



# Looked after children and offending: An exploration of risk, resilience and the role of social cognition



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## ABSTRACT

There have been serious concerns in the UK about the number of young people who are looked after in state care but are also young offenders. The relationship between the care system and offending is complex, since there are shared risk factors, in particular histories of poor parenting, abuse and neglect. This article reports on a mixed methods study. It focuses on findings regarding a sample of 100 young people (age 14–19), using data from file searches, psychological measures and narrative interviews. The sample was made up of three sub-samples – looked after young people who had offended, looked after young people who had not offended and young people who had offended but were not looked after. This paper presents the study's findings in relation to the characteristics and pathways of these groups. It illustrates the range and interaction of individual, family and education and activity risk and resilience factors. In particular, it highlights the role of social cognition deficits in increasing the risk of offending for young people in state care. It also identifies the significance of relationships and constructive activity in promoting resilience.

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## 1. Introduction

There have been serious concerns raised in the UK and internationally about young people who are looked after in state care and are also offenders in contact with the youth justice system (Blades, Hart, Lea, & Willmott, 2011; Darker, Ward, & Caulfield, 2008; Jonson-Reid & Barth, 2000; Taylor, 2006). In 2014, updated UK government guidance was issued regarding the additional care that needs to be taken to ensure that the interests of young offenders in care are protected (Department for Education, 2014: 8).

The relationship between care and offending pathways is complex, since there are multiple shared risk factors, in particular poverty and the experience of dysfunctional family lives including abuse and neglect (Darker et al., 2008). Although the majority of looked after children are not offenders, those who are face an increased risk of a downward spiral out of school and family placements and into an adulthood of unemployment and social exclusion (Jonson-Reid & Barth, 2000). It is therefore necessary to identify the range of factors which may reduce the

risk of offending, but also those which promote pro-social behaviour and resilience in this vulnerable population.

This article reports on a mixed-method, funded national study in England. It presents the findings regarding the characteristics and pathways of looked after children in relation to offending, in the context of the wider literature on risk and resilience factors. It highlights in particular the role of social cognition as a risk factor for offending that is also linked to the histories of maltreatment that characterise children in care (Howe, 2005; Pollack, Cicchetti, Hornung, & Reed, 2000). Implications for practice in care and youth justice settings will then be discussed.

## 2. The policy, research and practice context

This study was prompted by policy and practice concerns about the rates of offending by children in care. In England during the year ending 31 March 2013, 6.2% of looked after children aged 10–17 had been convicted or subject to a final warning or reprimand, compared to 1.5% of all children (Department for Education, 2013). Also of concern has been the evidence that between a quarter and a half of children in custody were reported to be or have been looked after (Her Majesty's Inspectorate of Prisons/Youth Justice Board, 2009). It is important to bear in mind that young people in custody may only have spent a brief period in care or have come into care in adolescence when they

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had already committed offences, so connections between these pathways are not straightforward.

### 2.1. Risk

Higher rates of offending for young people in care than in the community may not be surprising, since the majority of children in care in the UK are from high risk family backgrounds of deprivation, poor parenting, abuse and neglect (Biehal, Ellison, Baker, & Sinclair, 2010; Sinclair, Baker, Lee, & Gibbs, 2007), factors that together create risk for a range of emotional, social and behavioural difficulties, including anti-social and offending behaviour (Leschied, Chiodo, Nowicki, & Rodger, 2008; Widom & Maxfield, 1996).

However, taking children into care is expected to be a protective measure that mitigates risk, so questions do need to be asked when children with care histories appear to be at greater risk of offending. One area of concern has been that in addition to the increased risk of offending for individual young people from backgrounds of maltreatment, there may also be systemic factors that increase the risk of offending for children in care (Darker et al., 2008; NACRO, 2003, 2012). In relation to the care experience itself, a lack of placement quality or stability (Sinclair et al., 2007) or the lack of adequate support for education (Berridge, 2007) and mental health (Berelowitz & Hibbert, 2011) may escalate children's difficult behaviour and increase the risk of being drawn into criminal behaviour.

Other risk factors, such as negative peer groups and lack of constructive activity, also contribute to the cumulative risk, both of children coming into care through offending and children in care starting to offend. The prevalence of alcohol and drugs misuse is associated with negative peer groups but also with youth offending behaviour (Richardson & Budd, 2003).

One important theme that overlaps our understanding of psychological risk in relation to care and offending is in the area of *social cognition*, which plays a significant role in social development, is recognised as a factor in aggressive behaviour and may be the mediating factor between abuse and later offending (Dodge, 2006). Social cognition refers to the individual's ability to recognise, understand and think about emotions in interpersonal and wider social contexts (Moskowitz, 2005). It is this capacity which lies at the heart of healthy emotional regulation and social development in relationships (Oatley, 2004) and is at risk for children from backgrounds of abuse and neglect. The link between social cognition, social relationships and behaviour builds on the capacity to recognise verbal, non-verbal and facial expressions of emotion in other people; to interpret what other people are feeling and thinking; and to make decisions about how to behave based on this information. Research on *hostile attribution bias*, when the individual is likely to provide negative interpretations of the intent of another's action, provides consistent evidence of the link between hostile attribution bias and aggressive behaviour (Crick & Dodge, 1994). Benign attribution bias, positive or neutral interpretations of another's intent, reduces the likelihood of confrontation and aggression.

Children who grow up in the context of insensitive care, in particular if this is accompanied by experiences of fear from neglect, abuse or domestic violence, will have particular difficulties in understanding and regulating emotions which can persist right through adolescence and into adult life (Howe, 2005;). Boys who have experienced physical abuse in their childhood years are more likely to show hypersensitivity to anger in face recognition studies (Pollack et al., 2000). Other studies have shown a link between anger recognition bias and problem classroom behaviours (Barth & Bastiani, 1997) and a link between deficits in facial emotion expression recognition and conduct disorders (Fairchild, Van Goozen, Calder, Stollery, & Goodyer, 2009). The links between social cognition deficits and conduct disorders in early and middle childhood that may arise as a

result of abuse, may therefore place children in care at greater risk of subsequent offending behaviour.

### 2.2. Resilience

Although there are multiple sources of risk for children who come into state care, there is also evidence of successful outcomes, especially in placements where children receive sensitive caregiving and can thrive and overcome prior adversity (Pecora et al., 2010; Schofield, Beek, & Ward, 2012; Widom, 1991; Wilson, Petrie, & Sinclair, 2003).

The concept of resilience (Rutter, 1987, 2006; Zolkoski & Bullock, 2012) helps to explain not only why some children seem to have suffered less long-term damage to their functioning from experiences of abuse and neglect, but also why certain positive caregiving experiences may help children to become more resilient. Resilience concerns the ability to overcome adversity in the past, but also to have the skills and qualities, such as self-esteem and self-efficacy, to face future challenges (Masten, 2001; Rutter, 2006). This is particularly relevant for young people in state care moving into and through adolescence to adulthood (Stein, 2012). Caregiving that promotes resilience rests on the quality of close relationships and the promotion of constructive activity (Gilligan, 2000). One of the main challenges for adolescents in care is to cognitively and emotionally manage their life story positively in ways which also promote pro-social attitudes and behaviour. This includes having the capacity to understand and take account of the thoughts and feelings of others, in the past and the present (Moskowitz, 2005).

Our aim in this study was to examine the risk and resilience profiles of young people in care who offend, including the role of social cognition characteristics (emotion recognition and hostile and benign attribution bias).

#### Hypothesis 1. Individual risk and resilience factors

We hypothesised that the risk and resilience factors already known to predict young offending (e.g. using alcohol and/or drugs, impulsivity, conduct problems, mental health issues and pro-social behaviour) would predict membership of the offending and non-offending groups.

#### Hypothesis 2. Social cognition

We hypothesised from the literature that some particular individual risk and resilience factors, the social cognition characteristics (emotion recognition and hostile and benign attribution bias) of the young people, would help to predict membership of the offending and non-offending groups over and above known risk factors and used sequential logistic regression to consider this whilst controlling for age, gender, language and known risk factors.

#### Hypothesis 3. Family and placement risk and resilience factors

We also examined the combined contribution of risk and resilience factors, comparing LAC offenders and LAC non-offenders under the family and placement heading. We hypothesised that the risk and resilience factors would differ by care experience across the LAC offender and LAC non-offender groups, particularly for placement type and number of placement moves.

#### Hypothesis 4. Education and activity risk and resilience factors

We hypothesised that the risk and resilience factors already known to predict youth offending (having a statement of special educational need, exclusion from school, poor school attendance, having some qualifications, taking part in education, training or employment, vocabulary score, having some positive peers and taking part in some positive activity) would predict membership of the offending and non-offending groups.

### 3. Methods

The study design used a range of methods including a UK national survey of care and youth offending services; multi-agency focus groups; and case file searches, psychological measures and interviews with a total sample of 100 young people from four case study local authorities in the UK. The focus here is on the data collected in relation to the sample of 100 young people. The project received ethical approval from the University Ethics Committee.

#### 3.1. The sample

Four UK local authorities from different regions were approached to participate in the study, providing a diverse context: two urban authorities with ethnically diverse populations and two shire counties.

The sample of one hundred young people was designed to include a core group of looked after children (LAC) who were in contact with the youth justice system (referred to as *LAC offenders*,  $n = 33$ ) and two comparison groups i.e. young people in contact with the youth justice system but not looked after (referred to as *non-LAC offenders*,  $n = 35$ ) and looked after young people who were not in contact with the youth justice system (referred to as *LAC non-offenders*,  $n = 32$ ). The target age range was 15–17, with the final sample normally distributed across age 14–19 ( $M = 17$  y,  $SD = 1$  year). A gender ratio of 70:30 boys to girls was recruited to reflect the higher proportion of boys in the offending population, but to allow sufficient girls within the sample for analysis.

Young people were recruited via their social workers and/or youth offending worker in each local authority using the eligibility criteria for each group. Researchers worked through the lists provided until the target sample size of 100 had been achieved. Response rates varied between 30% and 80% across groups. We identified one systematic difference between low and high response rates as occurring where youth offending teams arranged for offenders to meet researchers as part of their appointment with the YOT service, which increased response rates.

We had an average of 36% black and minority ethnicity (BME) young people across the three groups, with no differences between groups. This is an over-representation of BME children in our sample groups compared to national figures for children in care (23%), but reflects the ethnic make-up of our urban sample authorities. National data is not available on the ethnicity of looked after children who offend.

'Looked after children' were defined as young people who were looked after by the local authority through a care order or voluntarily accommodated under section 20 (Children Act 1989) for at least 12 months. Referred young people were in a range of placements e.g. residential care, foster care, secure unit, and semi-independent living.

In order to examine possible differences between young people who had offended and those who had not offended we deliberately defined polarised groups: young people who had no known contact with the youth justice system compared to young people with significant contact with the youth justice system i.e. the young person had received a referral order or above, having appeared before a court and been convicted. Both offending sample groups included young people who had committed a range of violent and non-violent offences.

#### 3.2. Measures

The developmental measures included the self-administered version of the *SDQ (Strengths and Difficulties Questionnaire Goodman, Meltzer, & Bailey, 1998)*, a brief behavioural screening questionnaire, and the *DANVA 2 (Diagnostic Analysis of Non-Verbal Accuracy, Nowicki & Duke, 1994)*, a facial emotion recognition task. Each young person was also asked to complete the Adolescent Stories task (*Conduct Problems Prevention Research Group, 1999*), which uses hypothetical

situations to measure hostile and benign attribution (interpretation of intent) bias.

The Diagnostic Analysis of Non-Verbal Accuracy Scale (DANVA) (*Nowicki & Duke, 1994*) provides a measure for evaluating the accuracy of identifying facial emotion based on everyday common emotions: happiness, sadness, anger and fear. The test shows 48 child faces in total for 2 s with a white screen between each face. Each of the four emotion expressions is shown in high and low intensities with six presentations for each emotion.

The Adolescent Stories (*Conduct Problems Prevention Research Group, 1999*) measure a young person's hostile or benign attribution tendencies. Six hypothetical situations are presented to the participant, which the participant is asked to consider as if they were the recipient of the events. They are then asked on a five point Likert scale (not at all likely – 1 to very likely – 5) as to whether they interpret the situation to be hostile or benign to them.

In view of the potential concerns with *language development* in children who are looked after and also in young offenders, a standardised and normed language measure (British Picture Vocabulary Scale, *Dunn et al., 2009*) was used to control for differences in language skills, which can hinder performance on social cognition measures. This test does not rely on young people's reading or writing ability.

For the case file search, risk and resilience factors in relation to care and offending were identified from the literature, as discussed above. These risk and resilience factors, such as family history of abuse and neglect, placement stability, history of mental health problems, special educational needs and school exclusion, were included as search criteria in a case file search.

#### 3.3. Procedure – data collection

The young people were accessed through key workers in youth offending teams and through local authority social workers. Team managers were given details of the sample criteria (described above for each group) which they then used to identify young people in their care for the sample. Social workers were encouraged to offer those young people who fitted the study criteria the opportunity to participate. All young people identified were given information about the project. Once a young person had agreed in principle to take part, the researchers contacted their carer/parent/support worker to provide information about the study and arrange a time and place to meet convenient for the young person. Although parents and carers were given the opportunity to express any concerns, it was agreed with the University Ethics Committee that teenage young people in the study had the right to give their own consent to participate.

Before the interview started the researchers talked through the consent form with the young person. Young people who agreed to participate were given a copy of the signed consent form to take away, with details of the project, contact details of the researcher and a separate contact number should they have had any concerns about the process.

The interviews with the sample of 100 young people combined a semi-structured narrative interview, focusing on a range of life experiences, with standardised social cognition and language measures.

Once the young people had given their consent and participated in an interview, case files kept by Children's Social Services and the Youth Offending Service were accessed.

In the *narrative interviews* each young person was asked about their experiences of school, college and work; where they were living; who they were living with; what they did in their spare time; friends; offending; contact with birth family (if in care); their experience of professionals; and their plans for the future.

#### 3.4. Analysis

Combining these data sources, risk and resilience factors were identified across three key areas (individual, family, education and activities) in

order to compare the profiles for the three sub-samples of young people. The categorisation of the risk and resilience factors was based on Bronfenbrenner's bioecological model of human development (Bronfenbrenner, 2005). The analysis of data on pathways (e.g. stability and type of placement, engagement with education, use of drugs) drew on case files. The results of developmental measures were used for other features of behaviour and social cognition.

The original aim for analysis was to use logistic regression to evaluate which risk and resilience factors predicted membership of the three groups of young people. However, it was not possible to achieve this comprehensively due to issues of complete separation (Tabachnick & Fidell, 2012) when including some case file data (such as having experienced abuse and neglect or type of placement). Therefore we used chi sq, *t*-test and ANOVA to compare groups for each risk and resilience factor. We acknowledge the increased risk of type I error and adjusted the *p* values accordingly, using a False Discovery Rate correction (Benjamini, 2010). We used logistic regression to examine the combined contribution of risk and resilience factors for offending and non-offending groups under individual, family, education and activity headings. In order to meet power assumptions for the regression for Hypothesis 4, we created a summed risk variable, calculated from summing high risk and low resilience factors, creating a mean risk score for each participant.

Where evidence was not available in the case files to indicate whether a risk or resilience factor was present we coded all young people with evidence for the risk factor as 1 and those with no evidence as 0. Three researchers coded from case files on site using an agreed coding protocol. It was not possible within the financial and time constraints of this study to provide two coders to blind code each case file. In order to mitigate potential inter-coder bias, all three researchers were involved in creating the protocol and trialling it jointly on two cases and agreeing to code as 'no evidence' where case file information was ambiguous.

This qualitative interview data was analysed thematically (Boyatzis, 1998), coding from the data, but also drawing on the risk and resilience factors discussed above e.g. close relationships, self esteem and self efficacy.

## 4. Results

### 4.1. Risk and resilience profiles of young people

#### 4.1.1. Individual risk and resilience factors

A range of individual risk and resilience factors were drawn together (Table 1), from the psychological measures, and file data.

There are some risk factors which differentiate offenders from non-offenders and some risk factors which differentiate looked after children from non-looked after children (see Table 1). The risk factors which appear significantly different for offenders compared to non-offenders are: *impulsivity*; *conduct problems*; *using alcohol or drugs*; *emotion recognition errors*; and *benign attribution bias*. The risk factor which was significantly different for looked after children compared to non-looked after children was experiencing *mental health problems*.

To test Hypotheses 1 and 2, a logistic regression analysis was conducted to predict offenders compared to non-offenders for individual risk factors using gender, age, alcohol or drugs, conduct problems, impulsivity, benign bias and errors in identifying anger as predictors. A test of the full model against a constant only model was statistically significant, indicating that the predictors, as a set, reliably distinguished between offenders and non-offenders ( $X^2 = 53.31$ , (7,  $n = 100$ ),  $p < .001$ ). Nagelkerke's  $R^2$  of .58 indicated a moderate relationship between prediction and grouping. Prediction success overall was 82% (65.6% for non-offenders and 89.7% for offenders). The Wald criterion demonstrated that only taking alcohol or drugs ( $p = .001$ ) made a significant contribution to prediction. Gender, age, benign attribution bias, conduct problems, impulsivity and anger errors were not significant predictors. Nonetheless, this model showed a statistically significant improvement in prediction over a model with just gender and age with the addition of individual risk and resilience predictors.

As taking alcohol and drugs was such a strong predictor of offending and non-offending, we re-ran the regression omitting this variable to gain more information about the relative contribution of the other individual risk and resilience factors. A second logistic regression analysis was conducted to predict offenders compared to non-offenders for individual risk factors using gender, age, conduct problems, impulsivity, benign bias and errors in identifying anger as predictors. A test of the full model against a constant only model was statistically significant, indicating that the predictors, as a set, reliably distinguished between offenders compared to non-offenders ( $X^2 = 40.10$ , (6,  $n = 100$ ),  $p < .001$ ). Nagelkerke's  $R^2$  of .46 indicated a moderate relationship between prediction and grouping. Prediction success overall was 79% (63% for non-offenders and 87% for offenders). The Wald criterion demonstrated that benign attribution bias ( $p = .011$ ), conduct problems ( $p = .015$ ), and anger identification errors ( $p = .018$ ) made a significant contribution to prediction. Gender, age and impulsivity were not significant predictors of offending group. Hypotheses 1 and 2 were partially supported.

**Table 1**  
Individual risk and resilience factors.

Individual risk & resilience factors	LAC offender	Non-LAC offender	LAC non-offender	Total	Test
Impulsivity (from SDQ) <sup>a</sup>	M = 5.03, SD = 2.5	M = 5.35 <sup>a</sup> , SD = 2.0	M = 4.1 <sup>a</sup> , SD = 1.8		ANOVA $F(2, 99) = 3.14$ , $p = .048$ . Tukey HSD, $p = .045$
Mental health <sup>a</sup>	41% (N = 20)	25% (N = 12)	34% (N = 17)	100% (N = 49)	Chi Square $\chi^2(2, N = 100) = 5.03$ , $p = .04$ , Cramer's V = .22
Conduct problems (SDQ) <sup>b</sup>	M = 4.44 <sup>b</sup> , SD = 2.25	M = 3.89 <sup>b</sup> , SD = 2.01	M = 2.14 <sup>b</sup> , SD = 1.59		ANOVA $F(2, 99) = 11.99$ , $p = .001$ Tukey HSD, $p = .001$
Pro-social behaviour (SDQ)	M = 6.91, SD = 2.17	M = 6.51, SD = 1.96	M = 7.69, SD = 1.53		
Using alcohol and/or drugs <sup>b</sup>	45% (N = 28)	44% (N = 27)	11% (N = 7)	100% (N = 62)	Chi Square $\chi^2(2, N = 100) = 32.59$ , $p = .001$ , Cramer's V = .571
Age at first offence	M = 13 y 7 m	M = 13 y 1 m	n/a		
Emotion recognition errors <sup>b</sup>	MD = 13	MD = 11	MD = 9		Mann Whitney U test (comparing offenders with non-offenders) $U = 841.50$ , $z = -1.94$ , $p = .028$
Hostile attribution bias	M = 3.00, SD = .74	M = 3.06, SD = .61	M = 2.84, SD = .83		
Benign attribution bias <sup>b</sup>	M = 2.54, SD = 0.55	M = 2.66, SD = 0.54	M = 3.12, SD = 0.55		t-Test (comparing offenders with non-offenders) $t(98) = -4.44$ , $p = .001$

<sup>a</sup> Significant difference between groups at  $p < .05$ .

<sup>b</sup> Significant difference between groups at  $p < .005$ .

**Table 2**  
Family and placement risk and resilience factors.

Family and placement risk & resilience factors	LAC offender	Non-LAC offender	LAC non-offender	Total	Test Chi Square
Experience of abuse or neglect <sup>a</sup>	38% (N = 16)	14% (N = 6)	48% (N = 20)	101% <sup>b</sup> (N = 42)	$\chi^2$ (2, N = 42) = 10.88, $p$ = .004, Cramer's V = .33
Negative parental influence <sup>d</sup>	39% (N = 26)	31% (N = 21)	30% (N = 20)	100% (N = 67)	$\chi^2$ (2, N = 100) = 3.14, $p$ = .10,
Age at entry into care <sup>c</sup> (up to 9 y)	35%, (N = 10)	n/a	66%, (N = 19)	101% <sup>b</sup> (N = 29)	$\chi^2$ (1, N = 56) = 3.47, $p$ = .031, phi = .285
Main placement type <sup>a</sup>	74.29% (N = 26)	n/a	25.71% (N = 9)	100% (N = 35)	$\chi^2$ (1, N = 54) = 20.79, $p$ = .001, phi = .66
Residential/semi-independent					
Main placement type <sup>a</sup>	5.26% (N = 1)	n/a	94.74% (N = 18)	100% (N = 19)	$\chi^2$ (1, N = 54) = 20.79, $p$ = .001, phi = .66
Foster care					
Placement instability (more than 4 placement moves) <sup>c</sup>	68%, (N = 21)	n/a	32%, (N = 10)	100% (N = 31)	$\chi^2$ (1, N = 62) = 5.23, $p$ = .011, phi = .32

<sup>a</sup> Significant difference between groups at  $p < .005$ .

<sup>b</sup> Rounded figures.

<sup>c</sup> Significant difference between groups at  $p < .05$ .

<sup>d</sup> Negative parental influence = domestic violence, parental drug/alcohol use, criminal activity.

#### 4.1.2. Family and placement risk and resilience factors

Comparing the LAC offender group with the LAC non-offender group showed that the LAC offender group was more likely to have entered care later and been placed in residential or semi-independent living compared to the LAC non-offender group (Table 2). This difference could be due to the significant difference between groups in age at entry into care. We examined the possible effect of age at entry into care further by considering a  $2 \times 2$  crosstab with placement type by age at entry by LAC group. This chi square (with Yate's Continuity Correction) showed a significant difference of placement type by group only for those entering care by age 9 y. For those entering care before 9 y, 30% (N = 7) of LAC offenders compared to 13% (N = 3) of non-LAC offenders were placed in residential care and 0% (N = 0) LAC offenders compared to 57% (N = 13) non-LAC offenders were placed in foster care.  $\chi^2$  (1, N = 23) = 9.98,  $p$  = .002, phi = .75.

To test Hypothesis 3, a logistic regression analysis was conducted to predict LAC offenders compared to LAC non-offenders for family risk factors which showed significant differences in a single test. Predictors were: gender, age, abuse or neglect, number of placement moves, age at entry into care and placement type. A test of the full model against a constant only model was statistically significant, indicating that the predictors, as a set, reliably distinguished between LAC offenders compared to LAC non-offenders ( $\chi^2$  = 30.36, (5, N = 45),  $p$  < .001). Nagelkerke's  $R^2$  of .66 indicated a moderately strong relationship between prediction and grouping. Prediction success overall was 84.4% (95% for LAC offenders, 75% for LAC non-offenders). The Wald criterion demonstrated that none of the individual predictors significantly predicted group membership. The fact that the model as a whole is significant but predictors are not indicates that family risk factors share variance or may be interacting in some way which needs further investigation in a larger sample. Multicollinearity statistics were within VIF and Tolerance thresholds (lowest tolerance = 0.16, highest VIF = 6.13) and the highest inter-correlations between predictor variables were  $r$  = .48. However, multicollinearity could still be an issue. Hypothesis 3 was partially supported.

#### 4.1.3. Education and activity related factors

To test Hypothesis 4, a logistic regression analysis was conducted to predict LAC offenders compared to LAC non-offenders for education and community risk factors which showed significant differences in a single test (see Table 3). Predictors were: exclusion from school, poor school attendance, having some qualifications, taking part in education, training or employment, having some positive peers, and taking part in some positive activity. Vocabulary score was omitted as there was no significant difference between groups. Having a statement of educational need was also omitted as the difference between groups differentiated between LAC offenders and other offenders and non-offenders. A test of the full model

against a constant only model was statistically significant, indicating that the predictors, as a set, reliably distinguished between LAC offenders compared to LAC non-offenders ( $\chi^2$  = 58.61, (5, n = 84),  $p$  < .001). Nagelkerke's  $R^2$  of .71 indicated a strong relationship between prediction and grouping. Prediction success overall was 90.5% (95% for all offenders, 80% for LAC non-offenders). The Wald criterion demonstrated that only having positive peers and taking part in positive activities significantly predicted group membership. Hypothesis 4 was partially supported.

#### 4.1.4. Combined levels of risk

We calculated a risk and resilience count for all participants to enable us to run a logistic regression and meet assumptions of variable to participant ratios for statistical power. Table 4 shows a summary of differences in risk and resilience factors between groups.

Overall, LAC offenders have the highest risk count (M = 9.2, SD = 1.94), (as calculated from summing high risk and low resilience factors) compared to both non-LAC offenders (M = 6.8, SD = 2.2) and LAC non-offenders (M = 4.4, SD = 2.3), (ANOVA,  $F$  (2,97) = 41.16,  $p$  = .0001, all post-hoc comparisons using Tukey HSD were significant at  $p$  = .0001).

We were particularly interested in the relative contribution of social cognition compared to known risk and resilience factors to predicting offending and non-offending groups. A logistic regression analysis was conducted to predict offenders compared to non-offenders for 100 young people using gender, age, risk count, benign bias and errors in identifying anger as predictors. A test of the full model against a constant only model was statistically significant (Table 5), indicating that the predictors, as a set, reliably distinguished between offenders compared to non-offenders ( $X^2$  = 55.56, (5, n = 95),  $p$  < .001). Nagelkerke's  $R^2$  of .597 indicated a moderate relationship between prediction and grouping. Prediction success overall was 82% (65.6% for non-offenders and 89.7% for offenders). The Wald criterion demonstrated that only risk count ( $p$  = .001) and benign bias ( $p$  = .008) made a significant contribution to prediction. Gender, age and anger errors were not significant predictors. This model showed a statistically significant improvement with the addition of social cognition predictors,  $X^2$  (2, n = 96) = 11.15,  $p$  = .004. Nonetheless, risk count explains the majority of the variance (50.2%) when added to the model compared to gender (11.1%) and social cognition (9.7%). This analysis does not include risk factors for offending associated with being in care, such as number of placements or length of placement. These factors are not included due to issues of complete separation (Tabachnick & Fidell, 2012).

#### 4.2. Narrative interviews

Although we had data from case files and from measures that pointed to differences in factors such as history of abuse, placement stability,

**Table 3**  
Education and activity risk and resilience factors.

Education risk & resilience factors	LAC offender	Non-LAC offender	LAC non-offender	Total	Test
Record of special education needs <sup>a</sup>	61% (N = 14)	17% (N = 4)	22% (N = 5)	100% (N = 23)	$\chi^2(2, N = 23) = 10.66, p = .003, \text{Cramer's } V = .33$
Record of school exclusion <sup>a</sup>	45% (N = 14)	48% (N = 15)	7% (N = 2)	100% (N = 31)	$\chi^2(2, N = 31) = 20.87, p = .001, \text{Cramer's } V = .52$
Difficulty with attendance <sup>a</sup>	45% (N = 21)	43% (N = 20)	13% (N = 6)	101% <sup>b</sup> (N = 47)	$\chi^2(2, N = 47) = 15.36, p = .001, \text{Cramer's } V = .39$
Qualifications <sup>a</sup>	26% (N = 10)	29% (N = 11)	45% (N = 17)	100% (N = 38)	$\chi^2(2, N = 38) = 6.80, p = .016, \text{Cramer's } V = .28$
In education, training, employment <sup>a</sup>	27% (N = 20)	32% (N = 23)	41% (N = 30)	100% (N = 73)	$\chi^2(2, N = 73) = 10.51, p = .003, \text{Cramer's } V = .32$
Vocabulary knowledge (BVPS)	87 (20th percentile)	85 (16th percentile)	88 (22nd percentile)		$\chi^2(2, N=97) = 1.17, p=.56$
Having some positive peers <sup>c</sup>	20% (N = 9)	18% (N = 8)	62% (N = 28)	100% (N = 45)	$\chi^2(2, N = 45) = 35.61, p = .001, \text{Cramer's } V = .61$
Taking part in positive activities <sup>a</sup>	22% (N = 10)	17% (N = 8)	61% (N = 28)	100% (N = 46)	$\chi^2(2, N = 50) = 33.01, p = .001, \text{Cramer's } V = .58$

<sup>a</sup> Significant difference between groups at  $p < .05$ .

<sup>b</sup> Due to rounding.

<sup>c</sup> Significant difference between groups at  $p < .005$ .

education, and social cognition, as described above, we were also able to draw on our analysis of the 100 narrative interviews with the young people.

The key protective elements that emerged from the interviews with the three groups and were supported by the case file histories can be grouped into two broad areas – the importance of positive, trusting relationships and the role of constructive activities, such as school, leisure interests or employment.

The group of looked after children who were not offenders, and some who had previously offended but then desisted, were able to articulate both their own sense of progress in these areas, but also the connection to the quality of care they had received. Underlying these young people's capacity to take advantage of relationships and activity was their ability to reflect on and regulate emotions and behaviour.

For a care population, a sense of belonging is also an important factor in reducing anxiety and supporting pro-social behaviour. The positive activities described included school, college and diverse sports and hobbies, but all were linked to relationships with teachers, foster carers, residential workers and peers who encouraged and supported young people to find success and enjoyment in pro-social activity.

For the looked after young people who were not offenders and who appeared more stable in placement and in education, the quality of their relationships was central to their development. In this example, it is clear that for young people, sustaining *trust* in supportive relationships and making prosocial moral choices are linked to support for the capacity to *reflect on feelings and behaviour*.

My carer (name) she's really nice and supportive and would help me through anything really. I've been here for seven years now. For me it's the best foster home I could have been to. She certainly helped

me progress through school and everything. If I was ever in trouble and didn't know anything she'd always be there to back me up and ask why I done it and talked to me...She'd sit me down and say it wasn't a very acceptable thing to have done, what could you have done to be more positive?

[16, male, LAC non-offender]

In other cases, relationships are clearly linked to building *self-esteem* and *self-efficacy*, enabling children to function more effectively outside as well as within the foster family.

I praise (my foster carers) so much – you just cannot get any better, they are the best ones going.

What sort of things do they help you out with?

Just everything...it's like emotional support, school life, education wise, friends, they help me to manage my money, how to live my life. They teach you all the basics and more.

[15, male, LAC non-offender]

Although positive foster care stories predominated amongst non-offenders, residential care could also provide the turning point that enabled young people to go on to greater stability or to benefit from foster care. In this example, the secure base nature of the relationship (i.e. where trust promotes the capacity to explore) is evident – and the wonder in the natural world that this inspired in this boy continued throughout his adolescence. This is his account as a 15 year old, now in stable long-term foster care, of an expedition with a residential worker when he was 11.

It's amazing what's out there...There was seals in a river that goes out to the sea and it has this wall with all seaweed and a little bit

**Table 4**  
Summary of differences in risk and resilience factors between groups.

LAC offenders	Non-LAC offenders	LAC non-offenders
Impulsive	Impulsive	Less impulsive
Higher rate of mental health problems	Lower rate of mental health problems	Higher rate of mental health problems
Conduct problems	Conduct problems	Lower conduct problems score
Pro-social behaviour perception	Pro-social behaviour perception	Pro-social behaviour perception
Use alcohol/drugs	Use alcohol/drugs	Less likely to use alcohol or drugs
High rate of emotion recognition errors	High rate of emotion recognition errors	Lower rate of emotion recognition errors
Higher rate of hostile attribution bias	Higher rate of Hostile attribution bias	Higher rate of hostile attribution bias
Lower rate of benign attribution bias	Lower rate of benign attribution bias	Higher rate of benign attribution bias
Residential/semi-independent placement	Family disruption	Foster care placement
More than 4 placement moves	N/A	Less than 4 placement moves
Into care after age 9 y	N/A	Into care before 10 y
Experience of abuse/neglect	Less likely to have experienced abuse/neglect	Experience of abuse/neglect
Negative parental influence	Negative parental influence	Negative parental influence
More likely to have SEN	Less likely to have SEN	Less likely to have SEN
Exclusion from school	Exclusion from school	Less likely to have been excluded from school
Difficulty with attendance	Difficulty with attendance	Less difficulty with attendance
Less likely to have positive peers	Less likely to have positive peers	More likely to have positive peers
Less likely to be involved with positive activities	Less likely to be involved with positive activities	More likely to be involved with positive activities

**Table 5**  
Logistic regression analysis of offender and non-offender groups.<sup>a</sup>

Step	Predictor	B	SE	Wald	Sig	Exp (B)
Step 1	Gender	−1.26	.46	7.54	.006	.282
	Age	−.02	.02	0.57	.450	.990
	Constant	4.25	4.07	1.09	.296	68.830
Model X <sup>2</sup>						8.27
Pseudo R <sup>2</sup>		<i>p</i> = .016				.11
n						98.00
Step 2	Gender	−1.28	.60	4.55	.033	.278
	Age	−.03	.02	1.46	.227	.972
	Risk count	.60	.13	21.78	.000	1.829
	Constant	3.32	4.82	.48	.491	27.689
Model X <sup>2</sup>	44.42	<i>p</i> = .000				
Pseudo R <sup>2</sup>	.50					
n	97					
Step 3	Gender	−.74	.70	1.13	.287	.477
	Age	−.04	.03	2.32	.128	.962
	Risk count	.572	.145	15.61	.000	1.771
	Total anger errors	.589	.387	2.32	.128	1.802
	Benign bias	1.81	.68	7.07	.008	6.130
	Constant	4.86	5.20	.875	.350	129.295
	Model X <sup>2</sup>	55.56	<i>p</i> = .000			
Pseudo R <sup>2</sup>	.597					
n	95					

<sup>a</sup> LAC non-offenders = 0, LAC offenders and non-LAC offenders = 1.

of sand and he said, 'Here, look, do you think there's any life in them rocks?' and we would say 'No, there can't be nothing'...we used to go all through the rocks and find all this weird stuff like crabs and other stuff, it's just amazing.

[15, male, LAC non-offender]

For many of these more resilient teenagers, it was often the case that coming to terms with their family history allowed them to benefit from the relationships on offer and to develop a *sense of belonging* as a family member.

I wasn't a good child because my birth family never showed me any love...I was always angry, all the time, and then (foster mother) she saw what was going on and she knew, so she gave me love and she gave me what every mother should give their daughter and I changed my ways and now I don't do drugs or anything bad like that.

[16, female, LAC non-offender]

This teenage girl is able to provide a coherent narrative that takes account of her foster mother's feelings and behaviour, and explains the association with improvement in her own behaviour.

## 5. Discussion

The study was able to demonstrate the range of factors that distinguished between the three groups, but that also interact to contribute to increasing or reducing the risk of offending by young people in care.

For *Hypothesis 1*, regarding *individual risk* and resilience factors, we predicted that the factors already known, as described in the literature review, to predict young offending (such as using alcohol and/or drugs, impulsivity, conduct problems, mental health issues and pro-social behaviour) would predict membership of the offending and non-offending groups. In a model containing all these factors, we found that taking alcohol and drugs was the only factor significantly influencing membership of offending or non-offending groups. If alcohol or drugs were not included in the model, we found that benign attribution bias, conduct problems and anger identification errors were significant predictors of group membership. The effect of emotion

recognition errors on offending group matches recent evidence (Bowen, Morgan, Moore, & van Goozen, 2014) within an offending population.

One of the main areas of focus in the study was the role of social cognition (*Hypothesis 2*), including emotion recognition and interpretation bias and how they may interact with other risk and resilience factors. The *individual risk profile* in the sample of looked after children who were offenders combined mental health and conduct problems, emotion recognition errors, and lower levels of benign attribution bias. These factors may then be combined with certain risky behaviours e.g. misuse of drugs and alcohol, also noted in the sample of offenders. The *cumulative* nature of these risk factors is strongly indicated. The lack of ability in reading emotions and taking them into account, accompanied by low benign attribution bias and conduct disorder is likely to damage young people's potential to build supportive relationships with peers and adults and also increase risk of offending.

The finding that all three groups of young people had higher than community levels of hostile attribution bias and did not differ from each other in this respect does require some explanation. Hostile attribution bias may be more likely in all three groups since they are a high risk population. When we compared the standardised z-scores of the three groups in this study with the Dodge (2006) study we found that the young people in this study have higher hostile attribution bias scores than young people in Dodge's (2006) study who were *neither* in care *nor* offenders. Dodge suggests that young people who have been exposed to violence at a young age are more likely to show hostile attribution bias, as they have had to use this bias as a protective strategy growing up.

Widom (1991), however, suggested that good quality care could provide a buffer between hostile bias and aggressive behaviour. It is possible that the LAC non-offender group in this sample is showing the protective elements of receiving good care, as reflected in the qualitative data, because, whilst they show hostile attribution bias, they show benign bias as well. As Dodge (2006) also indicates that benign attribution bias is socialised during childhood, the carers of LAC non-offenders may have helped them develop this benign attribution bias. If care quality is the factor which makes the difference in attribution bias, then there may be differences in the care received by the LAC offender group, or it may be that the LAC non-offender group has a different risk profile to the LAC offender group. Examining the differences in family and placement factors (*Hypothesis 3*) in this sample, LAC offenders tended to enter care later, to experience more placements and had stayed less time in their most recent placement suggesting that their care experiences were less permanent and more unstable thus making socialisation of benign attribution bias less likely to occur. However, our quantitative data on care experience (from files and interviews) is not sophisticated enough to measure *quality of care* across the groups, although the qualitative data suggested that the quality of relationships is different across groups. The link between care experience and the development of benign attribution bias needs further investigation in care populations.

To test *Hypothesis 3* in relation to the range of family and placement factors, a logistic regression analysis was conducted to predict LAC offenders compared to LAC non-offenders for family risk factors: experience of *abuse or neglect*, *number of placement moves*, *age at entry into care* and *placement type*. Whilst results showed that the model as a whole predicted group membership, individual predictors were not significantly predicting group. It is likely that this is due to interaction between these variables but the cross tabulation data gives some indication of effect of differences between LAC groups to be explored further. Some suggestions are offered below.

The study found evidence that supports previous research in relation to some key aspects of the care experience that are associated with offending, in particular age at *entry to care* and *placement stability* (see also Biehal et al., 2010; Sinclair et al., 2007). In this study, those in the LAC offending group were more likely to have come into care over the

age of 9. This may suggest some very different factors at work. It is likely to be easier to mitigate the impact of risk from family adversity, abuse and neglect if children come into care earlier, but also some children who come into care in adolescence are likely to have already experienced conduct problems and/or have already committed offences. In terms of placement stability, it was only at the level of four placement moves that there was a significant difference between offenders and non-offenders. Stability has to be seen alongside the protective impact of high quality care, especially at key stages or in a long-term or final placement where some young people experienced turning points with their trajectory becoming more positive and pro-social.

The preponderance of *residential care* placements amongst offenders in care may be the cause and/or the consequence of offending. There are residential placement links to age at entry, with few children in the UK under the age of 12 going into residential care as a first placement, unless they already have very significant conduct problems. Residential care is often seen as a last resort, providing for only 9% of children in care in England and Wales (Berridge, Biehal, & Henry, 2012). Children in children's homes are likely to be older, to be deemed too challenging for placement in foster care, to have come from a series of foster care placements that have ended or to be reluctant to enter a new family environment.

**Hypothesis 4** compared *LAC offenders* and *LAC non-offenders* for *education* and *activity* related risk factors. Predictors were: exclusion from school, poor school attendance, having some qualifications, taking part in education, training or employment, having some positive peers, and taking part in some positive activity. Results showed that key predictors of being a member of the LAC non-offender group were having positive peers and taking part in positive activities, again supported by the qualitative data in this study.

The *education* of all looked after children has been a general cause for concern (Berridge, 2007). In this study there were significant differences between offenders and non-offenders in care in relation to special educational needs, exclusion, attendance and qualifications. There was evidence that the majority of post 16 LAC non-offenders were in education, training and employment but none of the LAC offenders. The relationship between care and education as well as offending and education will be mediated by other resilience characteristics, such as self-esteem and self-efficacy. It will also be mediated by other risk factors noted in this study, such as impulsivity and attention problems, which may be linked to abuse.

It was important within the study to capture aspects of young people's engagement in *positive peer relationships* and *activities*, both often linked to resilience for children in care and the development of social capital (Gilligan, 2000; Pinkerton & Dolan, 2007). These factors were noted quantitatively from the case file analysis, but were also very evident in the qualitative data, where the threads of positive adult and peer relationships and the links to constructive activity were the dominant theme protecting those young people in care who were not offending.

## 6. Implications for practice

The study confirmed that a number of well established concerns for children in care, such as placement instability and education difficulties, contribute to risk of offending.

Although language development was not a focus of the study, the fact that all three sample groups, including non-offenders, had poor language skills is relevant for practice. As language has been found to be important for achieving emotion regulation, this ability also influences impulsive and aggressive behaviour. Young people who find it difficult to express themselves verbally can find themselves misinterpreted and labelled as 'difficult' (Sanger, Moore-Brown, Magnuson, & Svoboda, 2001). Offenders have been found to have less language knowledge (Bryan, Freer, & Furlong, 2007), so interventions need to address the

speech and language difficulties faced by young offenders, including those in care.

The study supports the significance for young people of social cognition in understanding and recognising feelings in others. For children in care these skills can only emerge in a context of trusting relationships in which anxiety is reduced and an emotional education becomes possible. For the looked after children in this sample with such troubled histories, the caregiving provided needs therefore to be *therapeutic* and focussed on clear developmental goals. This study suggests that a direct focus on developing social cognition through sensitive caregiving would be valuable, with potentially positive consequences for social development which may reduce the risk of offending.

For youth justice practitioners, awareness of the emotion recognition difficulties and attribution styles of offenders is helpful in planning their interventions with young people. The use of restorative justice, for example, for children in care (Hayden & Gough, 2010) and for young offenders (Marder, 2013) is widespread, but practitioners who bring offenders and victims together in this form of mediation will need to understand the potential differences in young people's capacity to recognise emotions and to take account of the feelings of other people, including victims of their behaviour.

## 7. Conclusion

By taking a multi-disciplinary and multi-method approach to the investigation of risk and resilience in the pathways of looked after children who are also offenders and two comparison groups, the study brought together a range of factors that are relevant to both care and youth justice policy and practice. The findings in relation to social cognition are particularly helpful in enabling us to make connections between the psychological and behavioural difficulties experienced by young people in care and the increased risk of offending.

Although the strength of the study was in the range of different types of data, the sub-sample sizes and case study approach to sample selection set some limits to the quantitative analysis and therefore our ability to generalise from these findings. With a larger sample, a more comprehensive quantitative analysis such as structural equation modelling could control for confounding variables and thus give a clearer indication of the direction of relationships between the variables included in this study. Gathering accurate, reliable data from case files is also challenging, as we rely on the consistency of reporting from case workers. It is possible that in the future, with greater use of administrative data for research (in the UK) this data could become a more reliable data source for research into the pathways of vulnerable young people.

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