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The Association between Aggression, Traumatic Event Exposure and Post-traumatic Stress Disorder of Looked After Young People.

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Abstract

This study identified an association between symptoms of post-traumatic stress disorder (PTSD) and aggression in a sample of looked after young people. Observational data on PTSD symptoms and the frequency of aggressive behaviours was obtained for a sample of 36 boys and 13 girls in residential and secure care over a retrospective 28 day period. The study identified high rates of traumatic event exposure and PTSD symptoms, with 51% meeting the criteria for a likely diagnosis of PTSD. The severity of PTSD symptoms was also found to be associated with verbal and physical aggression towards members of staff and peers within the care environment.

Keywords

Trauma, PTSD, aggression, residential and secure care

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Introduction

Aggression and Violent Behaviour of Looked After Young People

Violence and aggression occur disproportionately in residential care and out of home care settings (Darker, Ward & Caulfield, 2008). There are many factors involved in this including the context of care environments themselves (Hayden, 2010). There are also factors at the individual level and in recent years there has been a focus on the wider literature on the association between childhood experiences of adverse events and later concerning behaviour such as violence. For example, Bellis, Ashton, Hughes, Ford, Bishop and Paranjothy (2016) examined the impact of adverse experiences with a sample of over 2,000 adults in Wales. It was found that those who had experienced more than 4 different types of adverse childhood experiences were 15 times more likely to have committed violence against others over the last 12 months. Furthermore, a study by Duke, Pettingell, McMorris and Borowsky (2010) found that of a sample of 136,549 students more than one in four reported experiencing an adverse childhood experience and each type of adverse experience examined was found to be significantly associated with interpersonal and self-directed violence.

The Adverse Experiences of Looked after Young People

Children who are in the care of the local authority (often termed Looked After Children) have often experienced high rates of adversity including physical, emotional and sexual abuse, neglect, domestic violence and removal from the birth family itself (Rahilly & Hendry, 2014; Simkiss, 2012). A study of 52 looked after children found that 69% had experienced neglect, 48% physical abuse, 37% emotional abuse and 23% sexual abuse (Chambers, Saunders, New, Williams & Stachurska, 2010). Similarly, Johnson (2017) found that of a sample of 74 boys and 22 girls in Scottish residential care, 51% and 68% had experienced emotional abuse and 58% and 68% had been exposed to domestic violence respectively. Additionally, a study by González-García, Bravo, Arruabarrena, Martín, Santos and

Del Valle (2016) examined a sample of 1216 children aged between six and 18 years old in residential care in Spain. In over 60% of cases, experiences of abuse or neglect were the reason for admission to residential care. Emotional abuse was experienced by one in four children and physical abuse was experienced by one in five children.

Post-Traumatic Stress Disorder and Looked After Young People

The concept of traumatic stress or psychological trauma has developed to explain how experiences like those listed above can impact upon young people. There have been many proposed definitions of trauma and post-traumatic stress disorder (PTSD, American Psychiatric Association, 2013) is perhaps one of the most studied of these. According to the diagnostic criteria, PTSD is defined as a traumatic event that involves exposure to actual or threatened death, serious injury, or sexual violence (APA, 2013). This may occur by directly experiencing the event, witnessing the event or learning that the traumatic event has occurred to a close family member or close friend. The subsequent symptoms are categorised within four separate groups: intrusion, avoidance, negative cognitions/mood, and arousal/reactivity. To meet the diagnostic criteria, symptoms must persist for at least a month. A recent study in the UK by Lewis, Arseneault, Caspi, Fisher, Mathews, Moffit, Odgers, Stahl, Ying Teng and Danse (2019) examined data on 2064 children across a range of social and economic status and found that 31.1% had experienced trauma and 7.8% experienced PTSD by the age of 18.

The PTSD concept and diagnostic criteria have been used to quantify the prevalence of traumatic experiences and subsequent symptomatology with looked after young people. For example, Ford, Vostanis, Meltzer and Goodman (2007) found that looked after young people are more likely to be diagnosed with post-traumatic stress disorder when compared with young people living at home in the community. They also found that PTSD was 19 times more prevalent in looked after children when compared with young people living at home (Ford et al., 2007). Furthermore, a study by Morris, Salkovskis, Adams, Lister and Meiser-Stedman (2015) assessed

PTSD-like symptoms in a sample of 27 looked after young people using the Child Revised Impact of Events Scale (CRIES-8) as a screening tool. The study found the prevalence of PTSD symptoms to be high, with 75% scoring greater than or equal to the threshold suggestive of PTSD, higher than estimates from samples of non-looked after children.

PTSD as a Mediator for Aggression

An association between adversity and aggression has led some researchers to suggest that there is a potential causal relationship between the two (Whitfield, 2004a, 2004b; Dierkhising, Ko, Woods-Jaeger, Briggs, Lee & Pynoos, 2013). This theory has been refined with some researchers suggesting that the specific symptoms of PTSD, rather than traumatic event exposure alone, may mediate offending and aggression (Kerig & Becker, 2010). This refinement emphasises the ongoing effects of the traumatic experience as manifested in symptomatology as important drivers of later violence, rather than solely the exposure itself. That is, it proposes that of the many later consequences of traumatic event and adversity exposure, it is the symptoms of PTSD that somehow drive aggression and violence.

For example, Ruchkin, Henrich, Jones, Vermeiren and Schwab-Stone (2007) found that PTSD symptoms partially mediated the relationship between violence exposure and self-reported commission of violence among boys in a community sample. Additionally, Allwood and Bell (2008) found that, for a community sample of girls exposed to violence, symptoms of re-experiencing were related to self-reported aggression against others. Whereas for boys, it was found that symptoms of arousal mediated the relationship between exposure to and perpetration of violence.

A study conducted by Becker and Kerig (2011) examined PTSD symptoms and their association with the frequency and severity of delinquency in boys held in a juvenile facility. They measured delinquency with a scale that incorporated both the frequency of arrests and the severity of charges and compared this to traumatic event exposure and PTSD symptoms. They found that the severity of the sample's

PTSD symptoms, rather than exposure to the traumatic event alone, was directly associated with the degree of delinquency (Becker & Kerig, 2011). They concluded that detained boys not only had higher prevalence rates of PTSD than their non-detained peers but also that the association between PTSD symptom severity and delinquency was present both in the past year and across the boys' lifetimes.

The researchers noted a number of limitations to their study including the use of cross-sectional rather than longitudinal data resulting in no comment being made on the potential for causal relationships between PTSD and delinquency. A key limitation that the authors did not comment upon is that PTSD symptoms and delinquency were measured over different periods. These periods did not synchronise temporally and were of different durations. That is, the two measures of delinquency were based on behaviour over either the previous 12 months or the whole lifetime whereas the PTSD symptoms were only measured over the previous month.

The lack of synchronisation is problematic and can be considered to reduce the rigour of the study. A more robust exploration of any association could be determined by using an overlapping, that is synchronised, time period. While this would suffer from the same cross-sectional limitations, it would enable a more rigorous analysis of the association between symptoms and aggression over time.

Rationale

Although looked after young people have been found to have high rates of traumatic experiences, PTSD symptoms, aggression and violence, there are as yet no studies that have explored the relationships between these factors with this population. The studies that have explored associations between PTSD symptoms and externalising behaviours with other populations such as young people involved in the criminal justice system have a lack of temporal sensitivity as the behaviours and PTSD symptoms were measured over different time periods.

The purpose of this study was to examine whether a relationship existed between PTSD symptomatology and verbal and physical aggression over a set 28 day period. Exploring the association between trauma exposure, PTSD symptoms and aggression in a looked after population could have important implications for how young people are cared for and supported, particularly when displaying harmful aggressive behaviour.

Method

Care Setting

The research was conducted at a large education and care centre located in Scotland that provides services to young people with social, emotional, educational and behavioural problems. An array of services is offered which includes residential and secure care for boys and girls aged between 12 and 18.

Ethics

Ethical approval was granted by the ethics committee at the care centre. Ethical approval was also sought and granted by the ethics committee of the affiliated university. Due to vulnerability of the young people in the care centre and the potential for this research to cause distress, the young people were not directly involved in the research and instead collateral and observational data was used. Young people and their social workers had previously provided consent for collateral information to be used for research purposes.

Young People

Of the 49 young people, 36 (73%) were boys and 13 (27%) were girls. At the time of the study, 16 (33%) of the young people were accommodated in secure care and 33 (67%) were accommodated in residential care. The young people in this study ranged in age from 12 to 17 years old, with a mean age of 14.79 years (SD= 1.09).

Procedure

The study adopted a mixed-method approach which involved obtaining data on a sample of 49 young people. Opportunistic sampling was used by approaching each residential and secure house unit and asking each key worker whether they wished to provide data on their key young person. A key worker/co-key worker is responsible for overseeing the delivery of a young person's care plan and is therefore well informed on the young person they are assigned to.

On two occasions, a key worker or co-keyworker was not available to complete the measure, therefore, another member of staff who felt they were well informed on the young person completed the measure.

To be included within the study, young people had to have resided within their residential or secure house unit for at least 28 days to enable sufficient observation of PTSD symptoms by the young person's keyworker. The study was retrospective in design and asked for observations from the previous 28 days. It was thought that a prospective design would significantly reduce the time that care staff had to perform their duties.

Measures

PTSD symptoms

One of the researchers verbally interviewed staff using the Posttraumatic Stress Disorder Reaction Index Caregiver Version (PTSD-RI; Pynoos & Steinberg, 2013) for DSM-V with each member of staff. The PTSD-RI is a structured screening measure which is comprised of three parts. The first part of the measure screens for exposure to various types of traumatic events. The second part is used to gather additional information in relation to any of the trauma types endorsed in the first part of the measure. The third part is the reaction index which contains 27 items assessing the presence of PTSD symptoms. Staff members were asked to

rate the frequency of PTSD symptoms in the past 28 days based on their knowledge and observation of the young person.

The PTSD-RI is not a diagnostic tool but it can provide preliminary diagnostic information (Steinberg, Brymer, Decker, & Pynoos, 2004). Scores on the PTSD-RI are highly correlated with a diagnosis of PTSD (Steinberg et al., 2004).

Aggressive Behaviour

Two measures were used to capture the frequency of aggressive behaviour.

Case Note Review

Case notes are recorded and maintained by members of staff, at least three times per day with any information relevant to the young person. Case notes for the 28 days preceding the completion of the PTSD-RI were reviewed by a researcher for incidents of physical and verbal aggression. As such, aggressive behaviours were reviewed for the same 28 day period in which PTSD symptoms had been assessed.

For the purposes of this study, physical aggression was defined as inflicting bodily damage and may include behaviours such as kicking, biting, pushing, shoving and hair pulling (Sameer & Jamia, 2007). Whereas verbal aggression was defined as threats, shouting, swearing and being sarcastic with the goal of causing emotional and psychological hurt (Sameer & Jamia, 2007). Any behaviours logged within the case notes which matched the above definitions were recorded. One continual episode was noted as a single incident regardless of duration. By the nature of the case notes, the data focused on incidents of aggression while the young person was observed or which had been relayed to staff. Incidents unknown to staff such as those that may have happened in the community were not recorded.

Physical restraints

The number of physical restraints were included as it was thought that these may provide a proxy measure of severe externalising behaviours including aggression.

Physical restraint was defined as a staff member placing their hands on a young person to change behaviour. This included the staff safely holding young people to prevent harm to themselves or others. No mechanical restraints or pain-based restraints were used in the centre.

The measure of physical restraints was also obtained from a young person's case notes. However, a separate record of physical restraints is stored within the young person's case file and this was also reviewed to ensure accuracy. Similarly, data on physical restraints was collected for the 28 days preceding the completion of the PTSD-RI measure.

Data Analysis

All statistical analyses were performed using SPSS version 24. Independent samples t-tests were conducted to explore the differences in PTSD symptom scores and the level of aggressive behaviours. Correlations were conducted to examine the overall association between variables. The dataset had no missing data and for all tests, $p < .05$ was considered significant.

Results

Frequency of Aggression

43 (88%) young people were physically or verbally aggressive during the time of the study. Of the aggressive behaviours examined, the most commonly exhibited was verbal aggression towards members of staff.

Frequency of Physical Restraints

14 (29%) young people had been involved in a physical restraint during the 28 day period that was measured. It is worth noting that some young people had been involved in more than one physical restraint during the 28 day period. The highest

number of physical restraints recorded for a young person was five, however, the majority had only been involved in one restraint (n=9).

PTSD Symptom Severity

Importantly, 100% of the sample was reported by their key workers to have experienced at least one traumatic event as defined by DSM-V (APA, 2013). The PTSD-RI measure completed by key workers assessed for exposure to thirteen different types of traumatic events.

None of the young people were identified by their keyworker as having been in a disaster or a place of war, however, 6.1% (n=3) were identified as having been in a bad accident. 53.1% (n=26) had been punched or kicked at home, whilst 71.4% (n=35) had witnessed a family member being hit, punched or kicked at home. 53.1% (n=26) had been beaten up, shot at or threatened to be hurt and 59.2% (n=29) had witnessed someone being beaten up, shot at or killed. 12.2% (n=6) had seen a dead body, 14.3% (n=7) had an adult touch their private parts, 18.4% (n=9) had heard about the violent death or serious injury of a loved one and 10.2% (n=5) had experienced a painful and scary medical treatment. Furthermore, 12.2% (n=6) of the sample were identified as having been forced to have sex with someone against their will and 46.9% (n=23) were identified as having someone close to them die. Whilst the measure assesses for exposure to a range of traumatic events, the last question asks the caregiver to identify whether anything else has ever happened to the child that was really scary, dangerous or violent. 65.3% (n=32) of the sample were identified as having experienced an event that was scary, dangerous or violent and not captured within the other traumatic events listed on the measure.

It is important to note that most of the young people in the sample had experienced multiple types of traumatic events during their lifetime. Results indicated that the young people had experienced an average of four different traumatic events. The most commonly reported traumatic event for the sample was

witnessing a family member being hit, punched or kicked at home with 35 (71%) young people being reported to have experienced this.

25 (51%) young people were found to meet the PTSD-RI index threshold for "likely PTSD" whilst 24 (49%) young people did not. Furthermore, 6% (n=3) met the criteria for the dissociative subtype of PTSD due to the presence of dissociative symptoms.

Independent t-tests were conducted to compare the mean differences in the PTSD symptom scores. There was no significant difference in the PTSD symptom scores amongst young people who had experienced one type of traumatic event (M=19.50, SD=16.26) or those who had experienced multiple types of traumatic events (M=31.19, SD=15.42), t (47) = -1.049, p= .300. As such, the severity of PTSD symptom scores was not related to the number of types of traumatic events experienced.

An independent t-test was conducted to examine the PTSD symptom scores amongst the young people who acted aggressively during the time of the study and those who did not act aggressively. Overall, it was found that the young people who were aggressive during the time of the study had a greater PTSD symptom score (M= 32.39, SD=15.31) than those who did not act aggressively (M=18.66, SD=11.16) and this difference was significant, t (47) = -2.110, p= .040.

Correlations between PTSD symptoms and Aggression

Higher PTSD symptom scores were associated with physical aggression towards staff (r= .314, p= .028), and towards peers (r= .299, p= .037) plus verbal aggression towards staff (r= .570, p= < .001) and towards peers (r= .286, p= .047). PTSD symptoms were not found to be associated with the number of physical restraints.

Discussion

This study intended to investigate exposure to traumatic events, symptoms of PTSD and aggression in a sample of looked after children. The study identified high rates of traumatic event exposure and PTSD symptoms amongst the sample of young people. It also identified an association between the severity of PTSD symptoms and both physical and verbal aggression directed towards the young person's peers and members of staff.

The findings of this research are consistent with existing literature that has identified high rates of exposure to traumatic events amongst this group of young people. It is also consistent with literature in identifying an association between PTSD symptomatology and externalising behaviour in other populations (Becker & Kerig, 2011). However, it is the first study to identify such an association with a group of looked after young people.

The high rates of exposure and symptoms identified in this study suggest that practitioners should assess and monitor post-traumatic symptoms in looked after children. It also suggests that an important early step in responding to and supporting aggressive looked after young people is to consider the potential role of traumatic experiences and subsequent symptoms. A corollary of the results is that reducing PTSD symptoms may, in turn, reduce aggression and violence. A reduction in aggressive behaviours could have a positive impact upon young people’s lives. As an example, it may reduce convictions, which could have implications for life outcomes such as employment prospects. Additionally, a reduction in aggressive behaviour may potentially help to reduce staff turnover and burnout.

There are resources available to help inform practice with a trauma affected population. In May 2017, NHS Education for Scotland (NES) published in partnership with the Scottish Government Transforming Psychological Trauma, a knowledge and skills framework for the Scottish Workforce. The framework delineates the skills and knowledge required to meet the needs of people affected by trauma and deliver evidence-based trauma informed services. The framework

can be used by managers/supervisors as a means of identifying strengths and weaknesses in the knowledge and skills of staff.

Clinical guidelines are available for the treatment of PTSD (National Institute for Health and Care Excellence [NICE], 2018) in a general population however there is currently no nationally recognised guidelines for this specific group of young people. Given the high and varied exposure to traumatic events in combination with challenging behaviours such as aggression, specific guidelines should be developed for looked after young people.

The care environment and milieu offers opportunities to help young people cope with traumatic experiences and symptoms and there is a growing interest in trauma-informed care (TIC) for this population (Johnson, 2017). Trauma informed care has been defined in many ways but includes acknowledging and responding to traumatic experiences and their ongoing effects. There is often a focus on safety, emotional development and support and staff competency (Hanson & Lang, 2016). This is being increasingly operationalised (Bassuk, Unick, Paquette & Richard, 2017). There is as yet limited evidence of the effectiveness of this approach with looked after young people and future research should focus on how best to support young people to reduce symptoms.

The study found no association between PTSD symptoms and physical restraint. However, this may be attributed to low statistical power so this would be worthy of further exploration in future studies. This was identified as a proxy measure of externalising behaviours including aggression and could be triggered by other behaviours such as self-harm or suicide attempt. Physically restraining a young person is viewed as the last resort and where possible, staff will use strategies to try and defuse the situation first. However, failure to physically restrain a young person when necessary can be dangerous to the young person and others (Davidson, McCullough, Steckley & Warren, 2005). All members of staff at the care centre are appropriately trained in restraining young people but even when done correctly, it can be a traumatising process for both young people and staff alike (Davidson et al., 2005). If the lack of association were confirmed, in larger studies,

this would be encouraging given the potential for re-traumatisation and for restraint to become a means of releasing and coping with distress (Allen, 2008; Steckley & Kendrick, 2008). Given the high rates of aggressive behaviour documented by the sample, the results suggest that members of staff were able to manage and defuse such situations well.

Limitations

There are a number of limitations to this study which includes that the sample size was small. This could be attributed to the availability of data and the reliance upon staff participation. Also, the PTSD RI: DSM-V version has not been validated on a UK population. A key limitation is a reliance upon observational data rather than asking young people directly about their experience of PTSD symptomatology. The measure is dependent upon observational skill, proximity to and time spent with the young person. The data on young people was dependent upon key workers consenting to take part and provide data. This may have meant that those who were concerned about potential PTSD or aggression were more likely to take part, therefore, biasing the results. An additional limitation is that the researcher was not independent and blind to the measures.

The measures of externalising behaviour were limited to aggression and as a proxy measure, physical restraint. Numerous other externalising behaviours could have potentially been examined such as destruction of property, absconding and self-harm. This may have provided a more comprehensive exploration of the association between PTSD symptoms and externalisation in looked after young people.

Lastly, the results of this study reflect aggressive behaviours exhibited within the residential and secure care centre setting. It is possible that the nature of the setting in which young people are placed could potentially make aggression more likely. Young people are rarely placed in secure care voluntarily. Lastly, aggression that was undetected by staff was not recorded and the findings may be different if there was a more accurate measure of aggression.

Future Research

Exposure to traumatic events amongst looked after children and their psychological and behavioural responses to these is an area which requires further research. Future research would benefit from using direct young person report, wider sampling procedures such as multiple looked after centres and explore aggression both within and beyond the care environment. The temporal sequencing of this study could be improved by completing prospective longitudinal research that would be better placed to establish the direction of effects. The study did not investigate gender difference in relation to trauma exposure and future research should aim to examine whether gender differences exist in how looked after young people experience and respond to traumatic events. Additionally, future studies could examine potential protective factors to highlight what may ameliorate the development of PTSD symptoms following traumatic exposure.

Conclusion

At their core, these results highlight the importance of looked after services identifying and acknowledging the traumatic and adverse events their young people may have experienced. The results make a strong case for implementing sensitive and validated assessment processes that can be used with all looked after young people. It also suggests there should be rigorous research into what works to help support looked after young people after traumatic experiences both at the level of individual treatment and the organisational milieu.

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