

I confirm that the information supplied on this form is correct and confirm that the above checklist has been fully completed.

Applicant's signature:	Katie Kwok
Date:	30.08.16

[redacted]

[redacted]

Ms K Kwok
Senior Practitioner Psychologist
[redacted]

Dear Katie,

Re: Research Application

With reference to your recent request to carry out research at [redacted] I am writing formally to advise you that I consent to you carrying out a study as outlined in your Research and Ethics Application Form as forwarded to me on the 6th September 2016.

May I take this opportunity to wish you well in this worthwhile venture.

Yours sincerely,

[redacted]

[redacted]
Interim Director
[redacted]

[redacted]

Appendix J

Participant information sheets: parent and carer

This research study is trying to understand whether people who have committed violent or non-violent offences have different experiences in their thoughts and emotions.

Before you decide whether or not to opt your child out of taking part, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully.

What will happen to my child if I take part?
If you choose to not opt out, and the researcher or an Assistant Psychologist, will speak to your child about whether they wish to take part. If they do not, then nothing further will take place.

If they provide consent to take part in the research, someone (either the researcher or an Assistant Psychologist) will sit down with your child on a one-to-one to complete a questionnaire called the 'How I think' (HIT) questionnaire. They will be supported in this if they struggle.

We will also use the data from the Strengths and Difficulties Questionnaire (SDQ) that they completed with the Psychology team when they were first admitted to the centre. They are able to tell the researcher at any time if they have any questions, feel uncomfortable or wish to withdraw from the research.

Does my child have to take part?
We will only approach your child to discuss taking part in the research if you as their parent/legal guardian have not opted out within the given time.
However, even if you as the parents/legal guardian have not opted out, it is up to your child whether or not to take part in the research. If they decide they want to take part, they will sign a consent form. If they decide to take part and then want to withdraw their consent, they are able to do so without giving a reason.

Who is the study conducted by?
The research is completed by the Senior Practitioner Psychologist at [redacted], supervised by the University of Leicester. This is part of a PsyD degree.

What should I do if I have questions about whether or not to opt out of the study?
If you want to discuss the research with someone in more detail before deciding whether to opt out or not, you can contact Katie Kwok (Senior Practitioner Psychologist at [redacted]) and she will be happy to come and speak to you individually.

What are the benefits of taking part?
There are no direct benefits for taking part in the research. However, there is the indirect benefit of helping to further knowledge about the research topic.

What are the down sides of taking part?
There is no known harm to your child as a consequence of taking part in the study. There is also no negative consequence to them if they decide not to take part, or if they decide to withdraw their consent for the research.

Will what my child says in this research be kept confidential?
The researcher and any Assistant Psychologist helping to administer the questionnaire, are ethically bound to maintain participant privacy and personal rights at all times. Once your child completes the questionnaire, each participant will be assigned number to ensure anonymity. All responses will be confidential and will not be released to [redacted] or other individuals unless there are any risks to self or others expressed. In any reports or publications, their responses will not be described using their name or any information that could identify them personally.
All information collected, stored and disposed of securely in accordance with the Data Protection Act 1998. Any data stored on a computer or laptop will be password protected. The information will be stored for ten years after the completion of the research project and may be stored and shared in a research depository. This means that the information may be shared with other researchers but in an anonymised format. Therefore your child will remain anonymous as a participant of the study. The researcher, Assistant Psychologist and supervisor will be the only people to have access to the original questionnaires and consent forms.

What will happen to the results of the research study?
The results of this study will be used as a basis for an academic study and will be used to write reports, academic articles and inform presentations for conference or within the centre SMT.

What if I have concerns about how this research is being conducted?

Please contact any of the following people:

Katie Kwok
Senior Practitioner Psychologist at [redacted]

Dr Emma Palmer
Research Supervisor
University of Leicester
Department of Neuroscience, Psychology & Behaviour
Centre for Medicine
Lancaster Road
LE1 7HA

Appendix K

Participant information sheet: participant

This research study is trying to understand whether people who have committed violent or non-violent offences have different experiences in their thoughts and emotions.

Before you decide whether or not to take part, it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully.

What will happen to me if I take part?

If you provide consent to take part in the research, someone (either the researcher or an Assistant Psychologist) will sit down with you on a one-to-one to complete a questionnaire called the 'How I think' (HIT) questionnaire. You will be supported in this if you struggle.

We will also use the data from the Strengths and Difficulties Questionnaire (SDQ) that you completed with the Psychology team when you were first admitted to the centre.

Please be sure to tell the researcher at any time if you have any questions, feel uncomfortable or wish to withdraw from the research.

Do I have to take part?

We will only approach you to discuss taking part in the research if your parent/legal guardian has not opted out.

However, even if your parents/legal guardian have not opted out, it is up to you whether or not to take part in the research. If you decide you want to take part, you will sign a consent form. If you decide to take part and then want to withdraw your consent, you are able to do so without giving a reason.

Who is the study conducted by?

The research is completed by the Senior Practitioner Psychologist at [redacted], supervised by the University of Leicester. This is part of a PsyD degree.

What should I do if I have questions about whether or not to take part?

If you want to discuss the research with someone in more detail before deciding if you want to take part or not, you can contact Katie Kwok (Senior Practitioner Psychologist at [redacted]) and she will be happy to come and speak to you individually.

What are the benefits of taking part?

There are no direct benefits to you taking part in the research. However, there is the indirect benefit of helping to further knowledge about the research topic.

What are the down sides of taking part?
There is no known harm to you as a consequence of taking part in the study. There is also no negative consequence to you if you decide not to take part, or if you decide to withdraw your consent for the research.

Will what I say in this research be kept confidential?
The researcher and any Assistant Psychologist helping to administer the questionnaire, are ethically bound to maintain your privacy and personal rights at all times. Once you complete the questionnaire, each participant will be assigned number to ensure anonymity. All responses will be confidential and will not be released to [redacted] or other individuals unless there are any risks to self or others expressed. In any reports or publications, your responses will not be described using your name or any information that could identify you personally.
All information collected, stored and disposed of securely in accordance with the Data Protection Act 1998. Any data stored on a computer or laptop will be password protected. The information will be stored for ten years after the completion of the research project and may be stored and shared in a research depository. This means that the information may be shared with other researchers but in an anonymised format. Therefore you will remain anonymous as a participant of the study. The researcher, Assistant Psychologist and supervisor will be the only people to have access to the original questionnaires and consent forms.

What will happen to the results of the research study?
The results of this study will be used as a basis for an academic study and will be used to write reports, academic articles and inform presentations for conference or within the centre SMT.

What if I have concerns about how this research is being conducted?

Please contact any of the following people:

Katie Kwok
Senior Practitioner Psychologist at [redacted]

Dr Emma Palmer
Research Supervisor
University of Leicester
Department of Neuroscience, Psychology & Behaviour
Centre for Medicine
Lancaster Road
LE1 7HA

Appendix L

Parent and carer consent form

For details of the study please refer to the separate participant information sheet.

This form is an 'opt out' form. If you choose to opt out, it means that you do not wish to provide us with informed consent to approach your child about taking part in the research. If you do not choose to opt out within the given time, the researcher will discuss with your child the 'Participant information sheet' and discuss whether they wish to provide consent to take part in the research.

- I have read and understand the participant information sheet, I have had the opportunity to consider the information, and am aware of the contact points for further information should I need it.

- I understand that if I change my mind and decide to opt out at a later date, I am able to contact the researcher and there will be no repercussions to this

- I understand that all information will be securely stored and the researcher will adhere to the Data Protection Act 1998

- I understand that any information provided which may indicate a risk to the participant or others will be passed onto relevant professionals

- I understand that the data provided by participants will be used to write future reports, articles, or presentations but that no participant name will appear on this.

By signing the below, you are choosing to 'opt out' of the research:

- I wish to opt out of this study and do not provide my consent for my child to take part in this research

Young person's name_____

- I understand that I have two weeks from DATE in order to do so

- Should I change my mind, I am able contact the researcher in order to inform them of this.

Name of parent/guardian

Date

Signature

Appendix M

Participant consent form

For details of the study please refer to the separate participant information sheet.

By signing the below:

- I have read and understand the information sheet for the research. The researcher asked me if I wanted to know any more information. They answered all of my questions
- I understand that it is my choice whether to take part or not
- If I do not want to take part, I do not need to provide a reason and there will be no negative repercussions on my sentence
- I understand that the researcher will have to tell a staff member and follow centre procedures if I were to talk about anything that puts me or other people in danger
- I understand that the data will be used to compile a report which will be disseminated to the site and may be published
- I understand that my data will be anonymised and my name will not be used in such reports

I agree to take part in the above research

Name of participant

Date

Signature

Researcher

Date

Signature

Appendix N

Participant debrief sheet

Thank you for completing the questionnaire and participating in the research.

What will happen now?
The questionnaire you completed and the SDQ you completed on admission will be used for the data. Your name will be removed and replaced by a number so you will remain anonymous. This data will be collected, and statistical analysis will take place. The results of this study will be used as a basis for an academic study and will be used to write reports, academic articles and inform presentations for conference or within the centre SMT.

Confidentiality of my data
The researcher and any Assistant Psychologist helping to administer the questionnaire, are ethically bound to maintain your privacy and personal rights at all times. Once you complete the questionnaire, each participant will be assigned number to ensure anonymity. All responses will be confidential and will not be released to [redacted] or other individuals unless there are any risks to self or others expressed. In any reports or publications, your responses will not be described using your name or any information that could identify you personally.

All information collected, stored and disposed of securely in accordance with the Data Protection Act 1998. Any data stored on a computer or laptop will be password protected. The information will be stored for ten years after the completion of the research project and may be stored and shared in a research depository. This means that the information may be shared with other researchers but in an anonymised format. Therefore you will remain anonymous as a participant of the study. The researcher, Assistant Psychologist and supervisor will be the only people to have access to the original questionnaires and consent forms.

My right to withdraw
At any point in the research, you can withdraw your consent for your data to not be used as part of the research. There will not be any negative consequences to this and you do not need to give a reason.

What if I have any concerns about any part of the research?
If you have any concerns at any point about the research, you can raise this with:

Katie Kwok
Senior Practitioner Psychologist at [redacted]

Dr Emma Palmer
Research Supervisor

Appendix O

University Rhode Island Change Assessment Scale

University of Rhode Island Change Assessment Scale - URICA

INSTRUCTIONS: This questionnaire is to help us improve services. Each statement describes how a person might feel when starting therapy or approaching problems in their lives. Please indicate the extent to which you tend to agree or disagree with each statement. In each case, make your choice in terms of how you feel right now, not what you have felt in the past or would like to feel. For all the statements that refer to your "problem", answer in terms of problems related to your drinking (or illegal drug use). The words "here" and "this place" refer to treatment or the program. Please read the following statements carefully. For each statement, circle the number that best describes how much you agree or disagree with each statement. ***You must complete one scale for alcohol use and a separate scale for drug use.***

Key: SD = No Strongly Disagree **D** = No Disagree **U** = Undecided or Unsure **A** = Yes Agree **SA** = Yes Strongly Agree

Problem:	**SD**	**D**	**U**	**A**	**SA**
As far as I'm concerned, I don't have any problems that need changing.	☐ 1	☐ 2	☐ 3	☒ 4	☐ 5
I think I might be ready for some self-improvement.	☐ 1	☐ 2	☒ 3	☐ 4	☐ 5
I am doing something about the problems that had been bothering me.	☒ 1	☐ 2	☐ 3	☐ 4	☐ 5
It might be worthwhile to work on my problem.	☐ 1	☒ 2	☐ 3	☐ 4	☐ 5
I'm not the problem one. It doesn't make much sense for me to be here.	☐ 1	☐ 2	☐ 3	☐ 4	☒ 5
It worries me that I might slip back on a problem I have already changed, so I am here to seek help.	☒ 1	☐ 2	☐ 3	☐ 4	☐ 5
I am finally doing some work on my problem.	☐ 1	☒ 2	☐ 3	☐ 4	☐ 5
I've been thinking that I might want to change something about myself.	☐ 1	☒ 2	☐ 3	☐ 4	☐ 5
I have been successful in working on my problem but I'm not sure I can keep up the effort on my own.	☐ 1	☒ 2	☐ 3	☐ 4	☐ 5
At times my problem is difficult, but I'm working on it.	☒ 1	☐ 2	☐ 3	☐ 4	☐ 5
Being here is pretty much a waste of time for me because the problem doesn't have to do with me.	☐ 1	☐ 2	☐ 3	☒ 4	☐ 5
I'm hoping this place will help me to better understand myself.	☐ 1	☒ 2	☐ 3	☐ 4	☐ 5
I guess I have faults, but there's nothing that I really need to change.	☐ 1	☐ 2	☐ 3	☒ 4	☐ 5
I am really working hard to change.	☐ 1	☒ 2	☐ 3	☐ 4	☐ 5
I have a problem and I really think I should work at it.	☒ 1	☐ 2	☐ 3	☐ 4	☐ 5
I'm not following through with what I had already changed as well as I had hoped, and I'm here to prevent a relapse of the problem.	☒ 1	☐ 2	☐ 3	☐ 4	☐ 5
Even though I'm not always successful in changing, I am at least working on my problem.	☐ 1	☒ 2	☐ 3	☐ 4	☐ 5
I thought once I had resolved my problem I would be free of it, but sometimes I still find myself struggling with it.	☐ 1	☒ 2	☐ 3	☐ 4	☐ 5

I wish I had more ideas on how to solve the problem.	☐ 1	☒ 2	☐ 3	☐ 4	☐ 5
I have started working on my problems but I would like help.	☐ 1	☒ 2	☐ 3	☐ 4	☐ 5
Maybe this place will be able to help me.	☒ 1	☐ 2	☐ 3	☐ 4	☐ 5
I may need a boost right now to help me maintain the changes I've already made.	☒ 1	☐ 2	☐ 3	☐ 4	☐ 5
I may be part of the problem, but I don't really think I am.	☐ 1	☐ 2	☐ 3	☒ 4	☐ 5
I hope that someone here will have some good advice for me.	☐ 1	☒ 2	☐ 3	☐ 4	☐ 5
Anyone can talk about changing; I'm actually doing something about it.	☐ 1	☒ 2	☐ 3	☐ 4	☐ 5
All this talk about psychology is boring. Why can't people just forget about their problems?	☐ 1	☐ 2	☐ 3	☒ 4	☐ 5
I'm here to prevent myself from having a relapse of my problem.	☒ 1	☐ 2	☐ 3	☐ 4	☐ 5
It is frustrating, but I feel I might be having a recurrence of a problem I thought I had resolved.	☐ 1	☒ 2	☐ 3	☐ 4	☐ 5
I have worries but so does the next guy. Why spend time thinking about them?	☐ 1	☐ 2	☐ 3	☐ 4	☒ 5
I am actively working on my problem.	☐ 1	☒ 2	☐ 3	☐ 4	☐ 5
I would rather cope with my faults than try to change them.	☐ 1	☐ 2	☐ 3	☒ 4	☐ 5
After all I had done to try to change my problem, every now and again it comes back to haunt me.	☐ 1	☒ 2	☐ 3	☐ 4	☐ 5

FOR OFFICE USE ONLY

URICA Scoring Form Transfer the client's answers from questionnaire. Obtain the average score per subscale using the following grid.

	Precontemplation (PC)		Contemplation (C)		Action (A)		Maintenance (M)
1		2		3		6	
5		4	Omit	7		9	Omit
11		8		10		16	
13		12		14		18	
23		15		17		22	
26		19		20	Omit	27	
29		21		25		28	
31	OMIT	24		30		32	

TOTAL		TOTAL		TOTAL		TOTAL	
÷ 7 =	(avg)	÷ 7 =	(avg)	÷ 7 =	(avg)	÷ 7 =	(avg)
MEAN							

To obtain the Readiness to Change score, first sum items from each subscale and divide by 7 to get the mean for each subscale. Then sum the means from the Contemplation, Action, and Maintenance subscales and subtract the Precontemplation mean (C + A + M - PC = Readiness).

Compare the Readiness for change score to the following group means. Choose the stage whose group average is closest to the computed Readiness Score:

Stage	Group Average
Pre contemplation	8 or lower
Contemplation	**8 - 11**
Preparation (Action)	11 - 14
Maintenance	14 and above

Source: University of Maryland, Health and Addictive Behaviors lab, http://www.umbc.edu/psyc/habits/content/ttm_measures/urica/readiness.html

Appendix P

The What Got Me Here Facilitator Assessment of Participant

FORWARD THINKING

What Got Me Here?

Facilitator Assessment of Participant

Unique Client ID: _____ ***Assessment Type:*** ☐ Pre ☐ Post

Facilitator: _____ ***Session Type:*** ☐ Group ☐ Individual

Organization: _____ ***Date Completed:*** ___ / ___ / ___

SCORING DEFINITIONS

Strongly Agree	**Agree**	**Disagree**	**Strongly Disagree**
Maintenance only	*Further practice desirable*	*Further practice or development required*	*Basic skill/knowledge deficit*

Circle the number that best represents your level of agreement. Then, calculate the average score for each category (Attitudes, Knowledge, and Skills). Refer to the instructions to interpret scores.

Attitudes	**Strongly Agree**	**Agree**	**Disagree**	**Strongly Disagree**
1. The participant is aware of the choices that brought him or her to this program.	1	2	3	4
2. The participant takes full responsibility for the choices that brought him or her to this program.	1	2	3	4
3. The participant is ready to make positive changes in his or her life.	1	2	3	4
4. The participant is willing to ask for help with his or her change efforts.	1	2	3	4
5. The participant is willing to work on his or her top three issues.	1	2	3	4

Attitudes Average (Total ÷ 5) = ( )

Knowledge				
6. The participant understands the six positive attitudes for successful change.	1	2	3	4
7. The participant knows his or her top three issues.	1	2	3	4
8. The participant knows how to ask for help with his or her change efforts.	1	2	3	4

Knowledge Average (Total ÷ 3) = ( )

What Got Me Here?

Facilitator Assessment of Participant

	Strongly Agree	Agree	Disagree	Strongly Disagree
Skills				
9. The participant demonstrates the six positive attitudes for succesful change.	1	2	3	4
10. The participant is able to identify his or her triggers for anger.	1	2	3	4
11. The participant uses anger control strategies to cope with anger.	1	2	3	4
12. The participant resists peer pressure to engage in irresponsible or illegal behavior.	1	2	3	4
13. The participant avoids conflict with authority figures.	1	2	3	4

Skills Average (Total ÷ 5) =

Overall Score

Overall Average (Overall total ÷ 13) =

Appendix Q

Informed consent form for participants

The aim of this service evaluation is to evaluate the effectiveness of the Forward Thinking® 'What Got Me Here?' group intervention. Before you decide whether or not to provide consent for your data to be used within the analysis, please read the following carefully.

What will taking part mean?

All participants complete 2 questionnaires as part of attending the group. These are the University Rhode Island Change Assessment Scale and the What Got Me Here Facilitator Assessment of Participant, the second of which is completed by the facilitators. You will complete this before and after the 8 sessions of the intervention. Your informed consent is needed to use the data from these questionnaires in the service evaluation. Therefore, you will not have to complete anything more than other participants.

Do I have to take part?

You do not have to take part if you do not wish to. Even if you do not wish to provide consent for your data to form part of the service evaluation, there are no negative consequences for you and you are still able to attend the intervention.

Who is the service evaluation conducted by?

The service evaluation is completed by the Psychology department at [redacted] which includes the Senior Forensic Psychologist (Katie Cobley). The intervention is co-delivered by the psychology and resettlement team.

Will what I say in this research be kept confidential?

Once the questionnaires are completed, each participant will be assigned a number to ensure anonymity. All responses will be confidential and will not be released to [redacted] or other individuals unless there are any risks to self or others expressed. In any reports your responses will not be described using your name or any information that could identify you personally. All information collected, stored and disposed of securely in accordance with the Data Protection Act 1998. Any data stored on a computer or laptop will be password protected. The information will be stored for

ten years after the completion of the research project and may be stored and shared in a research depository. This means that the information may be shared with other researchers but in an anonymised format. Therefore you will remain anonymous as a participant of the study.

What will happen to the results of the service evaluation?

The results of this service evaluation will be written up into a report with no identifiable data, and it will help the psychology department and senior management to make a decision about whether to keep running this intervention based on whether it demonstrates any effectiveness.

What if I have any questions?

Please contact any of the following people: Katie Cobley (Senior Practitioner Psychologist)

- I have read and understand the information sheet. I know I can ask questions at any point and I was given this chance and my questions were answered.
- I understand that it is my choice whether to take part or not
- If I do not want to take part, I do not need to provide a reason and there will be no negative repercussions on my sentence
- I understand that information will need to be passed on to a staff member and follow centre procedures if I were to talk about anything that puts me or other people in danger
- I understand that the data will be used to compile a report which will be disseminated to the site
- I understand that my data will be anonymised and my name will not be used in such reports

I agree to take part in the above research

Name of participant

Date

Signature

Researcher

Date

Signature

Appendix R
Dissemination summary

Introduction

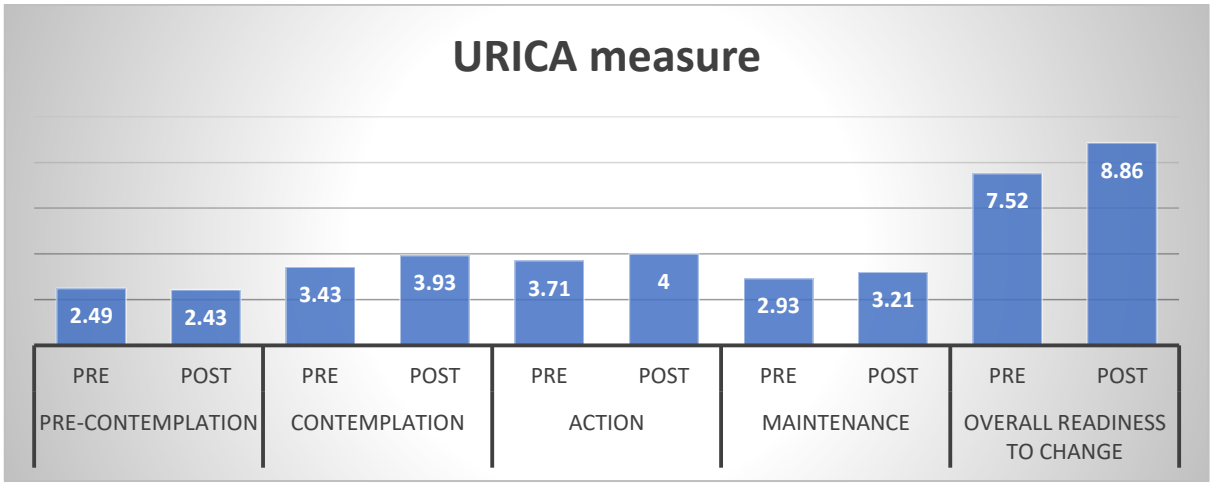
The Psychology team conducted a service evaluation on all the completions to date of the Forward Thinking® 'What Got Me Here?' group intervention. The intervention is an 8 session group programme which is based on the transtheoretical model of change. The purpose was to see if the intervention was effective in helping participants to make shifts in their readiness to change.

Methodology

Data was gathered from 18 participants who completed the intervention and who also consented for their data to be used in the current analysis. The two measures used to measure any change was the University Rhode Island Change Assessment Scale which is a self-report measure, and the What Got Me Here Facilitator Assessment of Participant, which is a facilitator-rated measure. The measures were completed both measures before the intervention and also after completion of the eight sessions. Due to the small sample size, non-parametric statistical analysis was conducted on the pre and post data (Wilcoxon Signed Ranks tests) in order to see whether there were any changes to motivation when comparing data before and after the intervention.

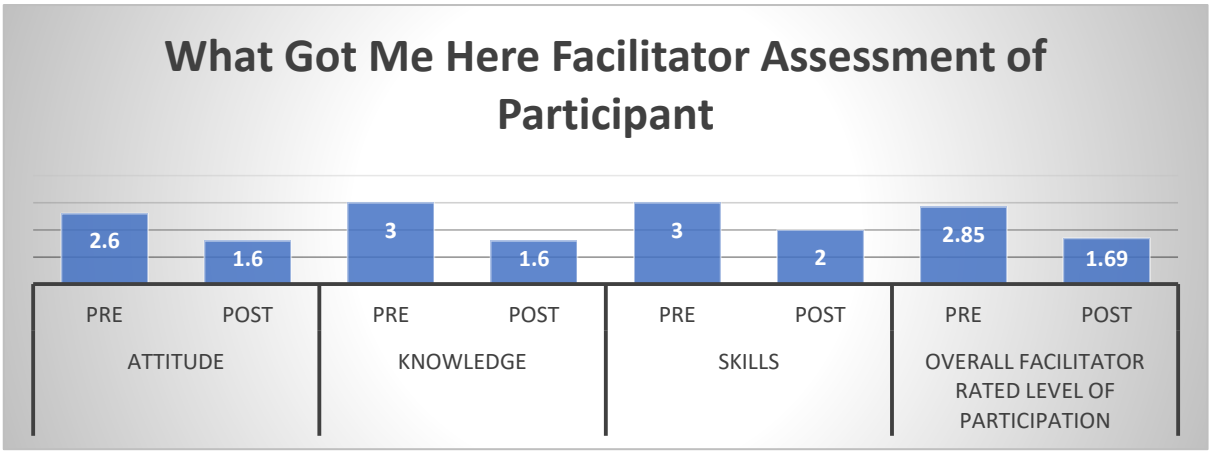
Results

The table below outlines the median scores for the URICA measure including all the subscales.



Significant improvements were found for contemplation (Z = 2.34, $p<.05$), action (Z = 2.44, $p<.05$) and overall readiness to change (Z = 2.55, $p<.05$). This indicates that after completing the intervention, the samples' readiness to change had significantly improved, and that they had gone from a stage of pre-contemplation (not yet considering change), to contemplation (now considering changes). Changes were insignificant when looking at the indices pre-contemplation and maintenance.

The table below outlines the median scores for the What Got Me Here Facilitator Assessment of Participant measure including all the subscales.



Significant improvements were found for all indices on this scale which indicated that not only had the facilitator' overall assessment of participation improved significantly (Z = -3.41, $p<.05$), their ratings of the participants' attitude (Z = -3.43, $p<.05$), knowledge (Z = -3.42, $p<.05$) and skills (Z = -3.41, $p<.05$) also improved significantly following completion of the intervention. In terms of overall level of participation, the findings indicate that the participants were at a stage where they were somewhat aware of the need of behaviour change and for the most part were interested in the steps towards change, but may have needed to develop their importance and self-confidence to attain and maintain changes. Following the intervention, the results indicated they were fully aware of the need for change and placed importance on making them. They were more likely to make positive changes and did so with increased confidence.

Summary and recommendations

The service evaluation lends support to the efficacy of this brief intervention in helping participants to make improvements in their readiness to change. This has been supported by data from both measures.

There are limitations to the current study including:

- Small sample size
- Use of non-parametric tests which are less robust
- High attrition rates
- Lack of a control group
- Use of solely quantitative data

Despite these limitations, there is clear support for the effectiveness of the intervention and the recommendation are as follows:

1. Longer term service evaluation or research on the effectiveness of the intervention given the current sample was small
2. The use of parametric tests when the sample is larger which may be more robust
3. Employment of control group
4. Exploration of individual experiences of attending the intervention
5. Exploration of the high attrition rates and what can be done to address this