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The impact of coping style, self-efficacy, emotional reaction and resilience on trauma related
intrusive thoughts

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Abstract

Purpose – This study aims to explore the impact of coping style, self-efficacy, resilience and emotional reaction of trauma related intrusions in young offenders.

Design/methodology - This is a quantitative study using questionnaires. The sample was 152 young offenders in custody who were approached in their residential hall. Upon agreeing to participate they were given 24 hours to complete the questionnaire pack and returned these to the researcher at a designated time and place.

Findings - Over 90% of the sample indicated at least one traumatic event; 33.6% indicated 8 or more. Number of traumatic events did not impact on self-efficacy, resilience or coping strategy used. The type of coping strategy did not significantly impact on emotional reaction to intrusions across trauma groups. Participants with higher self-efficacy demonstrated greater problem-focused coping and less emotional reaction to intrusions. Participants with greater resilience scores utilised more problem and emotion-focused coping and experienced less emotional reaction to their intrusions. Resilience was predicted by self-efficacy and emotional reaction to intrusions.

Practical implications - Professionals working with young offenders with trauma related intrusions should focus on building strengths in the areas of problem-focused coping, self-efficacy and resilience.

Originality/value - This paper adds to the literature on trauma in male young offenders by looking at psychological factors which could be developed upon to improve ability to manage intrusive thoughts.

Keywords- *Trauma, intrusive thoughts, coping style, self-efficacy, resilience, young offenders*

Article Classification - *Research paper*

Introduction

Trauma is viewed as an emotional reaction to a serious event such as an accident, rape or natural disaster (APA, 2013). In severe cases this can lead to Post Traumatic Stress Disorder (PTSD), characterised as re-experiencing, avoiding reminders, and/or cognitive distortions about the event and those involved, overwhelming negative moods, and increased

arousal (APA, 2013). Even without PTSD people may be traumatised by an event that can impact and interfere with their lives. It can cause symptoms such as overwhelming negative feelings, mistrust of others, difficulty in relationships, and intrusive thoughts about the event (Margolies, 2010).

Offender populations have a high prevalence of trauma (research suggests between 60% and 92%: Moore, Gaskin & Indig, 2013; Abram et al, 2013). In studies of antisocial youth, self-reported trauma ranges from 70% to 92% (McMackin, Morrissey, Newman, Erwin, & Daley, 1998; Rivera & Widom, 1990; Steiner, Garcia, & Matthews, 1997); with indications that 24% to 65% have PTSD (Burton, Foy, Bwanausi, Johnson, & Moore, 1994; Cauffman, Feldman, Waterman, & Steiner, 1998; McMackin et al, 1998; Steiner et al., 1997; Wood, Foy, Layne et al., 2002). 84% of juvenile offenders in America had experienced more than one trauma and that 56.8% were exposed to 6 or more traumatic events (Abram et al, 2004). These findings indicate that trauma is a prevalent feature in young offenders. Literature in this area often focusses on individuals with mental illness or on female offenders which limits generalizability. Associated risk factors (e.g. neglect, poverty related violence, substance use, ineffective parenting) and risk taking behaviours increase the opportunities for young offenders to be exposed to events which could lead to trauma (Greenwald, 2002). As such, this study will look at the levels of trauma in male young offenders. This will focus on their coping styles, emotional reaction, self-efficacy and resilience when faced with intrusive trauma-related thoughts.

Outside of forensic populations, trauma in young people is particularly relevant due to the widespread effects it can have on biological and social development (Van der Kolk, 2005). Multiple trauma during developmental phases can lead to maladaptive coping and anti-social behaviour (Van der Kolk, 2005). The ability to recover psychologically from trauma is dependent on many factors including pervasiveness, length of time exposed, the context of the trauma, personality/coping style and pre and post-trauma environmental factors (Harris & Howard, 2014). Therefore understanding the effects of trauma and identifying those factors that can impact positively on its management has relevance to professionals engaging with young offenders.

Cognitive processing models of trauma provide an explanatory framework for the difficulties individuals have in managing responses to their experience. Traumatic events and related intrusions can disrupt functional thinking, produce maladaptive thinking and have a negative impact on problem solving as they interrupt how we process or cope with the trauma (Greenberg, 1995; Creamer et al, 1992; Lyubomirsky & Nolen-Hoeksema, 1995; Nolen-Hoeksema, Parker & Larson, 1994). A criticism of this model has been that it underestimates the strength and endurance of affective responses to trauma (Litz, 1992). Research has found that experiencing above average intrusive thoughts about stressors strengthened affective reaction to stress, especially in younger adults (Brose, Schmiedek, Loveden & Lindenberger, 2011). Intrusive thoughts are disruptive to cognitive processes and therefore suggest that they also impact a person's ability to utilise problem-focused coping strategies. Consequently there is an increased reliance on emotions (Clark, 2005; Berry et al, 2010). It has also been reported that young offenders who exhibit emotional reaction to traumatic events are relying on ineffective coping strategies (Zamble & Quinsey, 1997). It is important to research emotional reaction to intrusive thoughts and coping strategies as it can help inform our understanding how young offenders manage their traumatic experiences (Berry et al, 2010).

Coping strategies can help young offenders manage difficult situations however it has been suggested that these strategies can change over time depending on their situation (Brown & Ireland, 2006). After using a coping strategy the individual may review how effective this was and make appropriate changes (Folkman & Lazarus, 1985). Reductions in emotion coping and increases in detachment coping were found in a sample of young offenders over a 6 week period after incarceration when managing distress (Brown & Ireland, 2006). This would suggest that coping style changes to more adaptive strategies to deal with current position of custody and to manage emotions. Problem-focused coping strategies may help individuals feel more in control of their intrusive thoughts and therefore more able to regulate emotions (Goldin et al, 2009). The type of coping strategy used may be effective for the current situation however development of effective coping strategies could affect the way that a person manages their cognitive and affective responses to trauma long-term.

As well as coping, resilience (the ability to adapt successfully to stressful situations while maintaining normal psychological functioning (Wu, Feder, Cohen, Kim, Calderon, Charney & Mathe, 2013) could also play a role in influencing differences in response to intrusive thoughts. Campbell- Sills and colleagues (2006) investigated coping strategies,

resilience and personality constructs in undergraduate students. They found that coping styles predicted variance in resilience over and above the contributions of personality traits. They also found that problem-focussed coping was positively related to resilience whereas emotion-focused coping was associated with low resilience which is supported by findings in other studies (Feder, Nestler & Charney, 2009; Troy, Wilhelm, Shallcross & Mauss, 2010). However the sample had a relatively low incidence of trauma and this could be skewing the results.

Resilience has also been found to be strongly associated with cognitive reappraisal; the ability to monitor and assess negative thoughts and replace them with more positive ones to regulate emotions (McRae, Ciesielski & Gross, 2012). Reappraisal does not always successfully reduce measures of negative emotion (Lam, Dickerson, Zoccola & Zaldivar, 2009) and could be due to copings strategies implemented. It would suggest people who employ problem-focused coping strategies have increased resilience and less emotional impact of the traumatic event. However it is uncertain if cognitive appraisals are automatic processes or actively employed (Greenberg, 1995).

The process of cognitive appraisal could be impacted by self-efficacy, i.e. a person's perception that they can deal with life experiences. Positive self-efficacy can help individuals to assimilate their traumatic event, reduce stress reaction, improve coping and effectively manage their intrusive thoughts (Benight & Bandura, 2004; Bandura, 1997). Individual's belief in their ability to cope, influences their vigilance towards potential threats and how they are perceived and cognitively processed. It can also decrease symptoms of stress (Andersson, Moore, Hensing, Krantz & Staland-Nyman, 2014). Whereas the belief that the experience is unmanageable or that their coping strategies are ineffective, increases negative emotions to potential threats (Kleim, Vauth, Adam, Stieglitz, Hayward & Corrigan, 2008; Lazarus & Folkman, 1984). This research focussed on people experiencing mental illness and there may be mitigating factors in this population which are not controlled for. Higher self-efficacy increases effective coping strategies to manage stressors (Benight & Bandura, 2004). Efficacy can regulate emotions as believing you can control a situation alleviates stress and anxiety which then allows individuals to cognitively process and use problem-focused coping (Benight & Bandura, 2004).

The purpose of the present study is to investigate the role that self-efficacy, resilience, coping and emotional reaction can have on a person's experience of trauma related intrusive thoughts. The following hypotheses will be investigated:

1. Those who utilise problem-focused coping will experience less emotional reactions to intrusion and have greater self-efficacy than those who utilise emotion-focused strategies.
2. Those who demonstrate greater resilience will utilise more problem-focused coping strategies and report less negative emotional reactions to intrusive thoughts than those who demonstrate less resilience.
3. Those who demonstrate greater self-efficacy will have lower scores on emotional reaction to intrusions than those who demonstrate lower self-efficacy.
4. Resilience will be predicted by self-efficacy.

Method

Participants

726 questionnaires were issued to young offenders. The sample was selected due to the high proportion of trauma in this population. Of these ,154 were returned, 2 of which were invalid. This gave a valid response rate of 20.94%. The mean age of the participants was 19.11 years old ($SD = 1.192$). The majority reported their ethnic origin as White Scottish (49%, $n = 74$). The remainder described themselves as White other (25.2%, $n = 38$) or other (Black, Asian and Mixed Race; 3.3%, $n = 5$). 22.5% ($n = 34$) did not report their ethnic origin.

Measures

The following measures were used and are described fully in Appendix A:

- Trauma History Questionnaire (THQ; Green, 1996)
- COPE Inventory (Carver, Scheier & Weintraub, 1989)
- Emotional and Behavioural Reactions to Intrusions (EBRIQ; Berry et al, 2010)
- General Self-Efficacy Scale (GSE; Schwarzer & Jerusalem, 1995)
- Impact of Event Scale (IES; Horowitz, Wilner & Alvarez, 1979)
- Resilience Scale for Adults (RSA: Friborg, Hjemdal, Rosenvinge & Martinussen, 2003)

Procedure

Ethical approval was received from the Research and Ethics Committee of the Scottish Prison Service. The sensitive nature of the questionnaires focusing on trauma was clearly highlighted. Young offenders were approached in their residential hall with a consent form and questionnaire pack to their cell. Upon consenting they were given 24 hours to complete and return the questionnaire pack to the researcher at a designated time and place. All responses were anonymous and respondents were given a debrief sheet providing details of the study, researcher contact and relevant support services.

Results

Data Screening

Missing data was assessed as missing completely at random (Little (1988) MCAR Test: $\chi^2 = 2893.43$ (df = 3063; $p < .986$)). Missing data was replaced with group means (Tabachnick & Fidell, 2007). Normality was assessed for each variable by inspecting histograms, skewness, kurtosis and the Shapiro-Wilk test. The IES and the EBRIQ did not show normal distribution therefore non-parametric statistics were used. The remaining variables revealed a normal distribution. Box plots did not indicate any extreme univariate or multivariate outliers, as measured by Mahalanobis Distances in regression analysis ($p < 0.001$) for the number of variables used in each analysis.

Reliability

Internal reliability was assessed. For the GSE scale coefficient α was .84 The COPE scale provided α of .841. The THQ scale coefficient α was .78 and for the IES α was .95. The EBRIQ produced α of .85 and the RSA produced α of .91. Kline (2000) would suggest that $.7 \leq \alpha \leq .9$ represents good internal consistency and $\alpha \geq .9$ demonstrates excellent internal consistency. Therefore internal consistency was good for the scales used in this study.

Extent of traumatic events

The mean number of traumatic events in this sample was 6.64 per participant (SD = 3.816). 9 participants did not complete the THQ and this was accounted for by excluding cases pairwise. 3 participants indicated no traumatic life events, however this sample was too small to analyse as a separate group. As there could be unique differences in this group they

were removed from the analysis. The sample was then split into 3 different trauma groups based on numbers of reported types of trauma: Group 1 (1-3 traumatic events; 23%, n = 35), Group 2 (4-7 traumatic events; 35.6%, n = 54) and Group 3 (8+ traumatic events, 33.7%, n = 51). Table 1 outlines the mean scores in each group across the measures used in this study.

Table 1

Mean scores for groups across measures

Measure	Mean Scores		
	Group 1	Group 2	Group 3
Trauma History Questionnaire	2.23	5.52	10.84
General Self-Efficacy Scale	26.23	27.48	26.3
Resilience Scale for Adults	86.83	76.46	85.61
Problem-Focused Coping	42.83	45.28	43.12
Emotion-Focused Coping	42.14	44.11	42.82
Emotional & Behavioural Reaction to Intrusions Questionnaire	10.71	11.54	15.08
Impact of Events Scale	20.6	21.06	33.47

Differences across groups

One-Way Analysis of Variance compared the mean scores for normally distributed scales across the trauma groups. No significant variances were found in group means for self-efficacy ($F(2,138) = 0.933, p = 0.396$), resilience ($F(2, 98) = 1.302, p = 0.277$), problem-focused coping ($F(2, 137) = 0.25, p = 0.779$) and emotion-focused coping ($F(2, 137) = 0.082, p = 0.921$). No significant difference was found between the mean scores for the trauma groups across these scales. This demonstrated that the number of traumatic events did not impact on the coping strategy used or the scores for self-efficacy or resilience.

A Kruskal-Wallis test was used to compare group means for non-normally distributed scales. There was a statistically significant difference for the Impact of Events Scales ($\chi^2(2, 120) = 8.78, p = .012$) with the medians indicating participants who have most traumatic events had a significantly higher score (Group 3 Md = 45; Group 1 Md = 21, Group 2 Md = 22). A statistically significant difference for the Emotional and Behavioural Reaction to Intrusions questionnaire ($\chi^2(2,127) = 7.684, p = .021$) was discovered with Group 3

indicating a higher median score (group 3 Md = 18; group 2 = 14; Group 1 = 11). This result indicates that those who have experienced the greatest amount of trauma are significantly more affected by the event and have a greater emotional and behavioural reaction to them.

Impact of Trauma Group

A series of two-way ANOVAS were conducted to investigate interaction effects between measures across trauma groups. Firstly the impact of coping strategy and number of traumas on emotional reaction to intrusions was considered. The interaction of problem-focused coping and number of traumas was not significant, $F(2,125) = 1.115$, $p = 0.331$. The main effects of trauma ($F(2, 125) = 1.944$, $p = 0.148$) and problem-focused coping ($F(1, 125) = 0.376$, $p = 0.541$) were also not significant. There was no significant interaction effects for emotion-focused coping and number of traumas ($F(2, 125) = 0.616$, $p = 0.542$). There was no significant main effect for the individual factors either (Trauma: $F(2, 125) = 2.045$, $p = 0.134$; Emotion-focused coping: $F(1, 125) = 0.012$, $p = 0.914$). This therefore indicated that the type of coping strategy does not appear to significantly impact on a participant's emotional reaction to intrusions across trauma groups.

Table 2

Two-way ANOVA investigating interaction effects of trauma group and coping style on self-efficacy

Effect	Factor	F	df	Sig	Partial Eta squared
Interaction	Trauma * emotion-focused coping	0.543	2	.582	
Main	Trauma	.381	2	.684	
	Emotion-focused coping	2.855	1	.093	
Interaction	Trauma * problem-focused coping	.596	2	.552	
Main	Trauma	1.445	2	.239	
	Problem-focused coping	21.699	1	.000	.141

Analysis of coping strategy and number of traumas on self-efficacy indicated no interaction effects for either coping strategy (Table 2). There was also no main effect for trauma or emotion-focused coping. However there was a significant effect found for

problem-focussed coping ($F(2, 138) = 21.699, p = 0.000$) with the partial eta squared (0.141) indicating a medium effect size (Cohen, 1988). The post-hoc comparisons indicate no difference in problem-focussed coping across trauma groups. However, this is not surprising as it agrees with the results from the one-way ANOVA above. A T-test was used, as only 2 levels of the independent variable, to compare self-efficacy in high and low problem-focused copers. The 2 groups varied significantly from each other with $t(142) = -5.228, p = 0.000$. This indicated that those who have higher problem-focused coping have significantly higher self-efficacy than those with lower problem-focused coping.

Table 3

Two-way ANOVA investigating interaction effects of trauma group and coping style on resilience

Effect	Factor	F	df	Sig	Partial Eta squared
Interaction	Trauma * problem-focused coping	.187	2	.830	
Main	Trauma	2.215	2	.115	
	Problem-focused coping	18.816	1	.000	.171
Interaction	Trauma * emotion-focused coping	.655	2	.522	
Main	Trauma	1.433	2	.244	
	Emotion-focused coping	7.513	1	.007	.076

On examining if coping style impacts on resilience across trauma groups there were no significant interactions effects found (Table 3). There were no significant main effects found for trauma. However there was a significant main effect discovered for both types of coping strategy with partial eta indicating a medium effect for problem-focused coping and a small-medium effect for emotion-focused coping. The post-hoc comparisons indicated no statistically significant difference for either coping style across trauma. T-tests explored the differences for resilience across coping strategies finding high problem-focused coping differed significantly from the low problem-focused coping ($t(98) = -4.43, p = 0.000$). This results was similar for emotion-focused coping ($t(98) = -2.517, p = 0.013$). This demonstrates that those who utilise more problem and emotion-focused coping have greater resilience scores.

Table 4

Two-way ANOVA investigating interaction effects of trauma group and resilience on emotional reaction to intrusions

Effect	Factor	F	df	Sig	Partial Eta squared
Interaction	Trauma * resilience	1.500	2	.228	
Main	Trauma	0.807	2	.449	
	Resilience	23.67	1	.000	.201

Analysis examining the impact that resilience has on participants emotional reaction to intrusions concluded there was no significant interaction effect (Table 4). There was no significant main effect of trauma, however, there was a significant main effect for resilience. The partial eta squared of .201 suggests that this factor has a medium to large effect size. The post-hoc comparisons demonstrate no significant difference across traumas. A T-test found that there was a significant difference between those who scored high or low on resilience and their score on emotional reaction to intrusions ($t(120) = 4.853, p = 0.000$). This result indicates that individuals with lower resilience scores had increased emotional reaction to intrusive thoughts.

Table 5

Two-way ANOVA investigating interaction effects of trauma group and self-efficacy on emotional reaction to intrusions

Effect	Factor	F	df	Sig	Partial Eta squared
Interaction	Trauma * self-efficacy	0.684	2	.506	
Main	Trauma	2.263	2	.108	
	Self-efficacy	17.458	1	.000	.127

On examining the effect that trauma and self-efficacy has on emotional reaction to intrusions no significant interaction effect was found (Table 5). There was no significant main effect for trauma but there was for self-efficacy and the partial eta squared demonstrated that this was a medium effect size. The post hoc comparison found no significant difference across trauma groups. A T-test assessed the difference between high and low self-efficacy

scores. There was a significant difference between the self-efficacy groups ($t(129) = 4.602$, $p=0.000$) which means that participants with lower self-efficacy have higher emotional reactions to intrusions than those with higher self-efficacy.

Relationships among variables

A standard multiple regression analysis evaluated how the number of traumas, self-efficacy, coping style and emotional reaction to intrusions predicts resilience. All variables were retained as the correlations between each independent variables were less than 0.7 (Pallant, 2010). The Normal Probability Plot and the Scatterplot denoted no major deviations from normality or outliers in this sample.

Table 6

Summary statistics from the regression analysis to evaluate how independent variables predict resilience scores

Variable	Beta (β)	p	Part	% of variance explained by variable
No. of Traumas	-.72	.351	-.070	0.49
General Self-Efficacy	.327	.001	.248	6.15
Problem-Focused Coping	.195	.071	.137	1.88
Emotion-Focused Coping	.191	.042	.155	2.40
EBRIQ	-.265	.003	-.233	5.43

The independent variables above account for 47.5% ($R^2 = .475$) of the variance in resilience. It was found that self-efficacy (beta = .327, $p < .01$) and emotional reaction to intrusions (Beta = -.265, $p < .01$) were significant unique predictors (Table 6). Coping style (Problem-Focused Beta = .195, n.s.; Emotion-Focused Beta = .191, n.s.) and number of traumas (Beta = -.72, n.s.) were not significant predictors. This would suggest that self-efficacy and emotional reaction to intrusions are factors which impact on an individual's resilience score.

Key summary of findings

The number of traumatic events did not impact on the coping strategy used or the scores for self-efficacy or resilience. Participants experiencing the highest number of traumatic events have significantly higher scores on the impact of events scales and the emotional and behavioural reaction to intrusions. Emotional reaction to trauma related to intrusions does not significantly impact on coping strategy. Participants with higher self-efficacy demonstrated greater problem-focused coping strategies and less emotional reaction to intrusions than those with lower self-efficacy. Participants with greater resilience scores utilise more problem and emotion-focused coping strategies and experience less emotional reaction to their intrusions. Resilience was found to be predicted by self-efficacy and emotional reaction to intrusions.

Discussion

Over 90% of the sample reported experiencing at least one traumatic event. Over 33% of the sample experienced more than 8 types of traumatic event. This finding reinforces concerns about the amount of trauma young offender's experience. The high rates of multiple trauma is of particular concern for professionals who are engaging young offenders experiencing difficulties from trauma exposure (van der Kolk, 2005).

The number of traumatic events did not impact on the type of coping strategy, self-efficacy or resilience in young offenders. Those who had experienced the highest number of traumatic events appeared significantly more affected and had a greater emotional and behavioural reaction to their experience. This raises concerns in regard to the experiencing of multiple trauma creating difficulties. Although participants with more traumatic events report being more affected by the experience, the number of traumatic events does not dictate the coping strategy used. Resilience and self-efficacy are also not directly related to the number of traumas experienced which would suggest that there are other factors involved.

Contrary to expectations, there was no significant difference in emotional reaction to intrusions when considering coping styles. Overall, participants indicating an emotional reaction to intrusive thoughts did not exhibit a particular coping strategy. Emotional reaction could impact on ability to utilise effective coping strategies (Zamble & Quinsey, 1997) or it

could be that young offenders have not developed specific coping strategies due to adapting to situational factors. These adaptive coping strategies which were effective at the time of the trauma may have long term negative effects and would benefit from development into more effective coping strategies. The emotional reaction to intrusions could be limiting the participant's ability to process this experience effectively and therefore lead to choosing unhelpful coping methods (Clark, 2005; Berry, May, Andrade & Kavanagh, 2010). This would suggest that building appropriate coping strategies at times of emotional arousal would help young offenders to better manage their traumatic experience.

Although the hypothesis that problem-focused copers will have greater self-efficacy than emotion-focused copers was not confirmed, higher self-efficacy was found in those who are greater problem-focused copers. This may suggest that people who use problem-focused coping have a greater belief in their ability to deal with intrusions. It could also be that young offenders with greater self-efficacy have developed coping strategies (either emotion or problem-focused) to adapt to their trauma related situation (Brown & Ireland, 2006). Self-efficacy could enable participants to utilise more effective problem-focused coping strategies when dealing with intrusive thoughts (Benight & Bandura, 2004). Using problem-focused coping may help participants feel more in control of their experience of intrusions and therefore more able to regulate emotions (Goldin et al, 2009). No main effect was found for emotion-focused coping in relation to self-efficacy. Research would suggest that emotion-focused coping responses are used to manage negative emotional reaction to stressors (Brown & Ireland, 2006) and it could be that self-efficacy does not mediate this initial adaptive strategy.

Confirming the prediction, participants who used problem-focused coping had greater resilience scores. This may indicate that they are more able to cognitively appraise situations and manage intrusive thoughts more effectively. Emotion-focused coping strategies were also associated with resilience. These strategies could be utilised in order to help individual's manage a situation adequately so that they have time to develop more effective coping strategies (Brown & Ireland, 2006). It could also mean that emotion-focused coping strategies are used until individuals have more self-control to appraise the situation and change to more problem-focused coping strategies (Kashdan & Rottenberg, 2010). Improving problem-focused coping would be favourable for long-term management as relying on emotion-

focused coping could have negative long-term effects or be ineffective for other difficult situations (Brown & Ireland, 2006).

Participants with lower self-efficacy had higher emotional reactions to intrusions than those with higher self-efficacy, confirming the hypothesis. This result could indicate that self-efficacy has a role to play in affective responses to trauma. It may be that belief in ability to manage the trauma response decreases the subsequent emotional reaction to the stressor. The affective reaction could impact on cognitive appraisal of the intrusive thought thus influencing confidence to effectively manage them (Clark, 2005; Berry et al, 2010). This supports research that developing self-efficacy could be a helpful intervention strategy for individuals who have experienced traumatic events (Benight & Bandura, 2004).

Resilience was found to be predicted by self-efficacy and emotional reactions to intrusions. When considering multiple factors, 47.5% of resilience could be explained by self-efficacy, coping style, emotion reaction and number of trauma types. Unique contributors were self-efficacy (6.15%) and emotional reaction (5.43%). Other variables may not indicate as significant contributors due to overlap with other independent variables in the model (Pallant, 2010). This is especially true for coping strategies as individuals can implement both types when integrating and processing trauma experiences, with coping strategies being dependent on the type of traumatic event. However this was not explored. As almost half of resilience can be explained by the factors above practitioners could focus on these to increase individual's resilience in managing trauma related intrusions.

There are limitations in the current study which highlight future research avenues. Due to population composition, this study only considered young offenders who had experienced traumatic events in their life. Not enough participants had experienced no traumatic events to include this as a comparison group. It would be appropriate to examine the individual characteristics of offenders who report no trauma to explore any differences. In addition, the self-report nature of the study could introduce factors indicative of the group who returned the questionnaires. The 20.94% sample who returned the questionnaires may have done so due to interest in the topic because of their own experience of trauma or intrusive thoughts.

The COPE inventory allows analysis of types of coping strategies however not an overall score on preference. Throughout the study there could have been an overlap with these two measures and in the future other methods of assessing coping style may be considered. Although the argument may always be that we use a range of coping styles dependent on the stressor. It could also be that coping style develops to manage the stressor over time and developing self-efficacy and resilience in order to encourage a more problem-focused approach would negate potential long term negative effects of ineffective coping strategies (Wu et al, 2013).

A strength of this study was its utility of a sample of young offenders who often report multiple traumatic events in their lives. There were limited differences across trauma groups suggesting that number of traumas is not significant in an individual's experience. It is inappropriate to make inferences about background or other individual factors without having explored this. Future research could examine whether certain characteristics enable some young offenders to better cope with traumatic life events. Personality, attitudinal and lifestyle factors should be researched to develop our understanding of individual differences that increase protective factors for trauma management.

This current study provides figures on the impact of certain psychological factors on male, predominantly white, young offender's experience of trauma related intrusions. Further research would benefit targeting females, a range of ethnicities and an adult population. Due to using an offender population who are at increased risk of experiencing trauma the individual characteristics which influence their experience may not be representative of the general population. Future research would benefit from considering locus of control as a mediating factor in dealing with trauma intrusions. This would be pertinent due to the role self-efficacy has in resilience and understanding how their perception of control impacts on this factor. It is important that understanding the factors which can support an individual to deal with traumatic events is developed more widely than the sample in this study.

Implications for Practice

- The number of traumatic events experienced should not be a condition for access to treatment.
- Interventions should focus on building strengths especially in self-efficacy and resilience.

- It is also important to note that coping strategies may have been developed to manage certain types of stressors and be effective in the short-term. However they may not be appropriate for other situations or have long term negative effects. Therefore increasing problem-focused coping should be targeted in interventions.

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Appendix A: Overview of the questionnaires utilised

Measure Name	Purpose	No' of Items	Examples of Items	Response Format	Scales Measured	Internal Consistency		Notes
						Coefficient α	Test-Retest Reliability	
Trauma History Questionnaire (THQ; Green, 1996)	Self-report questionnaire exploring traumatic occurrences	24	“Have you ever received news of a serious injury, life-threatening illness, or unexpected death of someone close to you? If yes, please indicate”	This a data collection instrument, with no standard scoring method		As it is not an orthodox scale it was not appropriate to establish internal consistency (Hooper, Stockton, Krupnick & Green, 2011).	Test-retest reliability over a 3 month period was good ($r = .70$, Green, 1996).	Results generate a total score representing the numbers and types of events endorsed including sub scale scores, totalling crime-related events, general disaster and trauma, and physical and sexual incidents.
COPE Inventory (Carver, Scheier & Weintraub, 1989)	Assesses both dispositional and situation-specific coping strategies	60	“I talk to someone about how I feel”; “I use alcohol or drugs to help me through it”	4-point Likert scale with answers ranging from “I usually don't do this at all” to “I usually do	13 scales with 5 representing problem-focused coping strategies and 5 representing emotion-focused coping strategies.	0.45 to 0.92 Stable consistency.	Relatively stable over a 8 week period.	Individuals report on the coping strategies used in response to stressful events.

				this a lot”, with no neutral reply				
Emotional and Behavioural Reactions to Intrusions (EBRIQ; Berry et al, 2010)	Evaluates the emotional and behavioural reactions to intrusive thoughts	8	“It makes me anxious”; “It distracts me from what I am doing”.	5-point Likert scale with replies ranging from “never” to “every time”	It has a 2-factor structure to independently measure the different reactions to intrusive thoughts, where higher scores on each subscale indicate greater reaction.	.86 Good consistency.	r = .68 over a 70 day period. Good test-retest reliability.	Higher scores indicate greater emotional and/or behavioural reaction.
General Self-Efficacy Scale (GSE; Schwarzer & Jerusalem, 1995)	Measures perceived self-efficacy in coping with daily hassles as well as after stressful life events.	10	“I can always manage to solve difficult problems if I try hard enough”; “I can usually handle whatever comes my way”	4-point Likert scale with answers from “Not at all true” to “Exactly true” with no neutral reply		.79 to .91 Good inter-item consistency	r = .47 to .75 over a 1 to 2 year period (Scholz, Gutiérrez-Doña, Sud & Schwarzer, 2002). Average to good reliability.	Higher scores indicate higher perceived self-efficacy.
Impact of Event Scale (IES; Horowitz,	Examines the subjective distress from exposure to	15	“I thought about it when I didn’t	4-point Likert scale with replies varying	Consists of two subscales to measure intrusion and avoidance	.86 for the intrusion subscale; 0.82 for the	r = .94 and .89 (over a 6 month period) for the intrusive and	Higher scores propose a more extreme response to the traumatic

Wilner & Alvarez, 1979)	major life events.		mean to”; “Pictures about it popped into my mind”	from “not at all” to “often”, with no neutral response	experience.	avoidance subscale (Sundin & Horowitz, 2002). Good internal consistency.	avoidance subscales (Weiss & Marmar, 1997). Good reliability.	incident.
Resilience Scale for Adults (RSA: Friborg, Hjemdal, Rosenvinge & Martinussen, 2003)	Evaluates interpersonal and intrapersonal protective factors presumed to aid adaptation to psychosocial difficulties.	33	Statements include “When something unforeseen happens – I always find a solution or I often feel bewildered”	5-point Likert scale with replies varying from “The statement on the left is most true for me” to “The statement on the right is most true for me”		0.76 to 0.87 Good Inter-item consistency	r > 0.70 (Windle, Bennett & Noyes, 2011). Good Reliability.	Higher scores demonstrate that individuals are psychologically healthier, better adjusted and thus more resilient