**Bullying for children in social care: The role of interpersonal relationships**

**Authors:** Hannah Brett[1], Andrew Cooper[2], Peter K Smith[2], Alice Jones Bartoli[2,3]

**Affiliations:** [1]Kingston University, UK, Department of Psychology.

[2]Goldsmiths College, University of London, UK, Department of Psychology.

[3]National Children's Bureau, UK.

**Authors Note:**

Hannah Brett, https://orcid.org/0000-0002-7155-767X

Andrew Cooper, https://orcid.org/0000-0002-5897-2107

Peter K Smith, https://orcid.org/0000-0002-5010-5359

Alice Jones Bartoli, https://orcid.org/0000-0002-8471-3774

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Correspondence concerning this article should be addressed to Hannah Brett, Department of Psychology, Kingston University, Penryhn Road, KT1 2EE. h.brett@kingston.ac.uk

**Abstract:** Children living in social care represent an extremely vulnerable group in society, with an increased risk of strained and unstable relationships, and increased bullying involvement. With the number of children living in social care in the UK increasing, there is an emphasis on better understanding why these children are at risk, and how we can best support them. Yet, the existing literature in this field is limited: although it is understood that these children are at risk of bullying involvement, it is unclear why they are at risk, or what role their interpersonal relationships may play in their bullying involvement. This research explored this issue, focusing on both traditional bullying and cyberbullying perpetration and victimisation. Secondary data from the Health Behaviour in School-aged Children (HBSC) survey was analysed, utilising the 2014 and 2018 datasets. Analyses were conducted on a total of 968 British children aged 11, 13, and 15: 498 of these were males, and 470 were female. 484 of these children lived in social care (residential care and foster care), and 484 lived with biological family members. It was found that children living in social care were at an increased risk of bullying involvement regardless of their age and gender, contradicting the well-established age and gender differences seen in non-care samples. Moreover, children living in social care reported significantly poorer interpersonal relationships; these relationships – particularly those with classmates – mediated the relationship between living in social care and bullying involvement. The results will be discussed in relation to each bullying type, with cross-time replications between the datasets. These findings provide a unique insight into how living in social care impacts bullying involvement, and suggestions for how teachers and schools may support these vulnerable children are made.


**Keywords:** Bullying, social care, child welfare, interpersonal relationships, risk factors.

**Introduction**

Bullying is a critical problem worldwide, impacting approximately 20% of children at school (OECD, 2019) and 11.3% to 13.9% of children online (Craig et al., 2020). Traditional bullying has been defined as the intentional and repeated abuse of another person or group, involving an imbalance of power (Olweus, 1993; 1999). However, with the rising popularity of technology and social media, bullying has moved from the real world to also occurring on the cyberworld; researchers continue to debate if cyberbullying is an extension of traditional bullying or a unique phenomenon, with evidence being found for both arguments (Kowalski et al., 2023). Like traditional bullying, cyberbullying involves the intentional abuse of another, but the potential for anonymity and the ability to share content to wide audiences blur the lines of power and repetition (Brett, 2024). Nonetheless, both forms have been associated with a plethora of detrimental outcomes for those involved, including increased anxiety, depression, suicidal ideation and attempts, self-harm, substance abuse (Armitage, 2021; Ditch the Label, 2020; Halliday et al., 2021), and reduced quality relationships with family and peers (Kowalski et al., 2014). It is imperative to understand the experiences of both traditional bullying and cyberbullying, which allows for the development and implementation of targeted interventions.

To do so, researchers have sought to understand what factors may increase a child's risk of bullying involvement, such as their age or gender. For instance, whilst children aged 11- to 13-years are more at risk of traditional bullying (Eslea & Rees, 2001), those involved in cyberbullying are typically older, with the peak being 14- to 15-years (Pichel et al., 2021); younger children may experience increased rates of traditional bullying due to moving to a new school where older students target their younger counterparts, or may lack the necessary social skills for addressing bullying, whilst older children may experience greater cyberbullying due to increased accessibility to technology and reduced supervision (Lopez-

Castro et al., 2023). Meanwhile, males are reportedly more involved in physical or traditional bullying (Pichel et al., 2021), whilst females are more involved in cyberbullying (Smith et al., 2019). This may be explained by differences in gender socialisation, with boys being encouraged to engage in riskier and more aggressive behaviours, whilst girls are taught to be compliant and empathetic, and spend more time playing near teachers at school (Estévez et al., 2012). Moreover, the gender differences in cyberbullying may be indicative of girls' predisposition for relational bullying – such as gossiping and spreading rumours – which are easily perpetrated online.

Beyond this, some attention has been given to how the family may pose a risk: one area of interest is the family structure in which a child lives. Historically, living in a 'traditional' family with two biological parents has been viewed as important for successful child development, with stepfamilies and single-parent families being branded as "inferior" (Popenoe, 1999, p.28). Although this view is somewhat outdated, bullying research does find living with two biological parents to be protective against bullying involvement, whilst living with a single-parent increases the risk (Anarsson et al., 2020; Bevilacqua et al., 2017; Wolke & Skew, 2012; Yang et al., 2013). Despite this, these studies typically focus on those living with biologically-related caregivers, and neglects those who live in an unrelated household, such as those in social care.

**Social Care and Bullying**

Children living in social care have been removed from the care of their biological family and placed into either a residential home or a foster home. The former refers to institutional facilities with their own sub-cultures, housing varying numbers of children and managed by staff who do not live in the facility. In contrast, foster care mimics the structure of a traditional family, whereby children live in a home with foster parents, and potentially a

small number of other children. In 2017, 72,670 children were reported to be living in some form of social care in England (Department for Education, 2017), which had increased to 82,170 by 2021 (Department for Education, 2022). These children represent some of the most vulnerable people in society, with 65% of UK children in care being removed due to abuse, and 15% due to dysfunction within the family (Narey & Owers, 2018). Following their placement in care, many of these children then experience poor placement stability (Salazar, 2013), which is an influence for future bullying involvement (Sterzing et al., 2020).

Residential care settings have received an increasing amount of attention in the bullying literature across the previous decade, and much of this concludes that children in residential care are at a significant risk of bullying perpetration and victimisation (Mazzone et al., 2019; Monks et al., 2009; Sekol & Farrington, 2010; Sekol & Farrington, 2016; Yubero et al., 2019); yet this only represents a small proportion of those in social care.

On the other hand, 73.4% of all Looked After Children reside in a foster home (Ofsted, 2021), but despite representing the majority of those in social care, their experiences are largely unrepresented in the bullying literature. In fact, much of the literature focuses on general aggression: an association has been established between living in foster care and peer aggression perpetration (Höjer, 2006; Morgan, 2011; Perry & Price, 2017; Watson & Jones, 2002) and victimisation (Bennett et al., 2023; Font, 2015; Vacca & Kramer-Vida, 2012). Developing on from this, Sterzing et al. (2020) sought to understand the experiences of traditional bullying in a female-only sample of foster children in America. The results found that many of these girls were involved in bullying, with 24.7% reporting victimisation, and 6.2% reporting perpetration. It is evident that there is a vulnerability towards aggression and bullying for children in foster care – and social care generally – but the existing literature is still in its infancy, and it is difficult to draw any conclusions about the nature of this, or why these children are at risk.

**Interpersonal Relationships and Social Care**

Although the reasons for this risk are not fully understood, one explanation may be in their interpersonal relationships: these children frequently report instability, distrust, and negativity in their family relationships (Hong et al., 2021; Linares et al., 2010; Mazzone et al., 2019), as well as poorer relationships with peers (Barter & Berridge, 2011; DeLuca et al., 2019; Vacca & Kramer-Vida, 2012).

Relationships with adults can play a crucial role for children in social care, with Attar-Schwartz (2008) noting that children in residential care with secure attachments to staff display less aggression. Regardless, these children frequently report feeling unsupported by staff in residential homes (Sekol, 2016), and feel that staff normalise peer violence to maintain a 'pecking order' (Barter, 2009). This could suggest a complexity of interpersonal relationships for peer bullying within social care settings. In general populations, interpersonal relationships have been consistently associated with bullying involvement (Hong & Espelage, 2012), and it is likely that these will also play an important role for children in social care, but the existing literature has not explored these within the context of bullying and social care.

**Aims**

The aim of this research was to understand if and how social care is a risk factor for bullying involvement, with inclusion of traditional bullying and cyberbullying. Due to the format of the HBSC surveys, subtypes of social care could not be separated: both residential and foster care were included, allowing for a holistic understanding of the social care system.

Due to differences between countries in the social care system, this study focused on children living in Great Britain only. Data from the 2014 and 2018 Health Behaviour in

School-aged Children (HBSC) study was analysed, allowing for cross-time replications. Analyses were first conducted to explore if children in care experience the same age and gender differences in bullying involvement as those in the general population: these results will highlight if all children in care are vulnerable, or if any subgroups experience greater risk than others. Thus, it was hypothesised that age and gender differences in bullying involvement would exist in social care populations, with these mirroring those seen in the general population.

To understand *how* and *why* children in social care may be at an increased risk of bullying involvement, interpersonal relationships were considered. It was hypothesised that children living in social care would be significantly more likely to be involved bullying (traditional and cyberbullying), compared to those living with biological family members. It was also hypothesised that these children would report poorer quality relationships, and these would mediate the link between living in care and bullying involvement.

## Methods

### Materials

The HBSC study is a large cross-national survey that explores health, well-being, and social behaviours in children aged 11-, 13-, and 15-years. The survey is conducted every four years in over 40 participating countries and regions and runs in collaboration with the World Health Organization. The current research utilised the 2014 and 2018 British (England, Scotland, and Wales) datasets, allowing for cross-time replications.

### Participants

Data from a total of 582 British children was included from the 2014 HBSC dataset: 291 children reported that they lived in social care, and a sample of 291 age- and gender-

matched controls were randomly selected from the children living with biologically-related family. For this, the SPSS function of 'Select Random Sample' was used, allowing for randomisation in the participants selected from a pool of matching age- and gender-characteristics. Meanwhile, data from 386 children was utilised from the 2018 HBSC dataset, with 193 of these living in social care, and 193 living with biologically-related family; these children were also matched by their age and gender using the same process. Demographic information can be found in Table 1. Specific information on the sampling procedure can be found in the relevant HBSC Protocols (Currie et al., 2014; Inchley et al., 2018).

**\*Table 1 (Age and Gender Distributions for Children Living in Social Care or with Biological Relations) about here.**

**Variables**

*Family Structure*

To identify those living in social care, participants were asked to indicate who they lived with in their main home. The options included living with both biological parents, living with a single mother, living with a single father, living with a stepparent, living in social care, or living in another unspecified family structure. Those who reported an unspecified family structure were not included in the analyses, as it was unclear if they lived with biological caregivers. Responses were coded to give a binary response of 'living in social care' and 'living with biologically-related family'.

*Bullying Involvement*

Traditional bullying perpetration and victimisation, and cyberbullying perpetration and victimisation, were used as the outcome variables. In the 2014 survey, bullying was measured across three questions: one on traditional bullying perpetration, one on traditional

bullying victimisation, and one on cyberbullying victimisation. Cyberbullying perpetration was not measured in this survey.

In the 2018 survey, bullying was measured across four questions: one on traditional bullying perpetration, one on traditional bullying victimisation, one on cyberbullying perpetration, and one on cyberbullying victimisation. Definitions of bullying were provided in the 2014 and 2018 surveys which were consistent with that of Olweus' (1993; 1999) definition. Both surveys adopted a 5-point-Likert scale for all bullying questions, scored as: '*I have not bullied/been bullied*' (1), '*Once or twice*' (2), '*2-3 times a week*' (3), '*About once a week*' (4), '*Several times a week*' (5). Sample items and the reliability and validity of each measure are available in the HBSC protocols (Currie et al., 2014; Inchley et al., 2018).

### *Interpersonal Relationships*

The 2014 and 2018 surveys both included 14 items that measure interpersonal relationships, focussing on family, friends, teachers, and classmates; sample items and their respective reliability and validity scores are available in the HBSC protocols (Currie et al., 2014; Inchley et al., 2018). To establish concise measures of relationships, an exploratory factor analysis (EFA) was conducted on both datasets separately; the same four-factor solution was identified in both, and further details on the EFA and corresponding items can be found on osf.io (https://doi.org/10.17605/OSF.IO/UK7HZ).

The resulting measures were 'relationships with family', 'relationships with friends', 'relationships with teachers', and 'relationships with classmates'. All items were measured on Likert-scales: items relating to 'family' and 'friends' were scored on a 7-point scale from 'very strongly disagree' (1) to 'very strongly agree' (7), and items relating to 'teachers' and 'classmates' were scored on a 5-point scale from 'strongly agree' (1) to 'strongly disagree' (5). Subsequently, the items relating to family and friends were recoded to a 5-point scale, to maintain consistency across the four relationship measures: scores of 'very strongly disagree'

(1) and 'strongly disagree' (2), and 'very strongly agree' (7) and 'strongly agree' (6) were combined. The items relating to teachers and classmates were then reverse coded to ensure all measures were scored the same. Due to the ordinal nature of the item scales, median scores were calculated for items in each factor. Low scores indicated greater disagreement with the items, reflecting negatively perceived relationships.

**Analyses**

Due to the current lack of research focusing on children in social care, attempts were first made to identify any age or gender differences in bullying involvement for those living in social care. Non-parametric tests were favoured due to the violation of several assumptions needed to conduct the parametric alternatives, and these violations can be accessed via the aforementioned osf.io link. Mann-Whitney U tests were conducted to see if there were gender differences in bullying involvement for those living in social care, and eta-squared ($\eta^2$) was the most appropriate measure of effect size: this was interpreted as .009 – .05 is small, .06 – .13 is moderate, and > .14 is large (Richardson, 2011).

Kruskal-Wallis H Tests were used to explore age differences, and epsilon-squared ($\epsilon^2$) was used to measure the effect sizes of the Kruskal-Wallis tests and was interpreted with .01 - .08 representing a small effect size, .09 – .24 being moderate, and > .25 being large (Iacobucci et al., 2023).

Following this, regression models were conducted on SPSS using Hayes' Process Macro (v4.2), allowing for a parallel mediation. Analyses were conducted on the 2014 HBSC dataset first and replicated on the 2018 dataset. The predictor variable was a dichotomous measure of family type (living in social care vs. a non-care family structure), and the outcome variables were traditional bullying perpetration and victimisation, and cyberbullying perpetration (2018 only) and victimisation. Age and gender were controlled, and the

mediators were interpersonal relationships with family, friends, teachers, and classmates. Previous analyses by the first author of this paper identified a curvilinear relationship between bullying and relationships with friends and family, and these are reported elsewhere (Brett, 2024). To address the curvilinearity, the friends and family variables were squared for the use in the regression models for traditional bullying perpetration, traditional bullying victimisation, and cyberbullying victimisation in both the 2014 and 2018 analyses; family relationships only were squared for use in the regression models for cyberbullying perpetration only in the 2018 dataset.

Following the guidance of Nieminen et al. (2022), the standardised regression coefficient (β) was interpreted as the effect size in the regression analyses: this was interpreted as .10 - .29 is small, .30 - .49 is moderate, and > .50 is large.

## Results

Children living in social care reported greater involvement in bullying compared to those living with biological family members, and the significance testing for these is outlined below in the context of the regression models. In the 2014 dataset, 7.2% of children in social care reported being perpetrators of traditional bullying, 20.3% reported being victims of traditional bullying, and 26.5% reported being victims of cyberbullying. In comparison, the prevalence for those living with biological family was 1.0%, 10.7% and 16.5% respectively. The same trend was found in the 2018 dataset, with 13.5% of children in social care reporting being perpetrators of traditional bullying, 30.1% being victims of traditional bullying, 17.6% being perpetrators of cyberbullying, and 25.4% being victims of cyberbullying. In comparison, the prevalence for those living with biological family was 1.6%, 15.5%, 7.8%, and 17.6% respectively. The mean bullying involvement for each group is presented in Table 2.

**\* Table 2 (Mean Bullying Involvement for Children Living in Social Care Compared to Those Living with Biological Relations) about here.**

**Age and Gender Differences**

Analyses were conducted to see if age and gender differences in bullying involvement existed for children living in care. In the 2014 dataset, there were no differences found between ages for traditional bullying perpetration ($\varepsilon^2 < .001$, $p = .98$) or victimisation ($\varepsilon^2 = .004$, $p = .56$). Although there was a statistically significant difference in age for cyberbullying victimisation ($H(2) = 5.89$, $\varepsilon^2 = .02$, $p = .05$), the effect size was small; respondents aged 11 ($M = 1.24$) reported lower cyberbullying victimisation than those aged 13 ($M = 1.50$) and 15 ($M = 1.53$).

In this same dataset, there were no differences found between males and females for traditional bullying perpetration ($\eta^2 = .02$, $p = .09$) or cyberbullying victimisation ($\eta^2 = .004$, $p = .10$). There was a significant difference between genders for traditional bullying victimisation, but the effect size was small ($U = 8548.00$, $\eta^2 = .02$, $p = .03$); females ($M = 2.08$) reported greater victimisation than males ($M = 1.77$).

Analyses were replicated on the 2018 dataset, and no differences were found in age for traditional bullying perpetration ($\varepsilon^2 = .009$, $p = .34$) or victimisation ($\varepsilon^2 = .02$, $p = .08$), nor cyberbullying perpetration ($\varepsilon^2 = .003$, $p = .44$) or victimisation ($\varepsilon^2 = .003$, $p = .64$). There were also no differences identified between males and females for traditional bullying perpetration ($\eta^2 = .02$, $p = .17$) or victimisation ($\eta^2 = .02$, $p = .06$), nor cyberbullying perpetration ($\eta^2 = .003$, $p = .44$) or victimisation ($\eta^2 < .001$, $p = .52$).

**Traditional Bullying Perpetration**

A multiple regression analysis with parallel mediation was carried out to predict the effect of living in social care on traditional bullying perpetration on the 2014 dataset. A significant effect was found, $R^2 = .098$, $F(7, 522) = 8.08$, $p < .001$, whereby living in social care was associated with increased traditional bullying perpetration ($\beta = .37$, $t(564) = 4.31$, $p < .001$, 95% CI [.19, .53]), with a moderate effect size found. Living in social care predicted poorly perceived relationships with family ($\beta = -.29$, $t(549) = -3.55$, $p < .001$, 95% CI [-.46, -.13]), teachers ($\beta = -.19$, $t(556) = -2.32$, $p = .02$, 95% CI [-.35, -.03]), and classmates ($\beta = -.18$, $t(560) = -2.17$, $p = .03$, 95% CI [-.35, -.02]). However, living in social care did not predict relationships with friends ($p = .25$). The mediation effect was partial: living in social care had both a direct and indirect effect via classmates on traditional bullying perpetration. Poorly perceived relationships with classmates increased the frequency of traditional bullying perpetration ($\beta = -.19$, $t(560) = -4.31$, $p < .001$, 95% CI [-.29, -.11]), whilst relationships with family ($p = .28$), friends ($p = .11$), and teachers ($p = .23$) did not. There was an indirect effect of living in care on bullying perpetration through relationships with classmates only; the proportion of the total effect that operates indirectly is 15%.

These analyses were replicated on the 2018 dataset, and a significant effect was also found, $R^2 = .173$, $F(7, 319) = 9.55$, $p < .001$, where living in social care was associated with increased traditional bullying perpetration, $\beta = .55$, $t(367) = 5.14$, $p < .001$, 95% CI [.34, .76], and a large effect size was found. In this model, living in care predicted poorer relationships with family only ($\beta = -.44$, $t(362) = -4.02$, $p < .001$, 95% CI [-.65, -.22]); relationships with friends ($p = .10$), teachers ($p = .32$), and classmates ($p = .07$) were not predicted by living in social care. Moreover, poorly perceived relationships with family ($\beta = -.16$, $t(362) = -2.59$, $p = .01$, 95% CI [-.28, -.04]) and with teachers ($\beta = -.21$, $t(362) = -3.62$, $p < .001$, 95% CI [-.33, -.09]) predicted more bullying perpetration, but those with friends ($p = .91$) and classmates ($p$

= .55) did not. The mediation effect was partial though relationships with family, and the proportion of the total effect that operates indirectly is 18.2%. Figure 1 presents the path diagram for traditional bullying perpetration in 2014 and 2018.

**\* Figure 1 (Path Diagram for Living in Social Care on Traditional Bullying Perpetration - 2014 and 2018 datasets) about here.**

**Traditional Bullying Victimisation**

A multiple regression analysis with parallel mediation was carried out for traditional bullying victimisation on the 2014 dataset, and a significant effect was found, $R^2 = .196$, $F(7, 521) = 18.19$, $p < .001$), with living in social care predicting greater traditional bullying victimisation, $\beta = .33$, $t(564) = 3.89$, $p < .001$, 95% CI [.17, .50], with a large effect size identified. As in the previous model, living in social care predicted poorer relationships with family ($\beta = -.31$, $t(549) = -3.69$, $p < .001$, 95% CI [-.47, -.14]), teachers ($\beta = -.19$, $t(556) = -2.40$, $p = .02$, 95% CI [-.36, -.04]), and classmates ($\beta = -.18$, $t(560) = -2.17$, $p = .03$, 95% CI [-.35, -.02]). Living in care did not predict relationships with friends ($p = .19$). Moreover, neither relationships with family ($p = .49$) or friends ($p = .70$) predicted traditional bullying victimisation, but those with teachers ($\beta = -.09$, $t(556) = -2.16$, $p = .03$, 95% CI [-.18, -.008]) and classmates ($\beta = -.38$, $t(560) = -8.71$, $p < .001$, 95% CI [-.46, -.29]) did, suggesting a partial mediation effect through these school relationships. Negatively perceived relationships with classmates and teachers increased the risk of victimisation: there was an indirect effect of living in care on bullying victimisation through relationships at school; the proportion of the total effect that operates indirectly is 28.5%.

These analyses were replicated on the 2018 dataset, and a significant effect was replicated, $R^2 = .217$, $F(7, 319) = 12.63$, $p < .001$, with living in care predicting greater

victimisation with a large effect size, β = .52, $t(365) = 4.80$, $p < .001$, 95% CI [.30, .73]. As in the previous 2018 model, living in care predicted poorer relationships with family only (β = -.41, $t(343) = -3.73$, $p < .001$, 95% CI [-.62, -.19]); relationships with friends ($p = .10$), teachers ($p = .20$), and classmates ($p = .05$) were not predicted by living in care. Moreover, relationships with family ($p = .08$), friends (p = .47), and teachers (p = .12) did not predict bullying victimisation. However, negatively perceived relationships with classmates predicted greater victimisation, β = -.31, $t(363) = -5.45$, $p < .001$, 95% CI [-.42, -.19]. Traditional bullying victimisation was not mediated by interpersonal relationships for children in social care. Figure 2 presents the path diagram for traditional bullying victimisation.

**\* Figure 2 (Path Diagram for Living in Social Care on Traditional Bullying Victimisation - 2014 and 2018 datasets) about here.**

**Cyberbullying Perpetration**

A multiple regression analysis with parallel mediation was carried out on the 2018 HBSC dataset only to predict the effect of living in social care on cyberbullying perpetration, and a significant effect was found, $R^2 = .086$, $F(7, 317) = 4.24$, $p < .001$, where living in social care was associated with increased cyberbullying perpetration with a moderate effect size, β = .44, $t(361) = 4.08$, $p < .001$, 95% CI [.23, .66]. Living in care predicted poorer relationships with family (β = -.39, $t(340) = -3.55$, $p < .001$, 95% CI [-.61, -.17]) and classmates (β = -.22, $t(359) = -1.99$, $p = .046$, 95% CI [-.43, -.004]), but not with friends ($p = .06$), or teachers ($p = .28$). Cyberbullying perpetration was not predicted by relationships with family ($p = .17$), friends ($p = .94$), teachers ($p = .06$), or classmates ($p = .43$). Cyberbullying

perpetration was not mediated by any interpersonal relationships. Figure 3 outlines the path diagram for cyberbullying perpetration.

**\* Figure 3 (Path Diagram for Living in Social Care on Cyberbullying Perpetration - 2018 dataset only) about here.**

**Cyberbullying Victimisation**

A multiple regression analysis with parallel mediation was carried out to predict the effect of living in social care on cyberbullying victimisation on the 2014 dataset, and a significant effect was found, $R^2 = .170$, $F(7, 512) = 14.99$, $p < .001$: living in social care was associated with increased cyberbullying victimisation, with a large effect size identified ($\beta = .31$, $t(551) = 3.56$, $p < .001$, 95% CI [.14, .48]). Living in care predicted poorer relationships with family ($\beta = -.30$, $t(538) = -3.57$, $p < .001$, 95% CI [-.47, -.14]), teachers ($\beta = -.19$, $t(545) = -2.36$, $p = .02$, 95% CI [-.36, -.03]), and classmates ($\beta = -.19$, $t(547) = -2.24$, $p = .03$, 95% CI [-.36, -.02]), but not with friends ($p = .23$). Moreover, neither relationships with family ($p = .06$) or teachers (p = .21) predicted cyberbullying victimisation, but those with friends ($\beta = .13$, $t(536) = 2.59$, $p = .01$, 95% CI [.03, .28]) and classmates ($\beta = -.33$, $t(547) = -7.51$, $p < .001$, 95% CI [-.42, -.25] did, suggesting a partial mediation effect through classmates only. The proportion of the total effect that operates indirectly is 19.4%.

These analyses were replicated on the 2018 dataset, and a significant effect was found, $R^2 = .126$, $F (7, 318) = 6.56$, $p < .001$. Living in social care predicted increased cyberbullying victimisation, with a large effect size ($\beta = .41$, $t(362) = 3.77$, $p < .001$, 95% CI [.20, .63]). In this model, living in care predicted poorer relationships with family ($\beta = -.40$, $t(340) = -3.70$, $p < .001$, 95% CI [-.62, -.19]); relationships with friends ($p = .14$), teachers ($p = .32$), and classmates ($p = .07$) were not predicted by living in social care. Moreover,

relationships with family ($p$ = .32), friends (p = .40), and classmates (p = .06) did not predict bullying victimisation. However, negatively perceived relationships with teachers predicted greater victimisation, β = -.18, $t$(358) = -2.97, $p$ = .003, 95% CI [-.29, -.06]. Victimisation was not mediated by any interpersonal relationships. Figure 4 outlines the path diagram for cyberbullying victimisation.

**\* Figure 4 (Path Diagram for Living in Social Care on Cyberbullying Victimisation - 2014 and 2018 datasets) about here.**

**Discussion**

The present study aimed to understand if and how living in social care impacts bullying involvement in adolescence, and if there is a mediating role of interpersonal relationships. To our knowledge, this is the first study to consider both traditional and cyberbullying involvement in a sample of British children in social care. The initial prevalence rates demonstrate that bullying involvement is a normative experience for children in care; there appeared to be an increase in reported involvement between 2014 and 2018, for which the reasons are not clear. One possible explanation could be a greater understanding of what constitutes 'bullying' for children in care, with the introduction of the Children and Social Work Act (2017) emphasising that schools should be safe and inclusive environments, with designated safeguarding staff for children in care. This could help to identify incidents of bullying, for which those involved gain a better understanding and increased confidence in reporting involvement in 2018.

To avoid repetition between sections, the results will be explored with respect to the direct effects of traditional bullying and cyberbullying, before deeper explorations of interpersonal relationships are made.

**Age and Gender**

Although there are age and gender differences in bullying involvement within the general population (Eslea & Rees, 2001; Smith et al., 2019; Pichel et al., 2021), we found that these differences did not extend into the social care population. In the 2014 dataset only, it appeared that females were more likely to report traditional bullying victimisation than males, but the effect size for this was small. Similarly, children aged 11 reported lower cyberbullying victimisation than those aged 13 and 15, but again the effect size was small. Due to the small effect sizes, and the lack of replication in the 2018 dataset, it was concluded that there were only minor differences in age and gender in bullying involvement for children in social care. This suggests that children living in care are at risk of bullying involvement regardless of their age or gender, emphasising the vulnerability of this group.

The exact reasons for these findings are unclear, however one possible explanation may be found in the instability that children in social care often experience. For instance, one explanation for the age differences in the general population is the move to a new school at age 11 (Lopez-Castro et al., 2023), but many children in social care are frequently moved to new schools, regardless of their age. This could suggest that the instability in the school placements is a risk factor for children in care, rather than age itself. Moreover, research has suggested that girls spend more time playing near teachers (Estévez et al., 2012), and tend to be more compliant with how their parents would want them to behave (Morrongiello & Lasenby-Lessard, 2007), which may explain gender differences in bullying involvement within the general population. Yet, children in social care may not display these same behaviours: if children are experiencing limited contact with their parents or poor relationships, it is possible that their influence – particularly for girls – will be lessened. However, this has not been explored in existing social care research, and future research

would benefit from understanding exactly why these age and gender differences are minimised for children in care.

**Living in Social Care and Bullying Involvement**

Children living in social care were more likely to be involved in traditional bullying – as both a perpetrator and a victim – compared to those living with biological family. These findings were consistent across both datasets, and corroborates the findings of previous research in residential homes and foster homes (Mazzone et al., 2019; Monks et al., 2009; Sekol & Farrington, 2010; Sekol & Farrington, 2016; Sterzing et al., 2020; Yubero et al., 2019).

Previous research has not yet explored cyberbullying involvement in the context of social care, making this study the first to extend this field into the online world. A direct risk of living in social care on cyberbullying involvement was identified: those living in social care were significantly at risk of perpetration and victimisation in the cyberworld compared to those living with biological family; these results were replicated in both datasets. There are several possible explanations for the increased vulnerability of children living in social care, and interpersonal relationships will be discussed in greater depth later; however, these results may also be indicative of the experiences that these children have had prior to being placed into the social care system. As mentioned, a substantial number of these children will have experienced abuse leading to their placement in care (Narey & Owers, 2018). Consistent with Social Learning Theory, these children may have learned aggressive behaviours through observation of their early home experiences (Bandura, 1978). Similarly, Chen et al. (2018) notes that children who experience victimisation at home may internalise this as a fixed trait, leading them to further victimisation from peers.

**Social Care and Interpersonal Relationships**

Living in social care was consistently associated with poorer relationships with family in both datasets. This is unsurprising, with children in social care often reporting instability, distrust, and perceived negativity in their relationships (Hong et al., 2021; Mazzone et al., 2019). For instance, although attempts are made to ensure that children in social care remain in contact with their birth families when appropriate, conflicts and miscommunications between the birth family and the temporary carers can lead to feelings of anxiety and stress for the children (Linares et al., 2010). Maintaining contact with the family, particularly in cases of abuse and neglect, can be difficult and beyond the control of the child.

In the 2014 dataset only, children in social care also reported poorer relationships with teachers and classmates. This is in line with research by Vacca and Kramer-Vida (2012), who note that children in social care frequently experience unstable school placements, with untrained teachers labelling them as 'problematic' before arrival and classmates being unaccepting of their backgrounds. This, alongside limited continuity in assignments, can lead these children to feel ostracised and unsupported in school. Notably, these findings were not corroborated in the 2018 dataset: this could be indicative of changing attitudes within schools between surveys, but there is no clear evidence for this. Interestingly, we did not find an association between living in social care and relationships with friends: DeLuca et al. (2019) noted that children in social care report poorer quality relationships with friends when compared to those living with birth families, but this was not upheld in our results. This could be indicative of the questions asked in the HBSC survey, with many of the relationship items surrounding the ability to confide in others, which is representative of only one facet of relationships. Future research would benefit from exploring additional elements, such as trust, reliability, proximity, and the types of friendships. In relation to the latter, children will typically have friends from different settings, including other children in the care system:

Rogers (2017) propose that children in care seek support from other Looked After Children, gaining a sense of group belonging. This was not studied in the HBSC survey but could be representative of the positive friendships.

Following on from this, poorly perceived relationships increased this risk of bullying involvement, however the mediation effects differed between models. In the 2014 dataset, relationships with classmates mediated the effects of living in social care on traditional bullying perpetration and victimisation, and cyberbullying victimisation. Relationships with teachers also mediated that of traditional bullying victimisation. These results suggest that relationships within the school – particularly with classmates – were central for traditional bullying and cyberbullying involvement. This could reflect the instability of school placements for children in care, with these relationships potentially being newer and changing, whilst those with family and friends may be maintained through contact.

However, this was not replicated in the 2018 dataset: there was no mediation effect for either traditional or cyberbullying perpetration or victimisation, but the family mediated traditional bullying perpetration. The reason for this lack of replication is unclear, and future research would benefit from probing this further. Nonetheless, families were important for perpetration only, which could reflect learned experiences for these children. A plethora of research has suggested that children living in families with high levels of aggression are at risk of bullying perpetration (Chen et al., 2018; Ding et al., 2020).

Despite the lack of replication, these mediation effects offer an interesting starting point for future research. It is well-established that positive relationships are protective against bullying involvement (Perren et al., 2012), and the responsibility to support children should exist both inside of the school and within the family.

**Limitations and Recommendations for Future Research**

The present research provides a unique insight into the role of social care and interpersonal relationships on bullying involvement, but this research is not without limitation. Perhaps the most substantial is that the nature of the social care experience was not measured in the HBSC survey, such as the type of home lived in, or how long the child had been living in social care. Firstly, the experiences of children living in residential care settings and foster care are likely to be very different: foster care mimics the structure of a traditional family with temporary parent caregivers, whilst residential care is an institutionalised setting with clear boundaries between staff and children. Previous research has not directly compared these two groups, making it impossible to answer if there are differences in bullying experiences between the social care subgroups, and future research would benefit from exploring these subgroups specifically. Moreover, research has suggested that children who have been in residential care for a longer period are more likely to have developed secure attachments, and thus display less aggression (Attar-Schwartz, 2008). It would be reasonable to assume that this also applies to those living in foster care, but the literature is uncertain: Perry and Price (2017) note that children who had lived in a foster placement for longer periods of time were more likely to commit relational aggression than those who had not lived in a placement for longer periods. Research should examine the impact of time in a social care placement on relationships and bullying involvement.

This is also applicable to school placements. Due to the nature of social care, children often get moved between schools, which can lead to disruption in their education and the need to readjust to different teachers and school rules (Vacca & Kramer-Vida, 2012). Equally, these authors note that moving schools regularly may make foster children an 'easy target', due to fewer friends to provide support. The HBSC survey was not able to measure

whether children experienced consistency in schools during their time in social care, but future research would benefit from including this factor as a potential mediator.

**Implications**

The findings of this research highlight that children living in social care are an extremely vulnerable group. Not only are these children at risk of bullying involvement, but they are also at risk of difficult interpersonal relationships. This has substantial practical implications.

First and foremost, children in social care report strained relationships both inside and outside of the school, and it is essential for teachers, social workers, and the wider community to collectively work to support and protect these children, with attention given to forming supportive and accepting relationships. Under the Children Act 1989, schools have a legal obligation to safeguard and protect children in care, which includes providing a designated member of staff to support their educational needs. It is required that this member of staff has training to support children in care. Other than this, UK schools do not have a legal obligation to train other members of staff in supporting Looked After Children, meaning many of the staff who interact with these children will not have any training or formal understanding of their experiences. Subsequently, all schools and educators should have a basic understanding of the social care system, and the experiences of these children. We argue that this can help to reduce stigma and pre-labelling from schools, as well as fostering environments of acceptance within the classroom.

Moreover, a direct effect of living in care was found for bullying perpetration and victimisation. Although we believe that this is useful for early identification and prevention of bullying, we also stress that care should be taken to not vilify or single-out these children. Despite an increased risk of bullying involvement, this is not to say that children in care will

be bullies or victims: whilst interpersonal relationships play some mediating role in this association, the reasons for this amplified risk are far more complex than the HBSC surveys were able to identify. Researchers should endeavour to understand why these children are vulnerable, with the intention that prevention measures can work to fully support them.

**References**

Armitage, R. (2021). Bullying in children: Impact on child health. *BMJ Paediatric Open,*
*5*(1), e000939. https://doi.org/10.1136/bmjpo-2020-000939

Arnarsson, A., Nygren, J., Nyholm, M., Torsheim, T., Augustine, L., Bjereld, Y., Markkanen,
I., Schnohr, C. W., Rasmussen, M., Nielsen, L., & Bendtsen, P. (2020). Cyberbullying
and traditional bullying among Nordic adolescents and their impact on life
satisfaction. *Scandinavian Journal of Public Health, 48*, 502-510.
https://doi.org/10.1177/1403494818817411

Attar-Schwartz, S. (2008). Emotional, behavioral and social problems among Israeli children
in residential care: A multi-level analysis. *Children and Youth Services Review, 30*,
229-248. https://doi.org/10.1016/j.childyouth.2007.09.009

Bandura, A. (1978). Social learning theory of aggression. *Journal of Communication, 28*(3),
12- 29.0 https://doi.org/10.1111/j.1460-2466.1978.tb01621.x

Barter, C. (2009). Peer violence in residential children's homes: A unique experience. In C.
P. Monks, P. K. Smith, P. Naylor, C. Barter, J. L. Ireland, & I. Coyne (Eds.), *Bullying*
*in different contexts* (pp. 61-86). Cambridge University Press.

Barter C., & Berridge D. (2011). *Children behaving badly? Violence between children and*
*young people.* John Wiley & Sons. https://doi.org/10.1002/car.2240

Bennett, A., Clement, A., Walton, R., Jackson, Y., & Gabrielli, J. (2023). Youth reported
perpetrators of victimization within a foster care sample. *Child Maltreatment*,
10775595231163452. https://doi.org/10.1177/10775595231163452

Bevilacqua, L., Shackleton, N., Hale, D., Allen, E., Bond, L., Christie, D., Elbourne, D.,
Fitzgerald-Yau, N., Fletcher, A., Jones, R., Miners, A., Scott, S., Wiggins, M., Bonell,
C., & Viner, R. (2017). The role of family and school-level factors in bullying and

cyberbullying: a cross sectional study. *BMC Pediatrics, 17*(160), 1-10.

https://doi.org/10.1186/s12887-017-0907-8

Brett, H. M. (2024). *The role of the family on adolescent's bullying involvement* [Doctoral

dissertation, Goldsmiths, University of London].

https://doi.org/10.25602/GOLD.00036308

Chen, Q., Lo, C. K. M., Zhu, Y., Cheung, A., Chan, K. L., & Ip, P. (2018). Family poly-

victimisation and cyberbullying among adolescents in a Chinese school sample*, Child

Abuse & Neglect, 77*, 180-187.

Children Act, c. 34567890-0987654. (1989).

https://www.legislation.gov.uk/ukpga/1989/41/contents

Children and Social Work Act, c. 16. (2017).

https://www.legislation.gov.uk/ukpga/2017/16/contents/enacted

Craig, W., Boniel-Nissim, M., King, N., Walsh, S. D., Boer, M., Donnelly, P. D., Harel-

Fisch, Y., Malinowska-Cieslik, M., Gaspar de Matos, M., Cosma, A., Van den

Eijnden, R., Vieno, A., Elgar, F. J., Molcho, M., Bjereld, Y., & Picket, W. (2020).

Social media use and cyber-bullying: A cross-national analysis of young people in 42

countries. *Journal of Adolescent Health, 66,* S100-S108.

https://doi.org/10.1016/j.jadohealth.2020.03.006

Currie, C., Inchley, J., Molcho, M., Lenzi, M., Veselska, Z., & Wild, F. (2014). *Health

behaviour in school-aged children (HBSC) Study Protocol: Background, methodology

and mandatory items for the 2013/14 Survey.* CAHRU. http://www.hbsc.org/methods

DeLuca, H. K., Claxton, S. E., & van Dulmen, M. H. (2019). The peer relationships of those

who have experienced adoption or foster care: A meta-analysis. *Journal of Research

on Adolescence, 29*(4), 796-813. https://doi.org/10.1111/jora.12421

Department for Education. (2017). *Children looked after in England including adoption: 2016 to 2017.* Department for Education. https://www.gov.uk/government/statistics/children-lookedafter-in-england-including-adoption-2016-to-2017

Department for Education. (2022*). Children looked after in England including adoptions. Department for Education*. https://explore-education-statistics.service.gov.uk/findstatistics/children-looked-after-in-england-including-adoptions/2022

Ding, Y., Li, D., Li, X., Xiao, J., Zhang, H., & Wang, Y. (2020). Profiles of adolescent traditional and cyber bullying and victimization: The role of demographic, individual, family, school, and peer factors. *Computers in Human Behavior, 111*, 106439. https://doi.org/10.1016/j.chb.2020.106439

Ditch The Label. (2020). *The Annual Bullying Survey 2020.* Ditch The Label. https://dtl-beta-website-assets.s3.amazonaws.com/The_Annual_Bullying_Survey_2020_2_a8a474bb3f.pdf

Eslea, M., & Rees, J. (2001). At what age are children most likely to be bullied at school? *Aggressive Behavior, 27,* 419-429. https://doi.org/10.1002/ab.1027

Estévez, E., Povedano, A., Jiménez, T. I., & Musitu, G. (2012). Aggression in adolescence: A gender perspective. *Psychology of Aggression: New Research*, 37-57.

Font, S. A. (2015). Child protection investigations in out-of-home care: Perpetrators, victims, and contexts. *Child Maltreatment, 20*(4), 251-257. https://doi.org/10.1177/1077559515597064

Halliday, S., Gregory, T., Taylor, A., Digenis, C., & Turnbull, D. (2021). The impact of bullying victimisation in early adolescence on subsequent psychosocial and academic outcomes across the adolescent period: A sytematic review. *Journal of School Violence, 20*(3), 351-373. https://doi.org/10.1080/15388220.2021.1913598

Höjer, I. (2006). Sons and daughters of foster carers and the impact of fostering on their everyday life. *Child and Family Social Work, 12*, 73-83. https://doi.org/10.1111/j.1365- 2206.2006.00447.x

Hong, J. S., & Espelage, D. L. (2012). A review of research on bullying and peer victimization in school: An ecological system analysis. *Aggression & Violent Behavior*, *17*(4), 311-322. https://doi.org/10.1016/j.avb.2012.03.003

Hong, J., Sujin, P., & An, M. (2021). Are forest healing programs useful in promoting children's emotional welfare? The interpersonal relationships of children in foster care. *Urban Forestry and Urban Greening, 59,* 127034. https://doi.org/10.1016/j.ufug.2021.127034

Iacobucci, D., Popovich, D. L., Moon, S., & Román, S. (2023). How to calculate, use, and report variance explained effect size indices and not die trying. *Journal of Consumer Psychology, 33,* 45-61. https://doi.org/10.1002/jcpy.1292

Inchley, J., Currie, D., Cosma, A., & Samdal, O. (2018). *Health behaviour in school-aged children (HBSC) study protocol: Background, methodology and mandatory items for the 2017/18 survey.* CAHRU.

Kowalski, R. M., Giumetti, G. W., Schroeder, A. N., & Lattanner, M. R. (2014). Bullying in the digital age: a critical review and meta-analysis of cyberbullying research among youth. *Psychological Bulletin, 140*(4), 1073. https://psycnet.apa.org/doi/10.1037/a0035618

Kowalski, R.M., Giumetti, G.W. & Feinn, R.S. (2023). Is Cyberbullying an Extension of Traditional Bullying or a Unique Phenomenon? A Longitudinal Investigation Among College Students. *International Journal of Bullying Prevention, 5*, 227–244. https://doi.org/10.1007/s42380-022-00154-6

Linares, L. O., Rhodes, J., & Montalto, D. (2010). Perceptions of coparenting in foster care. *Family Process, 49*(4), 530-542. https://doi.org/10.1111/j.1545-5300.2010.01338.x

López-Castro, L., Smith, P. K., Robinson, S., & Görzig, A. (2023). Age differences in bullying victimisation and perpetration: Evidence from cross-cultural surveys. *Aggression and Violent Behavior*, 101888. https://doi.org/10.1016/j.avb.2023.101888

Mazzone, A., Nocentini, A., & Menesini, E. (2019). Bullying in residential care for children: Qualitative findings from five European countries. *Children and Youth Services Review, 100*, 451-460. https://doi.org/10.1016/j.childyouth.2019.03.025

Monks, C., Smith, P., Naylor, P., Barter, C., Ireland, J., & Coyne, I. (2009). Bullying in different contexts: Commonalities, differences and the role of theory. *Aggression and Violent Behavior, 14*, 146-156. https://doi.org/10.1016/j.avb.2009.01.004

Morgan, R. (2011). *Children's care monitor 2011: Children on the state of social care in England reported by the children's rights director for England.* Ofsted. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_d ata/file/181174/100098.pdf

Morrongiello, B. A., & Lasenby-Lessard, J. (2007). Psychological determinants of risk taking by children: an integrative model and implications for interventions. *Injury Prevention*, *13*(1), 20-25. https://doi.org/10.1136%2Fip.2005.011296

Narey, M., & Owers, M. (2018). *Foster care in England: A review for the Department of Education.* Department of Education. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_d ata/file/679320/Foster_Care_in_England_Review.pdf

Nieminen, P., Lehtiniemi, H., Vähäkangas, K., Huusko, A., & Rautio, A. (2022). Application of standardized regression coefficient in meta-analysis. *BioMedInformatics, 2*(3), 434-458. https://doi.org/10.3390/biomedinformatics2030028

OECD. (2019). *PISA 2018 Results (Volume III): What School Life Means for Students' Lives*, PISA, OECD Publishing, Paris. https://doi.org/10.1787/acd78851-en.

Ofsted. (2021, November 11). *Fostering in England 2020 to 2021: Main findings.* https://www.gov.uk/government/statistics/fostering-in-england-1-april-2020-to-31-march2021/fostering-in-england-2020-to-2021-main-finding

Olweus, D. (1993). *Bullying at school: What we know and what we can do.* Blackwell Publishers Inc. https://doi.org/10.1002/pits.10114

Olweus, D. (1999). Sweden. In P. K. Smith, Y. Morita, J. Junger-Tas, D. Olweus, R. Catalano & P. Slee (Eds.), *The nature of school bullying: A cross-national perspective* (pp. 7-27). Routledge.

Perren, S., Corcoran, L., Cowie, H., Dehue, F., Garcia, D., McGuckin, C., Sevcikova, A., Tsatsou, P., & Völlink, T. (2012). Tacking cyberbullying: Review of empirical evidence regarding successful responses by students, parents, and schools. *International Journal of Conflict and Violence, 6*(2), 283-293. https://doi.org/10.4119/UNIBI/ijcv.244

Perry, K. J., & Price, J. M. (2017). The role of placement history and current family environment in children's aggression in foster care. *Journal of Child and Family Studies, 26,* 1135-1150. https://doi.org/10.1007/s10826-016-0642-z

Pichel, R., Foody, M., O'Higgins Norman, J., Feijóo, S., Varela, J., & Rial, A. (2021). Bullying, cyberbullying and the overlap: What does age have to do with it?. *Sustainability, 13*, 8527. https:// doi.org/10.3390/su131585

Popenoe, D. (1999). Can the nuclear family be revived? *Society, 36*(5), 28-30.

    https://doi.org/10.1007/BF02686148

Richardson, J. T. (2011). Eta squared and partial eta squared as measures of effect size in

    educational research. *Educational Research Review*, *6*(2), 135-147.

    https://doi.org/10.1016/j.edurev.2010.12.001

Rogers, J. (2017). 'Different' and 'devalued': Managing the stigma of foster-care with the

    benefit of peer support. *British Journal of Social Work, 47*(4), 1078-1093.

    https://doi.org/10.1093/bjsw/bcw063

Salazar, A. M. (2013). The value of a college degree for foster care alumni: Comparisons

    with general population samples. *Social Work, 58*(2), 139-150.

    https://doi.org/10.1093/sw/swt014

Sekol, I. (2016). Bullying in adolescent residential care: The influence of the physical and

    social residential care environment. *Child and Youth Care Forum, 45,* 409-431.

    https://doi.org/10.1007/s10566-015-9336-8

Sekol, I., & Farrington, D. P. (2010). The overlap between bullying and victimization in

    adolescent residential care: Are bully/victims a special category? *Children and Youth*

    *Services Review, 32*(12), 1758-1769. https://doi.org/10.1016/j.childyouth.2010.07.020

Sekol, I., & Farrington, D. P. (2016). Psychological and background correlates of bullying in

    adolescent residential care. *Journal of Social Work, 16*(4), 429-452.

    https://doi.org/10.1177/146801731558153

Smith, P. K., López-Castro, L., Robinson, S., & Görzig, A. (2019). Consistency of gender

    differences in bullying in cross-cultural surveys. *Aggression and Violent Behavior*,

    *45*, 33-40. https://doi.org/10.1016/j.avb.2018.04.006

Sterzing, P. R., Auslander, W. F., Ratliff, G. A., Gerke, D. R., Edmond, T., & Jonson-Reid,

    M. (2020). Exploring bullying perpetration and victimization among adolescent girls

in the child welfare system: Bully-only, victim-only, bully-victim, and non-involved roles. *Journal of Interpersonal Violence, 35*(5–6), 1311–1333. https://doi.org/10.1177/0886260517696864

Vacca, J., & Kramer-Vida, L. (2012). Preventing the bullying of foster children in our schools. *Children and Youth Services Review, 34*, 1805-1809. https://doi.org/10.1016/j.childyouth.2012.05.014

Watson, A., & Jones, D. (2002). The impact of fostering on foster carers' own children. *Adoption and Fostering, 26*(1), 49–55. https://doi.org/10.1177/030857590202600107

Wolke, D., & Skew, A. (2012). Family factors, bullying victimisation and wellbeing in adolescents. *Longitudinal and Life Course Studies, 3*(1), 101-119. http://dx.doi.org/10.14301/llcs.v3i1.165

Yang, SJ., Stewart, R., Kim, J.M., Kim, S-W., Shin, I-L., Dewey, M. E., Maskey, S., & Yoon, J-S. (2013). Differences in predictors of traditional and cyber-bullying: A 2-year longitudinal study in Korean school children. *European Child and Adolescent Psychiatry, 22,* 309–318. https://doi.org/10.1007/s00787-012-0374-6

Yubero, S., Navarro, R., Maldonado, M., Gutiérrez-Zornoza, M., Elche, M., & Larranaga, E. (2019). Bullying and psychological distress in a vulnerable group: Youth in residential child care. *Journal of Child and Family Studies, 28*, 2618-2629. https://doi.org/10.1007/s10826-019-01508-3

**Bio Sketches:**

Hannah Brett is a Lecturer in Developmental Psychology at Kingston University, London. Her research interests are on bullying and cyberbullying, with a specific focus on the role of the family, and between-sibling bullying.

Andrew Cooper is a Reader of Psychology at Goldsmiths, University of London. His research explores how variations in personality traits are underpinned by emotional and motivational states, as well as the development and testing of psychometric instruments and the application of statistical techniques in personality and clinical research.

Peter K. Smith is an Emeritus Professor of Developmental Psychology at Goldsmiths, University of London, based in the Unit for School and Family Studies, which he headed from 1998-2011. His research interests are on social development, and especially bullying and cyberbullying, and children's play.

Alice Jones Bartoli is Deputy Director for Education and Early Years at the National Children's Bureau, and a Professor of Psychology in Education at Goldsmiths, University of London. Her work focuses on understanding the bases of social and academic exclusion across education, and the application of research to school-wide strategies that meet the needs of students with social, emotional and mental health needs.

Bullying for children in social care: The role of interpersonal relationships

**Table 1**

*Age and Gender Distributions for Children Living in Social Care or with Biological*

*Relations*

| | Social Care | Biological Relations | Total |
|---|---|---|---|
| *2014* | | | |
| Age | | | |
| *11-years* | 95 | 95 | 190 |
| *13-years* | 112 | 112 | 224 |
| *15-years* | 77 | 77 | 154 |
| *Missing* | 7 | 7 | 14 |
| Gender | | | |
| *Male* | 150 | 150 | 300 |
| *Female* | 141 | 141 | 282 |
| Total | 291 | 291 | 582 |
| *2018* | | | |
| Age | | | |
| *11-years* | 53 | 53 | 106 |
| *13-years* | 70 | 70 | 140 |
| *15-years* | 66 | 66 | 132 |
| *Missing* | 4 | 4 | 8 |
| Gender | | | |
| *Male* | 99 | 99 | 198 |
| *Female* | 94 | 94 | 188 |
| Total | 193 | 193 | 386 |

Table 2                                                           Click here to access/download;Table;Table 2.docx ±

Bullying for children in social care: The role of interpersonal relationships

**Table 2**

*Mean Bullying Involvement for Children Living in Social Care Compared to Those Living*

*with Biological Relations*

| | Traditional Bullying Perpetration | Traditional Bullying Victimisation | Cyberbullying Perpetration | Cyberbullying Victimisation |
|---|---|---|---|---|
| *2014* | | | | |
| Social Care | 1.41 | 1.92 | - | 1.42 |
| Biological Relations | 1.16 | 1.58 | - | 1.20 |
| *2018* | | | | |
| Social Care | 1.70 | 2.33 | 1.45 | 1.71 |
| Biological Relations | 1.16 | 1.62 | 1.11 | 1.28 |

Figure 1

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Bullying for children in social care: The role of interpersonal relationships

**Figure 1**

*Path Diagram for Living in Social Care on Traditional Bullying Perpetration (2014 and*
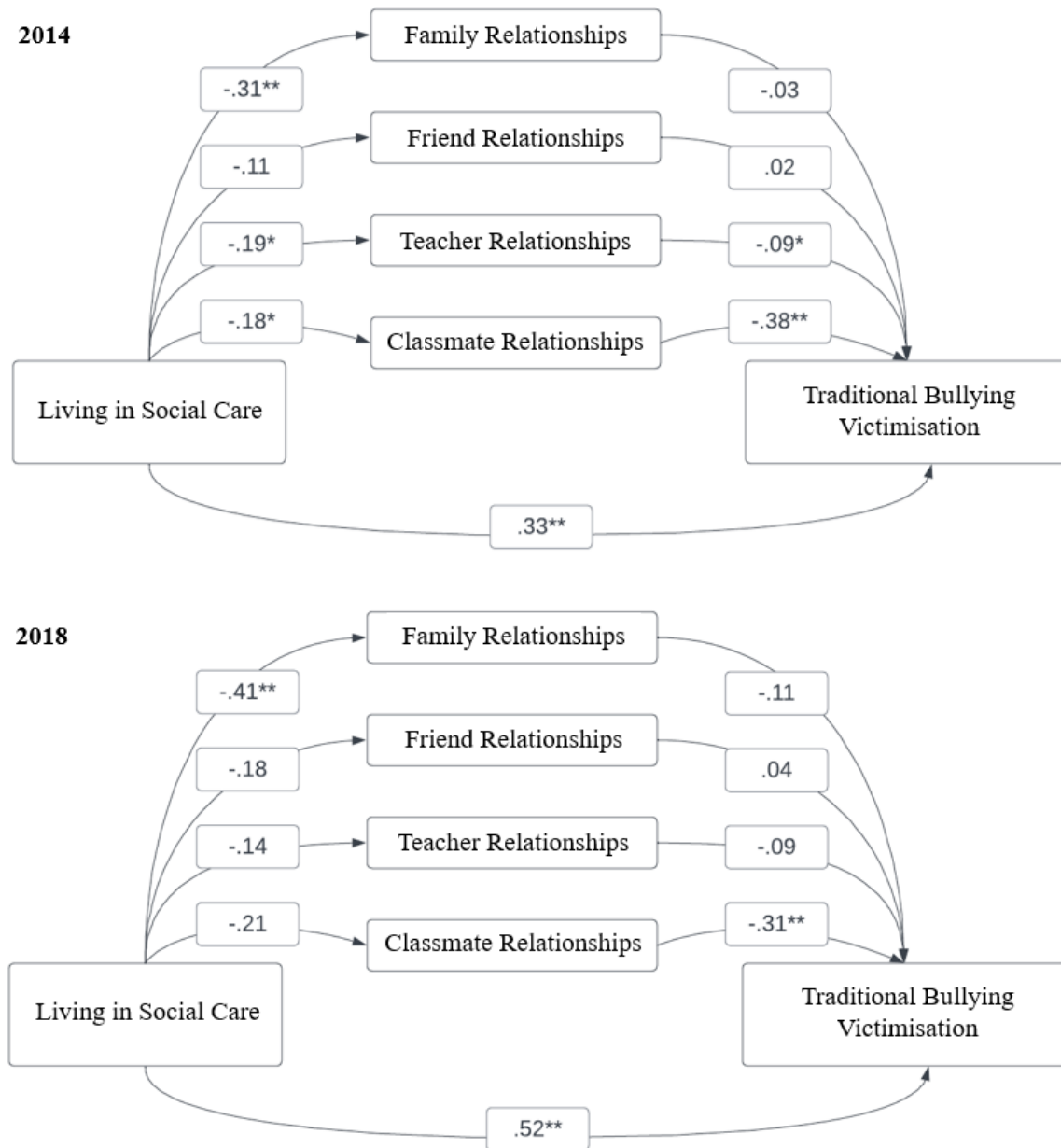
*2018 datasets)*



*Note.* * *p* < .05, ** *p* < .001

Figure 2

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Bullying for children in social care: The role of interpersonal relationships
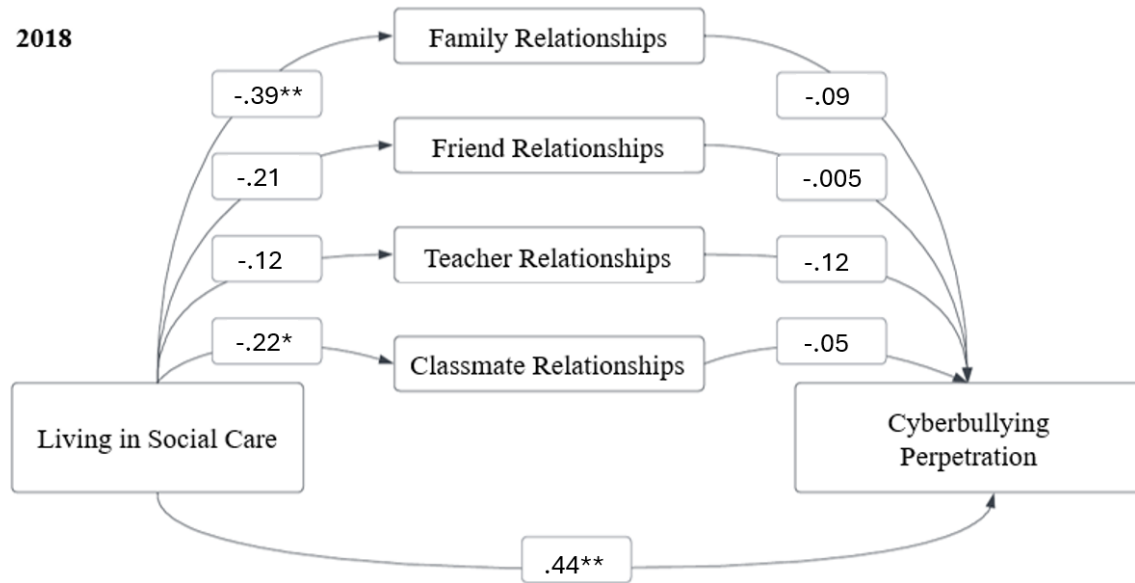
**Figure 2**

*Path Diagram for Living in Social Care on Traditional Bullying Victimisation (2014 and*
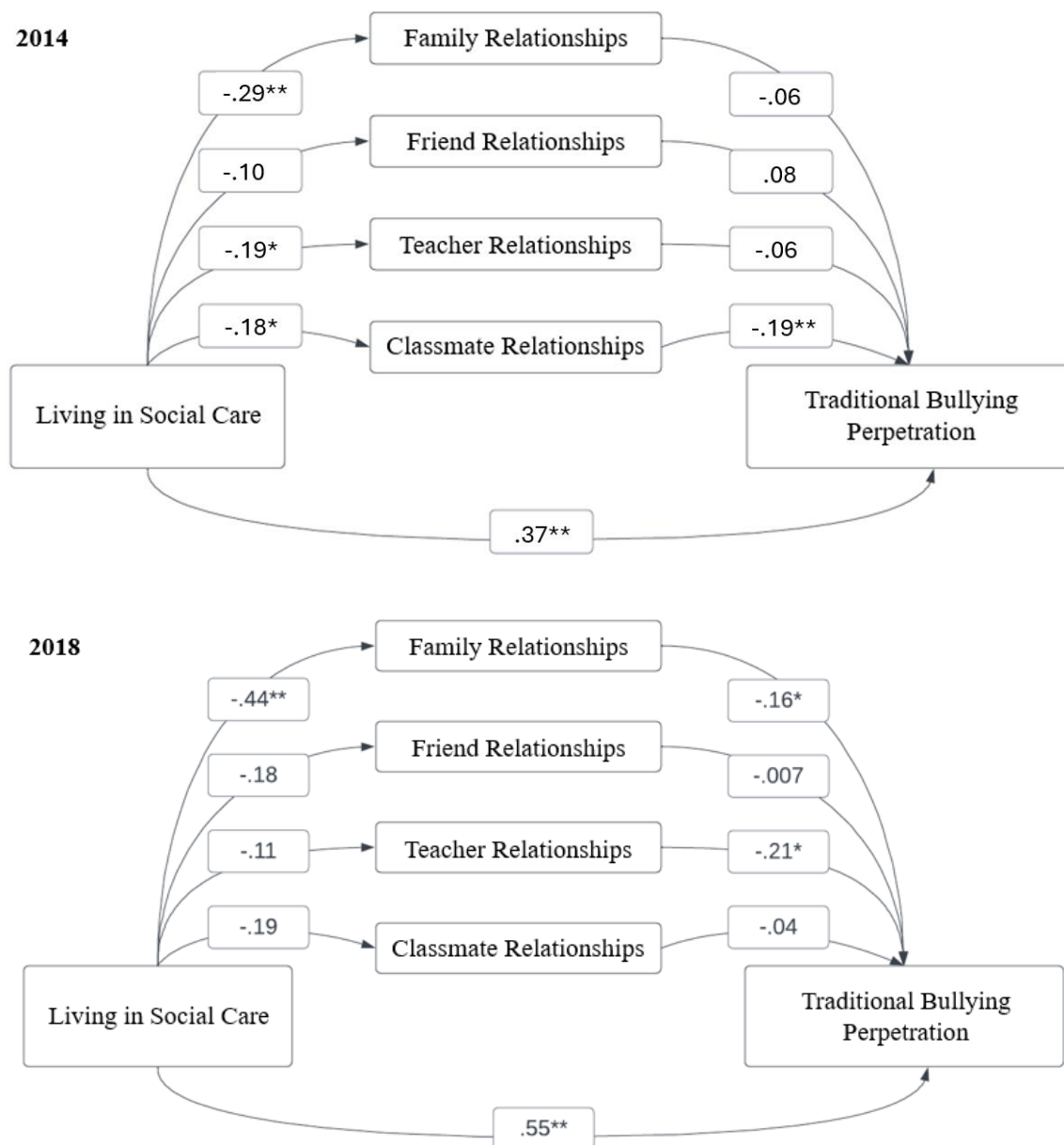
*2018 datasets)*



*Note. * p < .05, ** p < .001*

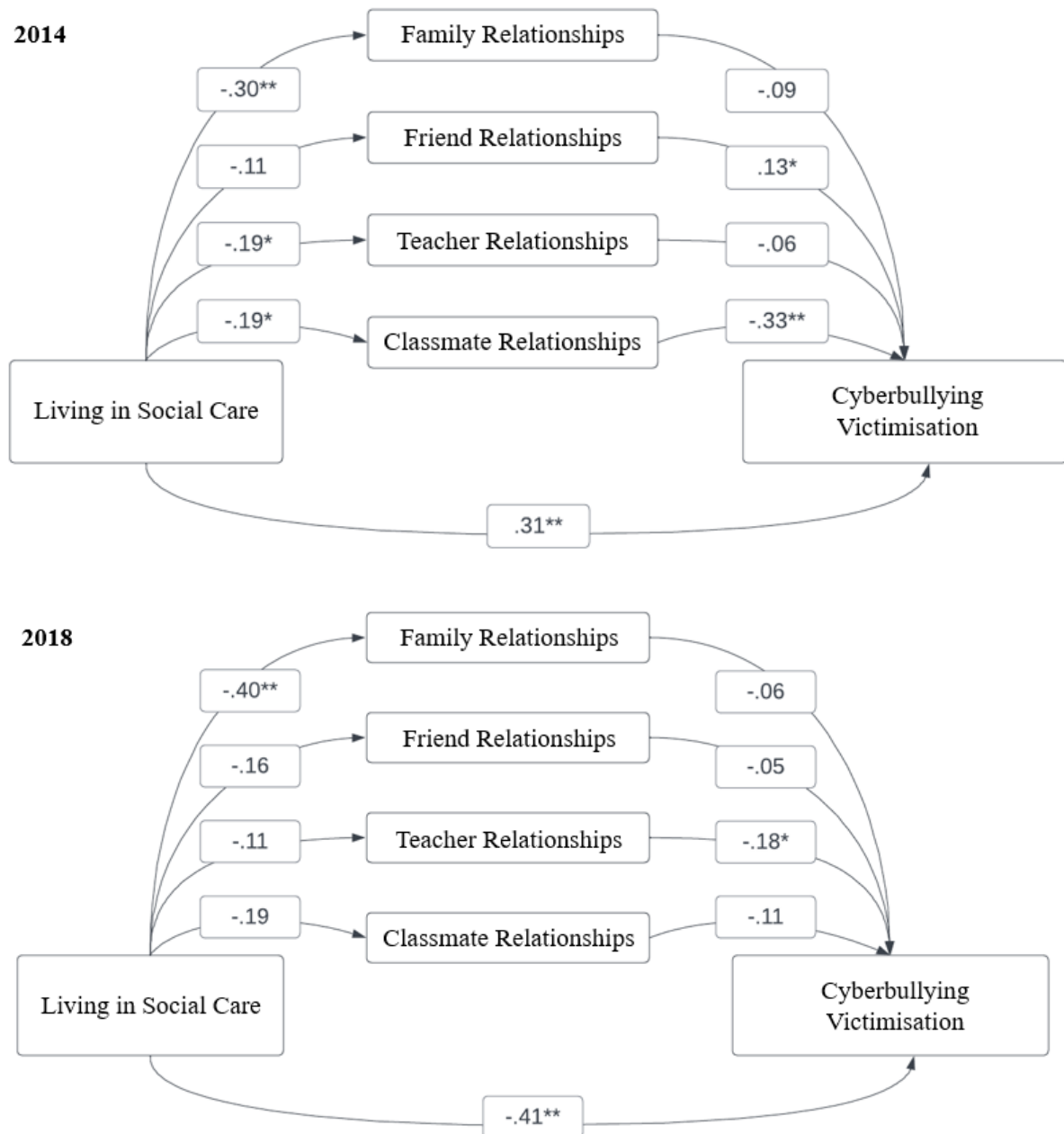Bullying for children in social care: The role of interpersonal relationships

**Figure 3**

*Path Diagram for Living in Social Care on Cyberbullying Perpetration (2018 dataset)*



*Note.* * *p* < .05, ** *p* < .001

Figure 4

Click here to access/download;Figure;Figure 4.docx ⬇

Bullying for children in social care: The role of interpersonal relationships

**Figure 4**

*Path Diagram for Living in Social Care on Cyberbullying Victimisation (2014 and 2018*

*datasets)*



*Note. * p < .05, ** p < .001*