Special Guardianship Families: Identifying Children's Strengths and Support Needs

Nuffield Foundation Report

June, 2026

Dr Amy L. Paine, Georgia Evans, Prof. Katherine H. Shelton, Dr Ellie M. Dorrans, Dr Nell Warner, and Dr Lorna Stabler

Correspondence to Dr Lorna Stabler
StablerL@cardiff.ac.uk

The Nuffield Foundation is an independent charitable trust with a mission to advance social well-being. It funds and undertakes rigorous research, encourages innovation and supports the use of sound evidence to inform social and economic policy, and improve people's lives. The Nuffield Foundation is the founder and co-funder of the Nuffield Council on Bioethics, the Ada Lovelace Institute and the Nuffield Family Justice Observatory. This project has been funded by the Nuffield Foundation, but the views expressed are those of the authors and not necessarily the Foundation.

Find out more at: www.nuffieldfoundation.org
Bluesky: @nuffieldfoundation.org,
LinkedIn: Nuffield Foundation

Contents

About the Authors

Dr Amy L. Paine is an academic developmental psychologist and Senior Lecturer (Associate Professor) at Cardiff University in Wales, UK. She received her Ph.D. at Cardiff University. Her research focuses on social development, family relationships, and developmental psychopathology. She is the Co-Director of the Neurodevelopment Assessment Unit.

Georgia Evans is a research assistant at the School of Psychology, Cardiff University, with experience in conducting psychiatric and neurodevelopmental assessments and interviews with children and their families. Her research interests focus on child and adolescent mental health, development and wellbeing.

Professor Katherine H. Shelton is an academic developmental psychologist with interests in the psychological health and well-being of care-experienced children and young people. She works in the School of Psychology at Cardiff University.

Dr Ellie Mae Dorrans is an academic developmental psychologist and a lecturer in the School of Psychology at Cardiff University. She also works in CASCADE as a research associate on this project. Ellie was awarded her PhD in Psychology in 2025, and her research focuses on the early emotional environments that children experience and how these relate to their emotional and behavioural difficulties and emotion-related skills.

Dr Nell Warner is a social work researcher who specialises in using linked administrative datasets to explore the children involved in social care and their families. She is the Data Linkage Lead for CASCADE, the Children's Social Care Research and Development Centre at Cardiff University.

Dr Lorna Stabler is a child and family social work researcher with a focus on family networks and kinship care. She works in CASCADE, Cardiff University. She is Health and Social Care Research Wales Specialty Lead for Social Care and Residential Settings.

Acknowledgements

We are grateful to the Nuffield Foundation for funding this research [reference: FR-000024401] awarded to Dr. Lorna Stabler, Dr. Nell Warner, Dr. Amy Paine, and Prof. Katherine Shelton. We also gratefully acknowledge the funders of the Neurodevelopment Assessment Unit (NDAU). The NDAU is supported by The Waterloo Foundation (UK) grants awarded to Stephanie H. M. van Goozen, Dale F. Hay, Susan R. Leekam, Anita Thapar and Cerith Waters [grant number 511633] and to Stephanie H. M. van Goozen [grant number 520678].

We are extremely grateful to the children, their families, and school staff who participated in our research. We would also like to thank the NDAU academic, clinical, and educational team: Professor Stephanie van Goozen, Dr Steve Eaton, Dr. Chris Hobson, and Dr Rhiannon Slade and Dr Evan Ryan. We would also like to thank the NDAU administrator, Ellie Baker, the undergraduate placement students, Robyn Wright, Shalla Patel, Leilu Suter, Caitlin Daniels, Keera Sevier, Ella Baldry, Sophie Bates, and Madeleine Gay, and NDAU PhD students, Alexandra Kouklaki Ntourou and Jodie King, who assisted with family assessment sessions.

We also owe thanks to our advisory group: Michelle Hall, Amy Shepherd, Joan Hunt, Ludovine Garside, Bobbie-Jo Haarhoff, Tracy Dunning, Penny Hall, Jude Eyre, and Tracey McCarney, who helped the team to navigate challenges across the study and offered support and guidance when it was most needed. A special thanks goes to Daisy Chaudhuri who acted as a consultant on this study and brought her experiences as a foster carer, special guardian, and teacher, to help shape the study and emphasise the importance of the work to families.

CASCADE Infrastructure Partnership

Our expertise brings together an exceptional partnership. CASCADE is the leading centre for evaluative research in children's social care in the UK and sits within the School of Social Sciences (SOCSI), a leading centre of excellence in social sciences and education research with expertise in quantitative methods. The Centre for Trials Research (CTR) is an acknowledged national leader for trials and related methods; the School of Psychology was ranked 2nd for research quality in the most recent Research Excellence Framework and SAIL provides world-class data linkage. Together we believe we can create a step-change in the quality and use of children's social care research that is unparalleled in the UK. Specifically, we can deliver high quality trials and evaluations; link data to understand long-term outcomes and involve service users (our public) in all elements of our research. Our intention is that these three strands will interact to generate an unrivalled quality of research.

Executive summary

Background

This project provided an opportunity to draw on expertise in a multidisciplinary collaboration comprising the Neurodevelopment Assessment Unit (NDAU) at the Cardiff University Centre for Human Developmental Science (CUCHDS; School of Psychology), the Children's Social Care Research and Development Centre (CASCADE) and the Secure Anonymised Information Linkage (SAIL) Databank. This enabled application of methods used with adopted children and their families, children in care, and families in the general population to address the study aims.

The study consisted of two workstreams: Work Package 1 (WP1), focused at national level on understanding characteristics and care pathways of all children under Special Guardianship Orders (SGOs) in Wales, through public and private entry routes (Warner et al., 2026); and Work Package 2 (WP2), focused on characterising strengths and support needs of a sample of families.

The overarching research question was: What are the characteristics and support needs of carers and children with Special Guardianship Orders?

This report focuses on Work Package 2 which aimed to build an understanding of potential strengths and support needs in a sample of children by assessing domains of psychological functioning and mental health.

Methods

This study employed a cross-sectional design to characterise variability in young children's mental health and cognitive and social functioning using a dimensional, transdiagnostic framework. Data were collected through a combination of direct child assessments, carer and teacher questionnaires, and in-depth carer interviews. Ethical approval was granted by the Cardiff University School of Psychology Research Ethics Committee. Informed consent was obtained from carers, and children provided verbal assent prior to participation. Data were anonymised for analysis, and participation was voluntary, with families able to withdraw at any time.

The research was conducted within the Neurodevelopment Assessment Unit (NDAU) at Cardiff University, an innovative, child-centred service designed to assess children aged 4–7 years who experience social, emotional, and/or cognitive difficulties but do not have a formal diagnosis of a mental health or neurodevelopmental condition. The NDAU adopts a Research Domain Criteria (RDoC) framework approach (National Institute of Mental National Institute of Mental Health, 2025), enabling dimensional assessment of functioning across Cognitive Systems (e.g., language, memory, attention) and Systems for Social Processes (e.g., emotion recognition, understanding mental states). In this study, education practitioners (e.g., teachers, ALNCOs/SENCos) completed referrals for children with an SGO/living long term with a kinship carer. All children were eligible to attend NDAU regardless of whether they had a diagnosis of a mental health and/or neurodevelopmental condition, or whether they were experiencing any difficulties at school or home. The study engaged people with lived experience of kinship care and special guardianship and practitioners who work with these families through public involvement methods to shape the study.

A total of 42 children (mean age 6.32 years) participated. Each child attended two assessment sessions, during which they completed well validated, standardised, developmentally appropriate tasks administered by trained researchers. These assessments measured constructs within the Cognitive Systems and Systems for Social Processes domains of the RDoC framework, including verbal and non-verbal reasoning, working memory, inhibitory control, cognitive flexibility, sustained attention, episodic memory, emotion recognition, theory of mind, and self-perception. Carers also completed structured interviews and questionnaires, including the Strengths and Difficulties Questionnaire (SDQ). Teachers also completed the SDQ for children as part of the referral packs for their NDAU assessment sessions.

Following assessment, findings were synthesised into individualised reports for referring practitioners, outlining each child’s strengths and needs alongside tailored recommendations for support from an Educational Psychologist. Data analysis involved descriptive statistics and classification of performance relative to normative benchmarks, as well as exploratory correlations between neuropsychological functioning and mental health indicators.

Key Findings

The findings show that young children in special guardianship or long-term kinship care often face high levels of need across family, mental health, and cognitive, and social domains of functioning. Although the children in this sample came to live with their current carer at an average age of 18 months, they had commonly experienced substantial early adversity before entering care: 59.5% had experienced 4 or more adverse childhood experiences, 26.2% had experienced 7–9. Many families were also living with economic disadvantage, with 50.0% residing in the two most deprived neighbourhood quintiles according to the Index of Multiple Deprivation (IMD/WIMD) and 73.8% reporting household incomes below the national average.

Mental health difficulties were markedly elevated. Carers reported that 61.9% of children had high or very high total difficulties on the Strengths and Difficulties Questionnaire, while teachers reported 50.0%. In the general population, the figure is around 8%. Hyperactivity and conduct problems were especially prominent: carers rated 59.5% of children in the very high range for hyperactivity and 64.3% in the high or very high range for conduct problems.

Neuropsychological assessment showed that in the Cognitive Systems domain, 88.1% of children scored below age expectations for sustained attention, while 34.2% scored below average on inhibition, 27.0% on cognitive flexibility, and 26.2% on verbal working memory. In the Social Processes domain, 78.6% scored below average in recognising fearful expressions, 45.2% for sad expressions, 35.7% for angry expressions, and 26.2% showed below average understanding of mental states. Children's performance in assessments within Cognitive Systems and Systems for Social Processes domains were associated with carer- and teacher-reported child mental health difficulties.

Overall, the findings highlight the need for early, comprehensive assessment and targeted support, even where children have not been identified as in need of additional support.

Key Recommendations

Based on the findings from Work Package 2, the following recommendations are made to inform policy, practice, and future service development for children in special guardianship and kinship care.

1. Strengthen ongoing identification and support for children's needs

Develop school-based systems that enable continuous identification of needs and timely support for children in special guardianship and kinship care. This should include routine monitoring at key developmental and educational transition points, and flexible access to support when concerns emerge, with clearer pathways to more detailed assessment and targeted intervention when required.

2. Expand access to evidence-informed, low-intensity support strategies

Provide school staff and carers with easy to implement support strategies to integrate into daily activities. These may focus on supporting children's cognitive and social difficulties, including attention, working memory, and executive functioning, as well as emotion recognition and understanding mental states.

3. Strengthen multi-agency collaboration around the child

Promote coordinated working between education, social care, and health professionals, alongside carers, even once a legal permanency order is in place. Teachers should play a central role in early identification of children’s difficulties, with coordinated planning to enable prompt, targeted support.

4. Provide greater financial and practical support for special guardians and kinship carers

Recognise that many special guardianship and kinship households experience significant financial strain and deprivation, and that children in their care have often experienced early adversity and may present with complex needs, including elevated mental health difficulties even at a young age. Improve access to financial and practical support for special guardians and kinship carers, including specific financial options for therapeutic support akin to the Adoption and Special Guardianship Support Fund in England, to better equip them to respond to these needs and support the stability, wellbeing, and day-to-day life of the family. This should include access to evidence-based therapeutic support.

5. Invest in and increase availability of targeted interventions for transdiagnostic needs

Invest in the development, evaluation, and implementation of scalable, targeted interventions that address specific domains of difficulty experienced by young children in special guardianship and kinship care.

6. Invest in longitudinal research and evaluation of support pathways

Invest in longitudinal research that tracks children in special guardianship and kinship care across key developmental and educational transition points, to inform a stronger evidence base on developmental outcomes and the effectiveness of services and interventions over time.

1. Introduction

1.1 Background

When children are unable to live with their parents, a range of alternative care arrangements may be considered. In the UK, where social services are involved - either through the removal of a child or where a child is voluntarily accommodated - there is a statutory duty to prioritise placement within the child's existing family or social network before considering non-relative foster care or residential care (Acts of the National Assembly for Wales, 2014). This reflects a broader policy emphasis on maintaining children's relationships and sense of continuity wherever possible.

Such arrangements may include children living with relatives or family friends who are approved as 'connected persons' foster carers (commonly referred to as kinship foster carers). In some cases, these arrangements become more permanent through the granting of a Special Guardianship Order (SGO), a legal order designed to provide long-term stability for children outside of parental care.

SGOs were introduced as a permanency option similar to adoption, but without severing the legal relationship between children and their birth parents. They are typically granted to individuals who have a pre-existing relationship with the child, such as relatives or family friends, although they may also be made in favour of former foster carers who did not previously know the child but are able to offer a permanent home. SGOs can be granted when a care order is discharged, allowing a child to leave the care system and removing the local authority's parental responsibility. However, they may also be made outside of care proceedings. These are typically referred to as 'private law' SGOs, where the local authority is not the applicant, although it still plays a role in assessing the suitability of the arrangement for the court.

The use of kinship care within child welfare has increased over the last decade. In Wales, for example, 34% of children in foster care were living with kinship carers rather than non-relative foster carers in 2024 (CoramBaaf, 2024). Alongside this, the use of SGOs as a route out of care has also grown. Publicly available data indicate that in 2024, more children in Wales left care under an SGO (*n*=295) than through adoption (*n*=254) (Welsh Government, 2025), highlighting the increasing importance of SGOs as a permanency option for children in care.

1.2 Children's Strengths and Support Needs

Existing evidence suggests that special guardianship can provide children with an important route to permanence, stability and continuity of family relationships when they are unable to remain with their parents (Harwin & Simmonds, 2020; Selwyn & Masson, 2014). However, the literature also highlights that permanence does not remove the effects of earlier adversity or eliminate the need for ongoing support. Children living under SGOs and in kinship care are consistently described as experiencing elevated levels of emotional, behavioural, developmental and educational need, while carers often face considerable financial, practical, and relational pressures in sustaining placements over time.

One of the most recent and substantial contribution to this evidence base is the Family Routes study, commissioned by the Department for Education (Ecorys UK & Rees Centre, 2026; Hamilton & Blades, 2025). Drawing on interviews with young people aged 12–25 and their families, the report found that many special guardianship families were contending with emotional and behavioural difficulties, neurodevelopmental needs, school disruption, stigma, identity-related challenges, and barriers to accessing mental health and therapeutic services. Outcomes were best where young people experienced stable and trusting family relationships, supportive school environments, and timely access to practical and emotional support.

However, many families described difficulty accessing help, confusion about available entitlements, and support that was delayed, fragmented, or crisis led. The report concluded that legal permanence alone does not guarantee wellbeing; rather, outcomes depend on the quality, accessibility, and continuity of support available throughout childhood and adolescence (Ecorys UK & Rees Centre, 2026). Another study of 450 English and Welsh care experienced young people (the MRC funded ReThink study) also found that the majority of young people surveyed had high mental health symptoms (e.g., posttraumatic stress, depression and/or anxiety symptoms) (Carter et al., 2025), while interviews revealed that professionals’ understanding of statutory duties and individual entitlements for care-experienced young people is poor with widespread myths and misconceptions about mental health needs (Carter et al., under review).

Thes messages are further reinforced by a Nuffield Foundation funded study undertaken by the University of Birmingham and Oxford Brookes University (Garstang et al., 2025). Examining adoptive and special guardianship families where safeguarding concerns had arisen, the researchers found that support needs often intensified at key developmental stages, particularly during adolescence and school transitions. The authors argued that special guardians should receive stronger preparation before an order is granted, followed by regular review points, trauma-informed support, and timely access to specialist therapeutic services when required. Their findings challenge assumptions that permanence equates to reduced service need and instead positions SGOs as arrangements requiring ongoing, responsive intervention.

The international evidence base also points to substantial developmental need among children in kinship care. In a Canadian study, Dorval et al. (2020) identified distinct profiles of children and caregivers within kinship arrangements, demonstrating that children in kinship care are not a homogeneous group and often present with differing combinations of behavioural, emotional, and developmental needs. The authors emphasised that support responses should be individualised rather than based on a one-size-fits-all model. Their findings are particularly relevant to special guardianship, where children may have highly varied pre-care experiences, strengths, and vulnerabilities.

Educational need is another prominent theme in the recent literature. Administrative data analysis by Foundations found that around 79% of children who left care to a kinship special guardian in England had received special educational needs (SEN) provision, a rate substantially higher than in the wider pupil population (Foundations, 2024). Social, emotional, and mental health needs were common. Importantly, the same study found that many children had experienced relatively few placement disruptions prior to the order, suggesting that early permanence does not necessarily correspond with lower levels of need. In a longitudinal secondary analysis of national administrative data (specifically the National Pupil Database and Children Looked After data) of 4720 children in care, 67% had SEN provision and almost half (46%) had an Education, Health and Care Plan (EHCP) (Park et al., 2024). Collectively, these findings indicate that schools are a critical setting for intervention and that children under SGOs may require sustained educational support even where they are settled and the plan is for them to remain long term with their carers.

Recent qualitative evidence also highlights the role of school environments in shaping outcomes for children in kinship care. Based on interviews with education professionals, Clements and Birch (2025) found that schools can function as both sites of risk and sources of resilience. Participants emphasised the importance of stable relationships with trusted adults, trauma-informed practice, strong home-school communication, flexible responses to behaviour, and recognition of children's care experiences. However, they also identified barriers including limited staff understanding of kinship care, inconsistent support, and systems that interpret distress primarily through behaviour management frameworks. Although based on a small professional sample, the study underlines the importance of school-based relational support for children in kinship and special guardianship families.

The wider experiences of kinship families are captured in recent reports by Kinship. Their national surveys describe many carers as managing financial hardship, poor physical or mental health, and limited formal support while raising children with complex needs (Kinship, 2024a, 2024b). In one report, 48% of kinship carers said children's early adverse experiences had negatively affected their ability to cope in education, 51% reported ongoing mental health difficulties, yet only 43% of those children had accessed emotional or therapeutic support (Kinship, 2024b). Such pressures are significant because caregiver wellbeing is closely linked to placement stability and children's developmental outcomes. Where carers are financially insecure or socially isolated, their capacity to respond to children's needs may be reduced. This suggests that support for special guardianship and kinship families should adopt a whole-family perspective rather than focusing solely on the child.

Earlier longitudinal research also found that emotional and behavioural difficulties were important predictors of family integration, child wellbeing and progress in key life domains including education, personal and social development. Wade and colleagues reported that almost one quarter of children under SGOs scored above the threshold for clinically significant difficulties on the Strengths and Difficulties Questionnaire, around two and a half times higher than the general child population (Wade et al., 2014). These difficulties may reflect challenges across multiple domains of neurodevelopmental functioning, which can continue to shape children's adjustment after placement.

1.3 A Transdiagnostic Approach

The likely complexity and heterogeneity of the social, emotional, and behavioural needs of children in kinship and special guardianship care present challenges for identification and provision of appropriate support. Some children may experience emerging or subthreshold mental health difficulties and/or signs of neurodevelopmental differences, potentially facing daily challenges without meeting criteria for specialist services (Thapar et al., 2017). Unmet support needs in the early years may further increase vulnerability, emphasising the need for early identification and a more nuanced understanding of children's difficulties.

These challenges underscore the importance of understanding children in relation to their individual profiles of strengths and needs. Categorical diagnostic systems often overemphasise similarities within and distinctiveness between diagnostic groups, while arbitrary thresholds can mean that individuals experiencing milder, but nonetheless impactful difficulties, can face barriers to support (Astle et al., 2022). There is a growing shift towards transdiagnostic and dimensional approaches as alternatives to traditional diagnostic systems, such as the dimensional systems neuroscience perspective developed by the NIMH Research Domain Criteria (RDoC) (Cuthbert, 2022; Insel et al., 2010; National Institute of Mental Health, 2025).

In this research framework, mental health and neurodevelopment is viewed in the context of multiple, overlapping domains of neurobehavioral functioning. Moreover, within a transdiagnostic approach, recruitment of samples for research can be based on functionally defined needs (i.e., via referral from education practitioners) rather than on more stringent approaches to recruitment by diagnosis (Astle et al., 2022). Relaxing recruitment criteria can facilitate the study of the full range of individual variability and heterogeneity of children who fall below a diagnostic threshold and/or have complex profiles or difficulties (Astle et al., 2022; Coghill & Sonuga-Barke, 2012). Dimensional approaches therefore have the potential to increase understanding of domains of functioning that underpin children's difficulties that can be targeted in intervention and prevention strategies (Cuthbert, 2022; Michelini et al., 2021).

1.4 Dimensional Research in Care-experienced Groups

Within dimensional frameworks, the Cognitive Systems domain, encompassing executive functions such as working memory, inhibition, and cognitive flexibility, has received particular attention due to its relevance for children's psychosocial and behavioural functioning (Harden et al., 2020). Research has shown that cognitive profiles often span traditional diagnostic categories and are differentially associated with mental health outcomes (Anning et al., 2023; Astle et al., 2019; Mareva et al., 2024). However, the neurodevelopmental and mental health profiles children living in kinship care or under Special Guardianship Orders remain poorly understood. Insights can instead be drawn from studies of children adopted from public care in the UK.

Research considering domestically adopted children with histories of neglect and placement instability have demonstrated difficulties in inhibitory control (Lewis et al., 2007; Mueller et al., 2012). In another study focusing on 30 primary school aged children's executive functioning skills, Wretham and Woolgar (2017) found that adoptees had lower scores compared to children of a similar age in the general population on two out of three computerised executive functioning CANTAB tasks, as well as having elevated parent-reported executive functioning difficulties on the Behavior Rating Inventory of Executive Functioning (BRIEF) measure. Paine, Burley, et al. (2021) investigated the neurocognitive profiles of 45 domestically adopted children aged 4-8 and found that over a fifth scored more than 1 standard deviation below age expectations on five out of six neurocognitive tasks. Lower performance in non-verbal reasoning was associated with higher parent- and teacher-reported behavioural difficulties, and lower performance on cognitive flexibility and inhibitory control tasks were linked to increased parent-reported behavioural problems. Emotional difficulties, as reported by parents and teachers, were associated with children's verbal reasoning abilities.

The Systems for Social Processes domain has received comparatively little attention in studies that have used dimensional approaches to understanding children's strengths and support needs (Perlis, 2025). However, core constructs within this domain, such as perceiving and recognising other's social cues, self-perception, and mentalising, appear to cut across mental health and neurodevelopmental conditions (Collin et al., 2013; Crisci et al., 2025; Devine et al., 2025). In one example focusing on adopted children's ability to recognise and discriminate between facial expressions, Paine et al. (2023) found that adopted children showed significantly worse facial emotion discrimination accuracy of sad and angry faces than school-referred non-adopted children. Adoptees' discrimination accuracy of angry and scared faces was associated with parent and teacher reports of children's emotional difficulties. This is potentially important because difficulties processing emotional cues may lead to a cycle of unsuccessful social interactions which may result in social isolation and evoke negative responses in the child, such as anxiety and loneliness (Fine et al., 2003; Trentacosta & Fine, 2010). Evidence also indicates that emotion-based interventions can enhance children's ability to recognise emotional expressions and reduce emotional and behavioural difficulties (Wells et al., 2021).

1.5 Summary and Aims of the Research

Taken together, existing research highlights the value of dimensional approaches for capturing variation in functioning across domains of development, particularly for children who present with early emerging difficulties and/or complex, heterogeneous profiles of strengths and support needs. This approach is especially useful for understanding the profiles of care-experienced children, who have overlapping cognitive, social, and emotional needs that may not be fully captured by traditional diagnostic frameworks or an exclusive focus within a particular domain of development.

For practitioners, understanding transdiagnostic dimensions and ways they can integrate low-level interventions can empower them to provide individualised support and create classroom environments where children can flourish. Their understanding of specific abilities and how they can be supported may well benefit more children in the classroom – with and without diagnoses – potentially reducing inequalities where many children may benefit from similar strategies of support (Fletcher-Watson, 2022).

Although the existing literature on care experienced children and young people is invaluable, it often groups together children living in a wide range of care arrangements or focuses predominantly on teens. As a result, there remains a striking lack of evidence specifically addressing the mental health and neurodevelopmental profiles of primary school age children subject to Special Guardianship Orders (SGOs) or those living in kinship care. This knowledge gap severely limits our ability to understand their potentially distinct emerging or established support needs and our confidence to adapt existing gold standard interventions to be appropriately tailored to their circumstances (e.g. age; familial) and experiences.

Our overarching objective with this work package was to profile the strengths and support needs of young children across domains of cognitive, emotional and social functioning to inform practitioners who work with children with SGOs or are in long-term kinship care.

2. Method

2.1. Design

This was a cross-sectional study, collecting a range of individual differences measures of social, emotional, and cognitive functioning alongside carer and teacher reports, and in-depth carer interviews. Cross-sectional designs are often used in dimensional, transdiagnostic research to examine patterns of variability in cognitive and behavioural functioning (Astle et al., 2019; Chawner et al., 2023; Poletti et al., 2018).

2.2. Ethical Considerations and Approval

Ethical permission was granted by the Cardiff University School of Psychology Research Ethics Committee (ethics number: EC.16.10.11.4592GR2A15) on 08/05/2024 and the study was performed in accordance with the ethical standards laid down in the 1964 Declaration of Helsinki and its later amendments.

Written informed consent was obtained from each child’s carer and children provided verbal assent before taking part in the assessment. Carers were sent information sheets prior to their visit to NDAU, and consent was obtained after the research team provided a verbal overview of the study, ensuring that carers had read and understood the materials, had the opportunity to ask questions, and understood that participation was voluntary and could be withdrawn at any time without affecting their legal rights. Carers consented to their child participating in developmental assessments, completion of interviews and questionnaires, access to relevant sections of their child's data by the research team, the child's referrer and relevant authorities, video recording for research, safety, and training purposes, and linking anonymised data to existing datasets for future research. While referrers received summary feedback reports of children's performance on core assessments to guide provision of support at school, all data used for the purposes of this report were anonymised, and participants were aware that the findings of the research would be openly accessible.

2.3 The Neurodevelopment Assessment Unit

This research took place within the Neurodevelopment Assessment Unit (NDAU). The NDAU is an ongoing study at the Cardiff University Centre for Human Developmental Science (CUCHDS), see https://www.youtube.com/watch?v=GIShBHJHtmg. The everyday activities of the NDAU are supported by The Waterloo Foundation (UK) grants awarded to Stephanie H. M. van Goozen, Dale F. Hay, Susan R. Leekam, Anita Thapar and Cerith Waters [grant number 511633] and to Stephanie H. M. van Goozen [grant number 520678].

The NDAU offers a child-centred service designed to address gaps in services frameworks for identification, dimensional assessment, and intervention where children are exhibiting emerging mental health and/or neurodevelopmental differences that are impacting their day-to-day experiences. The NDAU focuses on support for young children (aged 4-7 years) who are identified by education practitioners as experiencing social, emotional, and/or cognitive difficulties, but do not have a diagnosis of mental health or neurodevelopmental condition (Paine et al., under review; Van Goozen et al., 2022).

Since the NDAU opened in October 2017, the team have assessed >1000 children and families. Education practitioners refer children who are experiencing social, emotional, and/or cognitive difficulties in the classroom, but do not have a clinician-provided diagnosis of a mental health or neurodevelopmental condition. The NDAU works within the Research Domain Criteria (RDoC) framework (National Institute of Mental Health, 2025) to explore dimensions of heterogeneity and to profile each individual child's strengths and needs across multiple domains of development. Within a comprehensive battery of well-established and validated assessments, core NDAU assessments were selected to fit with the RDoC Cognitive Systems domain, including constructs such as language, working memory, inhibition and attention, and the Systems for Social Processes domain, including social communication and perception and understanding of the self. While dimensional approaches have predominantly focused on cognitive systems, the inclusion of social processes within the NDAU allows for a more comprehensive characterisation of children's strengths and needs (Paine et al., under review).

Following the family assessment sessions, the assessment team, including a clinical and an educational psychologist, use the core assessments to produce a report for the referring educational practitioner, which includes the child’s strengths and needs, alongside individualised strategies for support. This report helps those who work with the children to understand the nature of their needs and to prioritise support, such as selecting appropriate educational provision and low-level interventions (i.e., games, storybooks, and freely available training) that can be delivered at school or home to support positive development of key skills. The assessment can also inform referral to educational or clinical services.

2.4. Referral to the Neurodevelopment Assessment Unit

Typically, to be eligible to take part in the NDAU, children must be referred by an education practitioner for experiencing emotional, and/or behavioural difficulties, but they must not have a diagnosis of a mental health or neurodevelopmental condition at the time of their referral. In this research, we invited special guardians/kinship carers and their children to take part in assessments regardless of whether they were experiencing difficulties at school. Families and/or education, social work, or clinical practitioners could express their interest in a child in their care taking part by contacting the team directly. To adhere to the NDAU procedure and ethical approval of the study, children required a completed referral from their school Additional Learning Needs Co-ordinator (ALNCo), Special Educational Needs Co-ordinator (SENCo), teacher, or other education practitioner.

Children aged 4-7 were eligible to take part. Children aged 8 years were eligible to attend their NDAU session if they were referred by age 7; in these cases, children were invited to attend NDAU as soon as possible after referral. Children who were undergoing a current Child and Adolescent Mental Health Service (CAMHS) or neurodevelopmental assessment were not eligible to take part, to ensure that information provided to referring teachers in feedback reports did not interfere with ongoing support pathways. Referring education practitioners were asked to confirm that the child would be able to manage the nature of the assessments in NDAU to take part. See Figure 1 for referral pathway for this study.

For this study, we initially invited families with an SGO for an eligible child to take part in the study. However, due to challenges in recruiting appropriate numbers of participants to the study, in September 2025 we opened recruitment criteria to also include children without an SGO who were living long-term with a kinship carer and/or were awaiting an SGO.

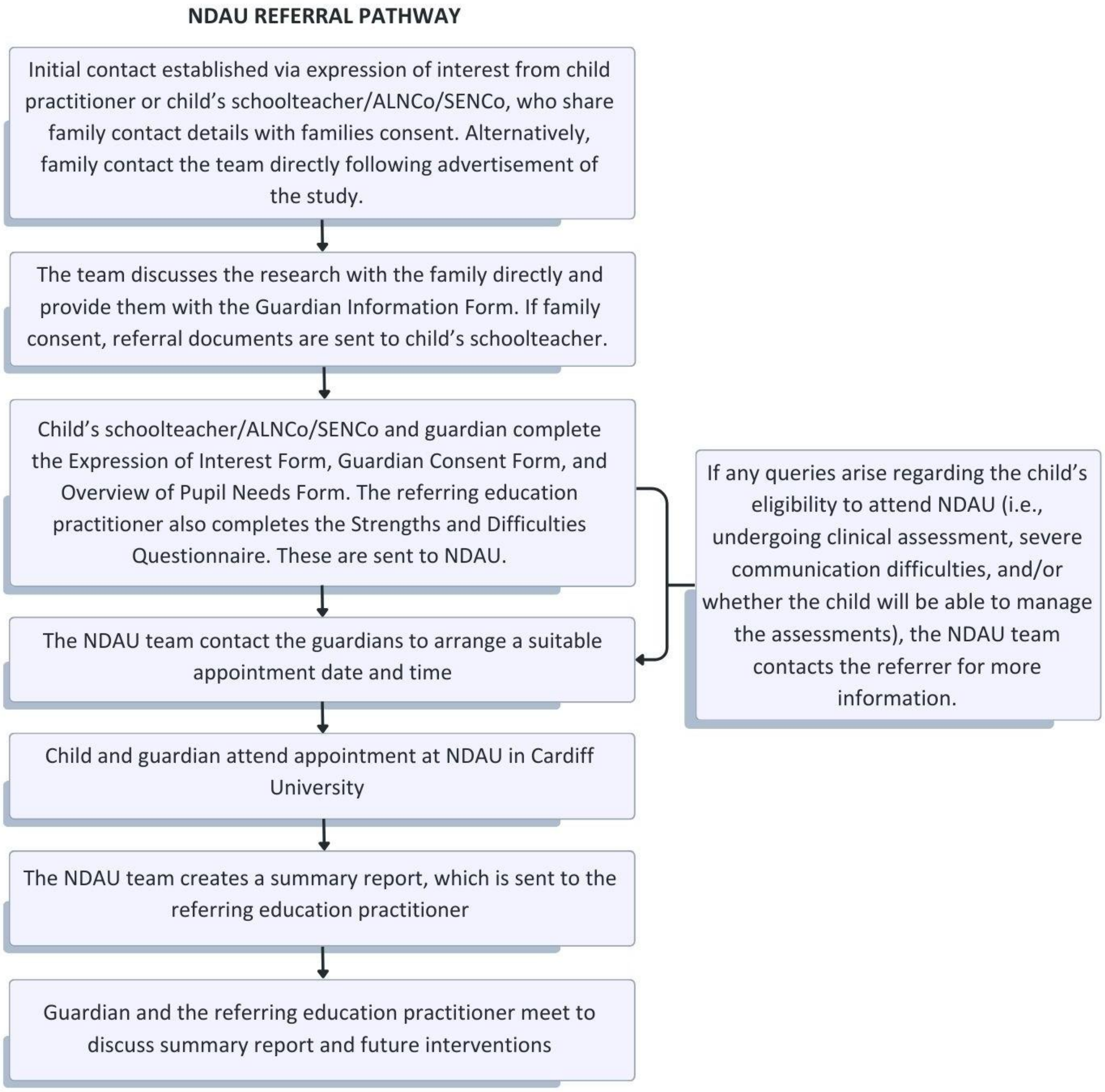


Figure 1. Referral pathway for Neurodevelopment Assessment Unit (NDAU) for Special Guardianship families. *Note.* ALNCo, Additional Learning Needs Co-ordinator; SENCo, Special Educational Needs Co-ordinator. Adapted from (Paine et al., under review).

2.5 Recruitment

Recruitment for this project consisted of various approaches to engage eligible children and their carers.

At the beginning of the project, a number of materials and resources were created to help share information on the project including a study page on the cascade website (https://cascadewales.org/research/special-guardianship-families-in-wales-experiences-and-support-needs-nuffield-foundation/), a video sharing the research and what it would involve, blog posts aimed at teaching professionals, as well as both carer and teacher facing flyers, translated in English and Welsh, which were placed in leisure centres, community centres, and activity centres frequented by families. Mid-way through the project, we also created an online expression of interest form accessible to both interested families and referring professionals, to help streamline the initial contact process for those wishing to engage with the study.

Across the duration of the project, several research adverts were created, including advertisements in the Cardiff and Vale Primary Times Magazine, the School Health Research Network (SHRN) newsletter, and multiple newsletters across Cardiff University research teams. With the assistance of the Welsh Government Policy Manager for Care Experienced Children and Young People, we shared research adverts on the education platforms 'Hwb' and 'Dysg'. Advertising across various platforms meant we were able to target diverse potential referrers including education professionals and families themselves. Social media was utilised throughout the project to help share information. Numerous posts were made across multiple platforms including Twitter, LinkedIn and Viva Exchange, and a Facebook study page was created.

The team attended numerous events and conferences, both in person and online, organised by third sector organisations such as AFKA Cymru and The Fostering Network, to share information directly to kinship carers in attendance. We also attended events hosted by county councils and Welsh Government with the same purpose.

A large portion of our recruitment efforts on this project were focused on reaching and engaging teaching professionals. Multiple mailouts were sent to over 500 schools across South Wales, spanning 10 county boroughs. In addition, emails were sent from the NDAU team to schools and teachers who had previously referred into the NDAU regarding the project. Larger primary schools across these counties were called directly and physical flyers (Figure 2) were sent to schools across South Wales. Meetings were held with teaching professionals including ALNCos and Teaching Advisors to share information on the research and facilitate engagement.

Educational Psychologists (EPs) were contacted as part of our recruitment efforts due to their valuable position of supporting children in schools and being able to identify those who may benefit from the research. Information on the project was forwarded to all Principal EPs across 7 counties in South Wales.

We engaged with numerous social work teams across Wales, liaised regularly with senior social work practitioners, and attended team meetings and events organised by the teams including support sessions when invited. These teams shared information with families they worked with and guided us as to how best to engage families.

In addition to attending events organised by third sector organisations, we liaised regularly with charities such as AFKA Cymru, Kinship and SPACE to help share information on our research.

This is a summary of the teams' recruitment methods. For a more detailed breakdown on the extent of our recruitment efforts, please see the Appendix.

Families with Special Guardianship Orders

Are you a Special Guardian of a child aged 4 to 7?

Would you like to take part in research about the experiences of families with Special Guardianship Orders?

LEARN MORE

We are inviting children aged 4 to 7 and their Special Guardians to the Neurodevelopment Assessment Unit (NDAU) at Cardiff University.

With the Special Guardian's permission, school teachers refer children to NDAU.

Families visit NDAU to take part in interviews and child assessments. Travel expenses will be reimbursed.

School teachers receive a report to help them understand ways to support your child at school.

This research will help us to understand the experiences of Special Guardianship families. We are looking forward to hearing from you!

CONTACT US

Watch our video and email us at:

SGO@cardiff.ac.uk

Teachers of 4-7 year olds

There could be children in your class who live with a Special Guardian rather than their parents.

A special guardian could be a grandparent, close relative, family friend or former foster carer. They have parental responsibility for the child.

These children often experience early years trauma, which can affect their learning and behaviour.

Would you like to learn more about how you can support these children?

LEARN MORE

We are inviting any child aged 4 to 7 with an SGO and their guardians to the Neurodevelopment Assessment Unit (NDAU) at Cardiff University.

With the Special Guardian's permission, school teachers refer children to NDAU.

Families visit NDAU to take part in interviews and child assessments. Travel expenses will be reimbursed.

School teachers receive a report written by an Ed Psych to help understand ways to support the child at school.

This research will help us understand how teachers can better support children with a Special Guardianship Order to thrive in school. We look forward to hearing from you!

TO MAKE A REFERRAL

EMAIL:

SGO@CARDIFF.AC.UK

Watch our video

Figure 2 Research Flyers aimed at families and teaching professionals (flyers were also available in Welsh).

2.6 Participants

For this study, *N* = 42 children were referred between July 2023-November 2025. The mean age was 6.32 years (*SD* = 0.90, range 4.50 – 8.00 years); 26 children (61.9%) were male, and 16 (38.1%) were female. Most children 35 (83.3%) were White British. A full description of the sample is presented in the Results.

2.7 Procedure

Children attended the NDAU (Figure 3) with their guardian for two sessions of approximately three hours each, typically scheduled around one week apart. For families living at a greater distance, a full-day assessment was offered as an alternative. During the sessions, children completed a range of assessments administered by a trained researcher, including computer- and tablet-based tasks as well as activities involving books and toys (see Figures 4, 5 and 6).

Figure 3. The Neurodevelopment Assessment Unit at Cardiff University[1].

Figure 4. Children complete a battery of assessments in the Neurodevelopment Assessment Unit with a trained researcher.

---

[1] Note all images included in this report are illustrative and do not feature study participants.

Figure 5. Children participate in free play in a sensory room at the end of the assessment.

Figure 6. Children's sessions in the Neurodevelopment Assessment Unit were recorded using a suite of cameras in the testing room, with notes on child performance recorded by a research assistant.

Assessments included a battery of well-established tasks used internationally in research and clinical practice targeting underlying dimensions of functioning, based on the Research Domain Criteria (RDoC) approach; a research framework to investigate mental disorders by measuring domains of functioning (emotion, cognition, motivation, and social behaviour) (https://www.nimh.nih.gov/research/research-funded-by-nimh/rdoc/index.shtml). Concurrently, carers participated in a structured interview and completed questionnaires in a separate room.

To facilitate participation, families were reimbursed for travel and subsistence expenses, and where an overnight stay was required, hotel accommodation was arranged. Children were also presented with a small prize bag and a certificate in recognition of their contribution to the study.

Within six weeks of the final visit, a comprehensive written report was provided to the referring education practitioner. This report summarised the child's areas of relative strength and need, informed by performance across a selection of assessments. Table 1 outlines the measures included in the feedback report relating to the Cognitive Systems and Social Processes domains of the RDoC framework. The report additionally included individualised recommendations and suggested targeted, evidence-based interventions, prepared by an Educational Psychologist, to support implementation within the school setting.

Table 1. Overview of RDoC dimensions assessed in Neurodevelopment Assessment Unit in the child assessment battery included in reports returned to referring education practitioners.

Dimension	Construct/Sub-construct	Measure
Cognitive Systems	Receptive language	British Picture Vocabulary Scale (BPVS) (Dunn & Dunn, 2009)
	Verbal reasoning	WPPSI-IV / WASI-II Similarities Task (Wechsler 2012 / Wechsler, 2011)
	Non-verbal reasoning	WPPSI-IV / WASI-II Block Design Task (Wechsler, 2012 / Wechsler, 2011)
	Inhibition	NIH Toolbox: Flanker (Toolbox Assessments Inc, 2024)
	Cognitive flexibility	NIH Toolbox: Dimensional Change Card Sort(Toolbox Assessments Inc, 2024)
	Verbal working memory	Automated Working Memory Assessment (AWMA): Backwards Digit Recall(Alloway, 2007)
	Visuospatial episodic memory	NIH Toolbox: Picture Sequence Memory(Toolbox Assessments Inc, 2024)
	Sustained attention	Amsterdam Neuropsychological Tasks (ANT): Pursuit(De Sonneville, 1999)
Social Processes	Facial emotion recognition	Facial Emotion Recognition (FER): happy, sad, scared, angry, neutral(Burley et al., 2022)
	Understanding mental states	False belief battery(Perner & Wimmer, 1985; Wellman & Liu, 2004; Wimmer & Perner, 1983): unexpected contents, change of location, second-order false belief, belief-emotion.
	Self-Perception	Pictorial Scale of Perceived Competence and Social Acceptance for Young Children (PSPCSAYC)(Harter & Pike, 1984): cognitive and physical competence, peer acceptance

Note. BPVS, British Picture Vocabulary Scale; WPPSI, Wechsler Preschool and Primary Scale of Intelligence; WASI, Wechsler Abbreviated Scale of Intelligence; DCCS, Dimensional Change Card Sort; PSM, Picture Sequence Memory; AWMA, Automated Working Memory Assessment; ANT, Amsterdam Neuropsychological Tasks; FER, Facial Emotion Recognition.

2.8 Measures

Strengths and Difficulties Questionnaire. Carers and teachers completed the Strengths and Difficulties Questionnaire (Goodman, 1997), a widely used and well-validated (Goodman et al., 2000) 25-item questionnaire used to screen for mental health difficulties in children aged 3-16 years. We profiled children based on carer and teacher ratings of child behaviour over the last 6 months on all subscales and total difficulties. For comparison with population norms, children were characterised according to their scores on the emotional symptoms, peer problems, conduct problems, hyperactivity/inattention, and prosocial behaviour subscales. On each difficulties subscale (maximum score = 10), higher scores indicate greater levels of difficulty, whereas higher scores on the prosocial subscale reflect relative strengths in prosocial functioning. Internal consistency was acceptable to good for both carer ($\alpha = .70–.87$) and teacher reports ($\alpha = .65–.81$).

Receptive language. Children’s receptive vocabulary was assessed using the British Picture Vocabulary Scale (BPVS) (Dunn & Dunn, 2009). On each trial, children were shown four images while the researcher read aloud a target word; they were required to select the picture corresponding to the word’s meaning. Two practice trials were administered prior to the test trials, with feedback provided where necessary. Administration was discontinued once the child exceeded the standardised error threshold specified in the test manual.

Verbal reasoning. The Similarities subtests on the Wechsler Preschool and Primary Scale of Intelligence – Fourth Edition (WPPSI-IV) (Wechsler, 2012) were used to assess verbal comprehension and reasoning in children aged 4 – 7 years and 7 months. Children older than this completed the same subtest on the Wechsler Abbreviated Scale of Intelligence – Second Edition (WASI-II) (Wechsler, 2011). In this task, children are asked to describe how two objects, items or concepts are alike, providing a measure of verbal comprehension, abstract thinking, and conceptual reasoning. Scores for each item range from 0 to 2, 2 being the best possible answer. The test manual provides specific and well-defined potential response examples for each score. The task is terminated when the child received a score of 0 on 3 continuous items. Raw scores were converted to age-standardised scaled scores in accordance with the respective test manuals.

Non-verbal reasoning. The Block Design subtests on the WPPSI and the WASI were used to assess non-verbal reasoning. This task involves children recreating a geometric pattern from a 2D image using several coloured cube shaped blocks, increasing in difficulty as the task progresses. This task provides a measure of visuospatial processing and non-verbal reasoning. Scores for each item are 0 or 2, 2 being the correct pattern shown; early items that allow for 2 trials can also have a possible score of 1 (pattern correct on second trial). The task is terminated when the child receives a score of 0 on 2 continuous items. Raw scores were converted to age-standardised scaled scores according to the respective test manuals.

Inhibitory control. Children completed the Flanker Inhibitory Control and Attention Test from the NIH Toolbox (Toolbox Assessments Inc, 2024), administered on a computer tablet. In this task, participants were required to indicate the direction of a central target stimulus while suppressing attention to adjacent flanking stimuli. For children aged 4–7 years, stimuli were presented as fish, whereas 8-year-olds completed the task using arrow stimuli. Trials were either congruent, in which the target and flanking stimuli faced the same direction, or incongruent, in which the target faced the opposite direction to the flankers. Instructions were delivered verbally by the experimenter and supported by practice trials to ensure task comprehension. Children aged 4–7 years initially completed 20 fish trials; those achieving an accuracy rate of at least 90% proceeded to an additional 20 trials featuring arrow stimuli. Eight-year-olds completed 20 arrow trials only. Standardised scores were derived using a two-vector scoring algorithm that integrates both accuracy and reaction time into the overall performance metric.

Cognitive flexibility. Cognitive flexibility was assessed using the Dimensional Change Card Sort Test (DCCS) from the NIH Toolbox (Toolbox Assessments Inc, 2024). In this task, children were asked to sort bivalent stimuli (e.g., blue trucks, yellow balls) by matching them to one of two target images displayed on a computer tablet. On each trial, an audio cue instructed the child to sort according to either “colour” or “shape.” The task included switch trials designed to assess set-shifting ability. For example, after sorting by one dimension (e.g., shape) across several consecutive trials, children were required to switch to the alternative dimension (e.g., colour) for a single trial, before reverting to the original sorting rule on the subsequent trial. As with the Flanker task, standardised scores were calculated using a two-vector scoring algorithm that integrates both accuracy and reaction time into the overall performance score.

Episodic memory. Episodic memory was assessed using the Picture Sequence Memory Test (PSMT) from the NIH Toolbox (Toolbox Assessments Inc, 2024). In this task, children viewed a series of images presented sequentially on a computer tablet (ranging from 6 to 18 pictures, depending on age), each depicting everyday activities accompanied by an audio description (e.g., “Fly a kite,” “Play in the sand”). Following presentation of the full sequence, children were shown all images simultaneously and were instructed to reconstruct the original order by dragging and dropping the pictures into the correct sequence. Standardised scores were derived from performance across two trials and were calculated based on the number of correctly identified adjacent picture pairs.

Verbal working memory. The Backward Digit Recall subtest from the Automated Working Memory Assessment (Alloway, 2007) was used to assess verbal working memory. In this task, children listened to sequences of spoken digits and were required to repeat each sequence in reverse order. Span length increased automatically when a child achieved four or more correct responses within a block, up to a maximum sequence length of nine digits. Administration was discontinued once the child made three or more errors within a block. Raw scores were converted to standardised scores for analysis.

Sustained attention. The Pursuit task from the Amsterdam Neuropsychological Tasks (ANT) (De Sonneville, 1999, 2005; De Sonneville, 2025) was used to assess sustained attention. During this task, children used a computer mouse with their dominant hand to track a target stimulus (a green star) that moved unpredictably across the screen for five minutes. Performance was indexed by calculating the mean distance (in millimetres) between the cursor and the moving target for each one-minute segment. Overall accuracy was derived as the average distance across the five one-minute intervals, with smaller distances reflecting more accurate tracking.

Facial emotion recognition. Children's emotion recognition was assessed using the Facial Emotion Recognition task (FER) (Burley et al., 2022), see Figure 7. Children were presented with 40 faces depicting happy, sad, fearful, angry, and neutral expressions from the Radboud Faces Database (Langner et al., 2010). Each facial expression was presented on a laptop for three seconds, the emotion category labels appeared in text on the screen, and the child was asked to identify the facial expression verbally. The presentation order of the facial expressions was pseudo-randomised across two task versions. Recognition accuracy was determined as a percentage of the number of correct responses for each facial expression.

Figure 7. Child completing Facial Emotion Recognition (FER) task in NDAU.

Understanding Mental States. Children's understanding of mental states was assessed using four false belief tasks which included three cognitive tasks and one affective task (Howe-Davies et al., 2023). Children completed an adaptation of the unexpected contents, a task (Wellman & Liu, 2004) version of the classic change of location false belief task (Wimmer & Perner, 1983), an affective false belief task, the belief-emotion task (Wellman & Liu, 2004), and an adapted version of the second-order false belief task (Paine et al., 2019; Perner & Wimmer, 1985). Children were coded as successful on each task if they provided correct responses to the test question and all control questions (see Figures 8 to 11 for task descriptions, questions, and example correct answers).

	This is Max, This is Sally. Which one is Max? And which one is Sally? Sally goes out to play. This is a basket and this is a box. Max has a football. He puts his football in the basket. Max goes out for a walk. Sally comes back from playing outside. Sally takes the football out of the basket and puts it in the box. She then goes back outside. Now Max comes back. He wants to play with his football.
Story questions and example correct answers	
Belief. Where will max look for his football? (if needed, prompt) In the basket or in the box?	The basket
Comprehension. Where is the ball really?	In the box.
Memory. Where did Max put the ball in the beginning?	In the basket.

Figure 8. Change of location task.

	Here's a Smarties tube. What do you think is inside the Smarties tube? Let's see... there's really pens inside! Okay, what is in the Smarties tube? While we've been talking about this, Tiger has been down here asleep. He hasn't seen what is inside this tube. Now here comes Tiger.
Story questions and example correct answers	
Belief. What does Tiger think is in the tube? (if no response after 4 seconds, prompt) Smarties or Pens?	Smarties
Memory. Did Tiger see inside the tube?	No

Figure 9. Unexpected contents task.

	What is your favourite cereal? I know someone who loves Coco Pops! Here is a Coco Pops box and here is teddy. What do you think is inside the Coco Pops box? Teddy says “Oh good, because I love Coco Pops. Coco Pops is my favourite snack. Now I’ll go play.” Let's see, why there are really rocks inside and no Coco Pops! There’s nothing but rocks. Okay what was Teddy’s favourite snack? Teddy has never seen inside this box. Now here comes Teddy. Teddy’s back and it’s snack time. Let’s give teddy the box.
Story questions and example correct answers	
Memory. What was Teddy’s favourite snack?	Coco Pops
Comprehension 1. So, how does Teddy feel when he gets this box? (if no response after 4 seconds, then prompt) Happy or sad?	Happy
Comprehension 2. How does teddy feel after he looks inside the box?	Sad

Figure 10. Belief-emotion task.

	It is almost bedtime. Nick has had his special teddy for a very long time. He likes to have it nearby when he goes to sleep. Nick puts the teddy under the duvet on the bed. Mum doll comes in and asks Nick to come brush his teeth. Alex sees Nick leave and runs to get the teddy to hide it in the cupboard. But Nick comes back, stands in the doorway and sees Alex hide the teddy in the cupboard. He goes away again. Alex goes back to playing. Nick comes back in. “I want my teddy,” he says.
Story questions and example correct answers	
Belief. Where does Alex think Nick will look for the teddy?	The bed.
Justification. Why does Alex think Nick will look for the teddy in the ________?	Because she doesn’t know that Nick knows the teddy is in the cupboard.
Comprehension 1. Does Nick know that the teddy is in the cupboard?	Yes
Comprehension 2. Does Alex know that Nick saw her hide the teddy?	No.
Comprehension 3. Where will Nick look for the teddy?	In the cupboard.

Figure 11. Second-order false belief task. Reproduced with permission from Paine et al., 2019.

Child Self-Perception. Children’s beliefs about their own cognitive, physical, and social capabilities were assessed using the Pictorial Scale of Perceived Competence and Social Acceptance for Young Children (PSPCSAYC) (Harter & Pike, 1984). Children completed the preschool/kindergarten version (age 4-5) or the first and second graders version (age 6-8). During the task, children were shown pairs of gender-matched illustrations accompanied by brief descriptions reflecting differing levels of competence or social acceptance (e.g., “This girl doesn’t have very many friends to play with” versus “This girl has lots of friends to play with”). Children first indicated which of the two depicted children they were most like. They were then asked to consider their selected image and specify whether they were “a lot like” or “a little like” that child.

Each subscale score was computed by summing six 1–4 item ratings (range 6–24) and converting to a mean by dividing by the number of items, yielding a mean subscale score ranging from 1–4.

2.9 Data Analysis and Availability

Descriptions of Children's Mental Health and Task Performance

We report descriptive statistics (Means, *SD*s, and ranges) for carer and teacher ratings of children's total SDQ scores and subscales. To aid interpretation of children's SDQ scores, we used the four-band classification system: 'close to average' (representing 80% of the population) 'slightly raised' (10%), 'high' (5%), and 'very high' (5%) (Youth in Mind, 2025). To further contextualise children's scores, carer and teacher reported SDQ total difficulties scores were compared to UK population norms (Meltzer et al., 2003).

Children's performance on Cognitive Systems and Systems for Social Processes assessments was categorised using a 3-band classification of 'below average, average, and above average' alongside means, SDs, and ranges of performance. Categories were derived using population norm data for assessments in the Cognitive Systems domain (Alloway, 2007; De Sonneville, 2005; De Sonneville, 2025; Dunn & Dunn, 2009; Toolbox Assessments Inc, 2024; Wechsler, 2011; Wechsler, 2012) and community data for the Systems for Social Processes domain (Harter & Pike, 1984; Hunnikin et al., 2020; Wellman & Liu, 2004).

For standardised neurocognitive tasks used to assess Cognitive Systems (from the BPVS, WASI/WPPSI, NIH Toolbox, AWMA assessments), categories were based age-corrected standard scores, for which the normative mean is 100 and standard deviation is 15, as such scores of 85 – 115 represented average scores compared to like-aged participants, < 85 represented below average, and > 115 represented above average. For the ANT Pursuit task, children's scores raw test scores were converted to *z*-scores using age-appropriate norm values implemented by the ANT program (De Sonneville, 2025), with scores reversed so that positive *z* scores indicated better performance. To prevent a disproportionate number of outliers, *z* scores of < -4 were capped at -4 (Koekkoek et al., 2008). Scores were then standardised (*M* = 100, *SD* = 15), with higher scores indicating better performance, therefore scores of 85 – 115 represented average scores compared to like-aged participants.

Within the Social Processes domain, children's performance on the FER task was categorised according to data from a comparison sample of children within the 'close to average' range of

SDQ scores, where 66.67 to 80.00% scores indicated the average range (except for happy which ranged from 66.67 to 90.00%). Scores below indicated below average and above indicated above average (Hunnikin et al., 2020, 2022). Performance on the false belief battery was classified according to expected performance for the child's age (Wellman & Liu, 2004). Between age 4 to 6, passing just one or failing all tasks indicated below average performance, passing 2-3 tasks but not passing second order FB indicated average performance, and passing 2-3 tasks and second order FB indicated above average performance. For children aged 7 and above, failing any FB tasks indicated below average performance, and passing all tasks indicated average performance. Finally, children's cognitive, physical, and peer self-perception was classified according to whether children rated themselves as on average much less competent or accepted (scores of 1-2), slightly below to slightly above was classified as average (2.1-3), and scores in the high competence or acceptance range were above average (3-4) (Paine et al., under review).

In exploratory analyses, we tested associations between children's performance on tasks within the Cognitive Systems and Systems for Social Processes domains and children's carer- and teacher- rated mental health (subscales of the SDQ) using Spearman correlations. Statistical significance was defined as $p < .05$.

Data Availability

Data from NDAU used in this study is managed by the research team and can be made available to researchers upon reasonable request and following approval from the Cardiff University School of Psychology Research Ethics Committee and the data owners, compliance with the EU General Data Protection Regulation (GDPR), and with relevant collaboration agreements in place. The consent given by the participants does not permit for storage of data in repositories or journals. Researchers who would like access to data sets should email ndau@cardiff.ac.uk.

2.10 Public Involvement

The need for the study arose from talking to kinship carers, special guardians, and practitioners who work with them. They highlighted in consultation sessions the significant gaps in the current evidence base, and the lack of recognition that carers experienced when trying to get support for the children in their care. The inclusion of those with lived and practice experience of kinship care was essential to ensure that the project was relevant, responsive and viable.

We took a multipronged approach to public involvement. This included:

- Working with a consultant with lived experience throughout the study; particularly, to support recruitment and messaging for SGO families and teachers.
- Including three people with experience of being kinship carers and/or special guardians, and two practitioners on the advisory group to input into key decisions and guide the study.
- Meeting four times during the study with a kinship care research and policy consultation group facilitated by Adoption, Fostering, Kinship Association Cymru (AFKA Cymru) with members with lived experience of being kinship and special guardianship carers.
- Attending events with kinship families and practitioners to talk about the study and hear people’s views and attending social work team meetings to get feedback on the study and explore avenues for recruitment.

Public involvement led to some key changes in the study, including:

- Shaping the recruitment materials and pathways, including adding a short expression of interest form for registering interest;
- Opening eligibility to long term kinship care families and families who were on the pathway to a Special Guardianship Order, as well as families with a Special Guardianship Order in place;
- Ensuring that communications were clear to be inclusive of special guardians who are not kinship carers and those who had a special guardianship order through private law rather than through public law;
- Not focusing on comparing kinship and special guardianship families with children who have been adopted.

Importantly, public involvement with carers and practitioners highlighted the importance of the research, but also a need to conduct further research with older children, which was beyond the scope of this study.

3. Results

3.1. Sample Descriptives

3.1.1. Characterisation of the NDAU Sample: Family and child characteristics

Full demographic details of the sample are presented in Table 2. As eligibility for taking part in the research was opened to children in long-term kinship care without an SGO/families awaiting an SGO, *n* = 34/42 (81.0%) of families in the study had an SGO in place.

Table 2. Sociodemographic characteristics of the sample

	n (%)
Child age	
4-to-5-years	15 (35.7%%)
6-to-7-years	26 (61.9%)
8 years[a]	1 (2.4%)
Child sex	
Female	16 (38.1%)
Male	26 (61.9%)
Child ethnicity[+]	
White British	35 (83.3%)
British/European	2 (4.8%)
British/Caribbean	2 (4.8%)
British/Unknown	3 (7.1%)
Carer relationship to child	
Grandparent	20 (47.6%)
Aunt/Great Aunt	5 (11.9%)
Former Foster Carer	5 (11.9%)
Other Special Guardian	3 (7.1%)
Kinship Carer without an SGO	9 (21.4)
Family relative deprivation	
WIMD quintiles, *n* (%)	
1 - Most deprived (1 – 382)	10 (23.8%)
2 (383 – 764)	11 (26.2%)
3 (765 – 1146)	8 (19.0%)
4 (1147 – 1528)	10 (23.8%)
5 - Least deprived (1529 – 1909)	3 (7.1%)
Accompanying carer education	
No formal qualification	4 (9.5%)
O-Levels or GCSEs	15 (35.7%)
A-Levels	7 (16.7%)
University degree	7 (16.7%)

Higher or postgraduate degree	9 (21.4%)
Household (gross) income	
Up to £19,999	8 (19.0%)
£20,000 – £29,999	6 (14.3%)
£30,000 – £39,999	12 (28.6)
£40,000 – £49,999	5 (11.9%)
£50,000 - £59,999	3 (7.1%)
£60,000 +	8 (19.0%)

Note. One child was 8 years old at the time of assessment, having been referred to NDAU when they were 7 years old. +Child ethnicity was partially unknown where carers were unable to report on the ethnicity of one of the child’s birth parents.

A substantial proportion of participating families (73.8%) had a gross household income of less than £49,999 (median gross annual earnings in 2024 was £55,200 (Office for National Statistics, 2025a). Half of participants (50.0%) resided in the two most deprived quintiles according to the Welsh Index of Multiple Deprivation (WIMD) and Index of Multiple Deprivation (IMD). Most families in the sample (90.5%) had a National Qualifications Framework (NQF) level 2 or above (e.g. GCSE grade 9-4/A*-C, National 5 grade A-C) or above, compared to UK estimates of 84% (Office for National Statistics, 2025b).

3.1.2. The care histories and early experiences of children

Table 3 summarises children’s histories of care, including number of months living with birth parents and on-going family time with birth parents, number of moves between homes and time spent in other care arrangements, and age when the child came to live with their current special guardian or kinship carer. For children with an SGO, we report descriptives for the age at which SGOs were granted and whether the SGO was for a sibling group.

Table 3. Descriptive statistics for children's histories of care.

	n (%)	*M* (*SD*)	Range
Number of months spent with birth parent(s), *M* (*SD*)		15.41 (15.63)	0 - 55
Any contact with birth parents, *n* (%) yes	36 (85.7%)		
Total number of moves between homes before coming to live with carer, *M* (*SD*)		2.57 (1.81)	1 - 8
Age in months when child came to live with carer, *M* (*SD*)		18.45 (14.65)	0.11 – 55.07
Any time spent in another care arrangement, *n* (%) yes	18 (42.9%)		
If yes, time in months in another care arrangement, *M* (*SD*)		8.90 (7.42)	0.50 – 24.00
Count of adverse childhood experiences, *n* (%)			
None	1 (2.4%)		
1 – 3	16 (38.1%)		
4 - 6	14 (33.3%)		
7 - 9	11 (26.2%)		
Age in months when SGO was granted, *M* (*SD*)^		33.49 (17.38)	6 – 71.75
SGO granted for a sibling group, *n* (%) yes^	8 (24.2%)		

Note. ^For *n* = 34 children with an SGO.

Carers also reported on children's experiences of early adversity. These were coded for presence or absence of 10 categories of adverse childhood experiences (ACES) (Felitti et al., 1998) and included abuse (emotional, physical, or sexual), neglect, and household dysfunction (domestic violence, parental separation, substance abuse, alcohol abuse, mental illness, or incarceration). See Figure 12.

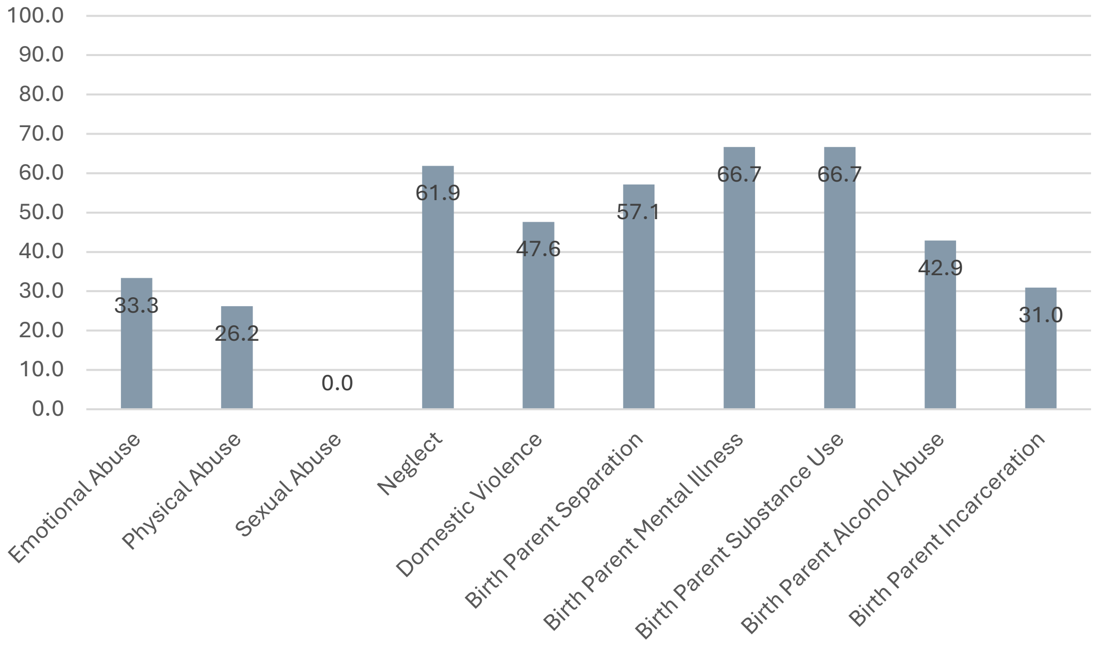


Figure 12. Number of adverse life experiences (ACEs) children experienced in the care of their birth parents.

3.1.3. Developmental, educational, and mental health support

Typically, children referred to the NDAU for assessment are not eligible if they have an existing diagnosis of a mental health or neurodevelopmental condition. In the present study, however, families were invited to participate regardless of diagnosis. The only exception was children currently undergoing a CAMHS or neurodevelopmental assessment, who were excluded to ensure that feedback provided to referring teachers did not interfere with ongoing support or treatment pathways. Table 4 provides a summary of children's histories of additional support. Very few children in the study had a diagnosis of a neurodevelopmental condition (4.8%), and although some children had contact with CAMHS, no children had a diagnosis of a mental health condition.

Table 4. Descriptive statistics for carer-reported support ever received by the child.

	n (%)
Any diagnosis of learning difficulties or a neurodevelopmental condition?	2 (4.8%)
Any contact with Child and Adolescent Mental Health Services (CAMHS)	4 (9.5%)
Child been educationally statemented	7 (16.7%)
Child received additional support at school	26 (61.9%)
Child received speech therapy	11 (26.2%)

Most children in the sample had received at least one form of additional support at school (61.9%). Additional support included 1:1 staff support, reading, motor, sensory, and toileting support, and social and emotional interventions (ELSA, play therapy, Lego therapy, Nurture).

3.1.4. Comparisons between the NDAU Sample and SAIL data

To explore the representativeness of the sample, we compared the *n* = 34 families with an SGO who participated in the NDAU to children under the age of 8 who received an SGO in the Looked After Children Wales (LACW) dataset, which included all records of children who entered care in Wales between 2005 and 2021, see report for Work Package 1 (Warner et al., 2026). Following the removal of duplicate records, a subsample of children who received an SGO before the age of eight was created, consistent with the NDAU focus on children aged 4-7. This resulted in a comparison sample of 1,735 children, enabling some insights into how closely the NDAU SGO cohort reflects the broader population of SGO children across Wales.

The demographic profile of children who received an SGO before the age of eight in the LACW dataset was balanced in terms of sex, with 50.9% male, compared to a greater representation of males with an SGO in the NDAU sample (58.8%). In the LACW sample, a greater proportion were White 92.9%, compared to 88.2% in NDAU.

In this subsample of LACW data, the mean age at care entry was 1.6 (*SD* = 0.9) years, compared to 1.26 (*SD* = 1.31) years for children in the NDAU sample. Age at care exit was 2.9 *(SD* = 2.2) years, compared to children being a mean of 1.43 (*SD* = 1.27) years when they came to live with their special guardian in the NDAU sample. According to LACW data, children who received a SGO before the age of eight typically entered care very early and experienced relatively stable care trajectories prior to the granting of the SGO. Nearly half of children entered care during early infancy, with 45.5% entering at age 0, and a further 14.8% entering at age 1. This was like children with an SGO who visited NDAU, where 58.8% of children entered care in infancy between 0 and 12 months, and a further 8.8% entered care at age 1.

The primary reason for initial care involvement according to this subsample of LACW data was related to concerns about abuse or neglect, which accounted for 75.5% of cases. Although we cannot infer the primary reason for initial care involvement or background factors leading to the child being unable to live with their birth parent for the NDAU sample, we note that abuse or neglect was experienced by a similar proportion of the sample according to carers’ reports of ACEs (79.4%).

Due to the constraints of the information available in the LACW dataset, we also compared the carer and household characteristics of the sample to families with an SGO in the wider SAIL dataset (including the CAFCASS Cymru dataset, WDSD dataset and CRCS/CINW dataset[2]). This includes all families with an SGO, not just those caring for children under 8. Like the NDAU sample, a large proportion lived in the two most deprived areas, with the SAIL sample more likely to live in the two most deprived areas than the NDAU sample (60.9% vs 53%).

3.2. Children's Mental Health Difficulties

Descriptive statistics for carer- and teacher reports of children's SDQ subscale and total scores are in Tables 5 and 6, alongside normative data based on a large representative sample of British 5-to-10-year-olds (Meltzer et al., 2003). Most children were rated by carers (61.9%) and teachers (50.0%) and as having high to very high total difficulties on the SDQ, which compares to 8% and 7.9% in the UK general population respectively. Children were rated as having more difficulties on all subscales (for prosocial behaviour, lower scores), in comparison to general population scores (all $p < .01$, see Tables 5 and 6).

There was low to moderate agreement between carers and teachers in their reports of children's mental health difficulties according to the SDQ, emotional $r(42) = .18$, $p = .26$, conduct $r(42) = .40$, $p = .008$, hyperactivity $r(42) = .47$, $p = .002$, peer difficulties $r(42) = .48$, $p < .001$, and prosocial behaviour $r(42) = .38$, $p = .01$. Although there was modest agreement between raters for total difficulties $r(42) = .47$, $p = .002$, carers rated higher total difficulties scores than teachers $t(41) = 2.86$, $p = .01$.

There were no significant differences detected in carer- or teacher-rated total SDQ difficulties scores between children who had been granted a special guardianship order ($n = 34$, carer $M = 18.82$, $SD = 7.98$, teacher $M = 14.47$, $SD = 7.75$) and children who were in long term kinship care/awaiting an SGO ($n = 8$, carer $M = 16.88$, $SD = 7.38$, teacher $M = 17.25$, $SD = 4.37$), $ps > .09$. There were no gender differences detected in carer (carer scores for n = 16 girls, $M = 18.75$, $SD = 8.36$; $n = 26$ boys, $M = 18.27$, $SD = 7.63$; teacher scores for girls $M = 13.19$, $SD = 8.35$, for boys $M = 16.12$, $SD = 6.43$), $ps > .21$.

---

[2] Children and Family Court Advisory and Support Service (Cafcass) Cymru Dataset, Welsh Demographic Dataset (WDSD), Children in Receipt of Care and Support (CRCS; formally Children in Need Wales, CINW)

Table 5. Descriptive statistics for carer reports of child mental health on the SDQ

	n (%) close to average	n (%) slightly raised	n (%) high	n (%) very high	M (SD)	Population sample M (SD)	Unpaired t-tests comparison
Emotional	24 (57.1)	3 (7.1)	9 (21.4)	6 (14.3)	3.31 (2.43)	1.9 (2.0)	$t(4140.22) = 3.75, p < .001$
Conduct	9 (21.4)	6 (14.3)	14 (33.3)	13 (31.0)	4.50 (2.40)	1.6 (1.7)	$t(4140.22) = 7.82, p < .001$
Hyperactivity	11 (26.2)	3 (7.1)	3 (7.1)	25 (59.5)	7.69 (2.72)	3.6 (2.7)	$t(4140.22) = 9.78, p < .001$
Peer	20 (47.6)	8 (19.0)	5 (11.9)	9 (21.4)	2.95 (2.25)	1.4 (1.7)	$t(4140.22) = 4.46, p < .001$
Total difficulties	13 (31.0)	3 (7.1)	5 (11.9)	21 (50.0)	18.45 (7.82)	8.6 (5.7)	$t(4140.22) = 8.17, p < .001$
	n (%) close to average	n (%) slightly lowered	n (%) low	n (%) very low			
Prosocial	22 (52.4)	3 (7.1)	6 (14.3)	11 (26.2)	6.81 (2.39)	8.6 (1.6)	$t(4140.22) = 4.85, p < .001$

Note. SDQ, Strengths and Difficulties Questionnaire. Population sample based on $N = 5855$ 5-to-10-year-olds (Meltzer, 2000).

Table 6. Descriptive statistics for teacher reports of child mental health on the SDQ

	n (%) close to average	n (%) slightly raised	n (%) high	n (%) very high	M (SD)	Population sample M (SD)	Unpaired t-tests comparison
Emotional	24 (57.1)	7 (16.7)	3 (7.1)	8 (19.0)	2.76 (2.51)	1.5 (1.9)	$t(3394.95) = 3.25, p = .002$
Conduct	20 (47.6)	6 (14.3)	5 (11.9)	11 (26.2)	2.90 (2.53)	0.9 (1.6)	$t(3394.95) = 5.11, p < .001$
Hyperactivity	14 (33.3)	5 (11.9)	7 (16.7)	16 (38.1)	6.74 (3.16)	3.0 (2.8)	$t(3394.95) = 7.64, p < .001$
Peer	25 (59.5)	7 (16.7)	3 (7.1)	7 (16.7)	2.60 (2.42)	1.4 (1.8)	$t(3394.95) = 3.21, p = .003$
Total difficulties	15 (35.7)	6 (14.3)	6 (14.3)	15 (35.7)	15.00 (7.27)	6.7 (5.9)	$t(3394.95) = 7.38, p < .001$
	n (%) close to average	n (%) slightly lowered	n (%) low	n (%) very low			
Prosocial	23 (54.8)	4 (9.5)	4 (9.5)	11 (26.2)	5.83 (2.72)	7.3 (2.4)	$t(3394.95) = 3.49, p = .001$

Note. SDQ, Strengths and Difficulties Questionnaire. Population sample based on $N = 4801$ 5-to-10-year-olds (Meltzer, 2000).

3.3. Children's Neurocognitive Profiles

Cognitive Systems

Descriptive statistics for children's performance on the Cognitive Systems domain are presented in Table 7. Although the sample means for standardised scores for the majority of tasks fell in the average range (except sustained attention), a notable percentage of children scored > 1 *SD* below the expected range for several tasks. Over a quarter of the sample scored below average on inhibition (34.2%), cognitive flexibility (27.0%), and verbal working memory (26.2%). A notable area of difficulty was in sustained attention, where sample means for standardised scores fell below the average range, with 88.1% of children scoring below age-based population norms.

Girls scored lower on sustained attention (M = 46.22, SD = 10.60) than boys (M = 57.22, SD = 20.54), $t(39.12) = 2.28$, $p = 0.03$. There were no significant differences detected according to whether children had a special guardianship order or were in long-term kinship care/awaiting an SGO, all *p*s >.09.

Table 7. Descriptive statistics for Cognitive Systems constructs/sub-constructs for sample. Assessments where > 25% of children scored below average are bold.

		N	*M*	*SD*	Range	*n* (%) Below average	*n* (%) Average	*n* (%) Above average
Cognitive Systems	Receptive language	40	97.70	11.43	74.00 – 122.00	7 (17.5%)	30 (75.0%)	3 (7.5%)
	Verbal reasoning	42	98.63	17.30	55.00 – 130.00	9 (21.4%)	28 (66.7%)	5 (11.9%)
	Non-verbal reasoning	42	94.80	13.67	70.00 – 130.00	5 (11.9%)	31 (73.8%)	6 (14.3%)
	Inhibition	38	89.79	13.02	64.00 – 129.00	**13 (34.2%)**	24 (63.2%)	1 (2.6%)
	Cognitive flexibility	37	96.78	17.19	54.00 – 136.00	**10 (27.0%)**	22 (59.5%)	5 (13.5%)
	Verbal working memory	42	96.45	16.37	62.00 – 126.00	**11 (26.2%)**	28 (66.7%)	3 (7.1%)
	Visuospatial episodic memory	37	98.57	14.53	54.00 – 129.00	5 (13.5%)	29 (78.4%)	3 (8.1%)
	Sustained attention	42	53.03	18.10	40.00 – 103.30	**37 (88.1%)**	5 (11.9%)	0 (0.0%)

Note. Percentages are calculated based on available data for each assessment. Categories were based on: Age-corrected standard scores, for which the normative mean is 100 and standard deviation is 15, therefore scores of 85 – 115 represented average scores compared to like-aged participants.

Systems for Social Processes

Descriptive statistics for children's performance on the Systems for Social Processes domain are presented in Table 8. Sample means were with average range for recognition of happy, sad, angry, and neutral expressions, however, over a third of the sample scored below average for angry and sad expressions. Children in the sample showed notable difficulties recognising fear expressions, with sample means below the average range and 78.6% of children performing below average. Indeed, most children in the sample had difficulty recognising at least one negative facial expression (88.1%). Over a quarter of the sample also showed below average performance in understanding of mental states (i.e., theory of mind tasks) (26.2%). Very few children reported below average perception of their cognitive competence and peer acceptance (both 2.4%). Although most children rated themselves within the average range for self-perception (73.8 – 85.7%), it was notable that more children rated themselves as below average in their physical competence (19.0%).

In terms of differences according to special guardianship status, children in long-term kinship care/awaiting an SGO showed more difficulties in recognising angry expressions (M = 43.75, SD = 35.98) than children with an SGO (M = 78.68, SD = 21.22), *t*(8.18) = 2.64, *p* = 0.02. Children with an SGO scored lower on recognising happy expressions (*M* = 97.06, *SD* = 7.57) than those without (*M* = 100.00, *SD* = 0.00), *t*(33) = 2.26, p = .02, although it is notable that performance in both groups was very high.

In terms of gender differences, girls scored lower than boys in recognising neutral expressions (girls *M* = 76.53, *SD* = 27.72; boys *M* = 89.90, *SD* = 15.01), *t*(40) = 2.03, *p* = .03. Additionally in terms of self-perception, girls rated themselves as more physically competent than boys (girls *M* = 2.74, *SD* = 0.46, boys *M* = 2.83, *SD* = 0.38), *t*(40) = 2.41, *p* = .01, while boys rated themselves as higher in cognitive competence than girls (boys *M* = 2.76, *SD* = 0.38, girls *M* = 2.44, *SD* = 0.26), *t*(40) = 2.96, *p* = .003.

Table 8. Descriptive statistics for Systems for Social Processes dimensional constructs/sub-constructs for sample. Assessments where > 25% of children scored below average are bold.

		N	*M*	*SD*	Range	*n* (%) Below average	*n* (%) Average	*n* (%) Above average
Social Processes	Emotion recognition; happy[1]	42	97.62	6.90	62.50 – 100.00	1 (2.4%)	5 (11.9%)	36 (85.7%)
	Emotion recognition; sad[1]	42	69.05	23.14	0.00 – 100.00	**19 (45.2%)**	9 (21.4%)	14 (33.3%)
	Emotion recognition; fear[1]	42	50.60	26.90	0.00 – 100.00	**33 (78.6%)**	4 (9.5%)	5 (11.9%)
	Emotion recognition; angry[1]	42	72.02	27.86	0.00 – 100.00	**15 (35.7%)**	9 (21.4%)	18 (42.9%)
	Emotion recognition; neutral[1]	42	84.82	21.48	0.00 – 100.00	7 (16.7%)	7 (16.7%)	28 (66.7%)
	Understanding mental states[2]	42	2.93	1.11	0 .00– 4.00	**11 (26.2%)**	20 (47.6%)	11 (26.2%)
	Self-perception; cognitive[3]	42	2.64	0.37	2.00 – 3.83	1 (2.4%)	36 (85.7%)	5 (11.9%)
	Self-perception; physical[3]	42	2.48	0.55	1.00 – 3.50	8 (19.0%)	31 (73.8%)	3 (7.1%)
	Self-perception; peer[3]	42	2.80	0.41	1.83 – 4.00	1 (2.4%)	31 (73.8%)	10 (23.8%)

Note. Percentages are calculated based on available data for each assessment. Categories were based on: [1]Data from a comparison sample (Hunnikin et al., 2020, 2022), where scores of 66.67 to 80.00% indicated the average range (except for happy which ranged from 66.67 to 90.00%); [2]Expected performance for the child's age: 4-6 years passing 2-3 tasks indicated average performance, and 7 years and above, passing all tasks indicated average performance. [3]Scores of 2.1-3 indicating slightly below to slightly above average cognitive and physical competence and peer acceptance indicated the average range.

3.4 Associations between Neurocognitive Profiles and Children’s Mental Health Difficulties

Cognitive Systems

Table 9 shows associations between carer- and teacher-rated mental health difficulties and children’s performance on tasks within the Cognitive Systems domain. It is notable that several correlation effect sizes were not negligible, although did not reach statistical significance. In terms of associations with teacher ratings, total child difficulties were negatively associated with verbal reasoning scores, along with significant associations between child hyperactivity and verbal reasoning. Both teacher ratings of peer difficulties and prosocial behaviour were associated with children’s inhibition scores; peer difficulties were negatively associated with inhibition, and prosocial positively associated with inhibition (all $ps < .05$).

Carer reports of children’s total difficulties were negatively associated with children’s performance on receptive language and verbal reasoning tasks. In terms of subscales of carer reports, conduct and peer difficulties were negatively associated with children’s receptive language, and conduct, emotional, and hyperactivity difficulties were negatively associated with verbal reasoning (all $ps < .05$).

Systems for Social Processes

Table 10 shows associations between carer- and teacher-rated mental health difficulties and children’s performance on tasks within the Systems for Social Processes domain. Again, we note that some associations did not reach significance, but the effect sizes are worthy of note. Teacher reports of children’s strengths and difficulties were associated with children’s performance on facial emotion recognition and theory of mind tasks. Children with higher teacher-reported conduct and hyperactivity difficulties had lower performance on recognising sad expressions, although hyperactivity difficulties were positively associated with accurate recognition of neutral expressions. This may represent accurate performance, or possibly a tendency for a response bias towards “no emotion”. Teacher reports of total difficulties, peer difficulties, and prosocial behaviour were related to children’s performance on the theory of mind tasks, with total and peer difficulties negatively associated, and prosocial behaviour positively associated with performance (all $ps < .05$).

For carer reports, conduct difficulties and peer difficulties were both negatively associated with children’s recognition of happy facial expressions (all $ps < .05$).

Table 9. Spearman correlations between teacher- and carer SDQ ratings and children's performance in the Cognitive Systems domain.

	Teacher Total	Teacher Emotional	Teacher Conduct	Teacher Hyperactivity	Teacher Peer	Teacher Prosocial	Carer Total	Carer Emotional	Carer Conduct	Carer Hyperactivity	Carer Peer	Carer Prosocial
Receptive language	-.21	0.01	-.16	-.30^{+}	-.19	.15	-.31^{+}	-.16	-.39*	-.05	-.36*	.17
Verbal reasoning	-.32*	-.27^{+}	-.11	-.35*	-.21	.15	-.47**	-.44**	-.43**	-.39*	-.30^{+}	.14
Non-verbal reasoning	-.13	-.06	-.06	-.16	-.21	.07	-.11	-.09	-.03	-.11	-.02	.07
Inhibition	-.25	.07	-.17	-.24	-.38*	.38*	-.31^{+}	-.26	-.24	-.28^{+}	-.24	.27^{+}
Cognitive flexibility	-.25	.04	-.06	-.31^{+}	-.31^{+}	.05	-.32^{+}	-.28^{+}	-.17	-.14	-.29^{+}	.21
Verbal working memory	-.24	-.12	-.11	-.12	-.30^{+}	.20	-.27^{+}	-.30^{+}	-.23	-.19	-.14	.06
Visuospatial episodic memory	-.23	-.05	-.16	-.28^{+}	-.25	.17	-.18	-.19	-.32^{+}	-.05	.10	.07
Sustained attention	-.04	.02	-.12	.20	-.30^{+}	.17	-.12	-.13	-.07	-.01	-.07	.04

Note. $+p <.10$; $*p< .05$; $**p < .01$. SDQ, Strengths and Difficulties Questionnaire.

Table 10. Spearman correlations between teacher- and carer SDQ ratings and children's performance in the Systems for Social Processes domain.

	Teacher Total	Teacher Emotional	Teacher Conduct	Teacher Hyperactivity	Teacher Peer	Teacher Prosocial	Carer Total	Carer Emotional	Carer Conduct	Carer Hyperactivity	Carer Peer	Carer Prosocial
Emotion recognition; happy	-.06	-.08	-.03	.05	-.06	.01	-.30+	-.18	-.31*	-.02	-.37*	.24
Emotion recognition; sad	-.22	.15	-.31*	-.33*	-.14	.42**	-.03	.27+	-.09	-.24	-.13	-.003
Emotion recognition; fear	-.16	.11	-.09	-.26+	-.22	.36*	-.17	-.04	-.16	-.09	-.26	.16
Emotion recognition; angry	-.23	-.10	-.11	-.07	-.30+	.31*	-.03	-.01	-.08	.13	-.01	.07
Emotion recognition; neutral	.10	-.12	.25	.35*	-.27+	-.20	-.11	-.20	.01	.02	-.12	.04
Understanding mental states	-.47**	-.29+	-.27+	-.24	-.41**	.35*	-.16	-.10	-.20	.04	-.25	.25
Self-perception; cognitive	.09	.15	-.04	.13	.08	-.05	.21	.18	.19	.20	.12	-.04
Self-perception; physical	-.23	-.21	-.20	-.17	-.12	.08	-.19	-.11	-.18	-.21	-.13	-.06
Self-perception; peer	-.02	-.02	.01	.03	.01	.18	.19	.06	.22	-.02	.16	-.20

Note. +*p* <.10; **p*< .05; ***p* < .01. SDQ, Strengths and Difficulties Questionnaire.

4. Discussion

This work package focused on understanding the experiences and support needs of young children with special guardianship orders/in long term kinship care in the UK. Reports consistently indicate that children in kinship care experience disproportionately high levels of mental health difficulties (Kinship, 2024b; Wade et al., 2014). However, to our knowledge, this study is the first to investigate cognitive and social processing profiles of functioning that may underpin these difficulties in younger children. We investigated mental health difficulties and neuropsychological functioning in 4-to-8-year-old children. Children's mental health was reported across home and school contexts by multiple informants, and children completed a range of cognitive and social processing assessments informed by a dimensional, transdiagnostic framework.

4.1 Key Findings

In this research, we first characterised the sample according to family factors and children's histories of care and early experiences. Despite the very young age at which they entered the care of their special guardian or kinship carer (average 18 months), children were reported to have experienced a very high number of adverse childhood experiences (ACEs). Specifically, 59.5% of children experienced 4 or more ACEs, which are associated with significant psychological and physical health difficulties in later life (Hales et al., 2023). This prevalence falls between that reported for young children in foster care (68.5%) (Oldridge et al., 2026) and domestically adopted children (42.2%) in the UK (Anthony et al., 2019), although higher rates have been reported elsewhere, with 76% of adoptive parents in the Family Routes study indicating that their child had experienced four or more ACEs prior to placement (Ecorys UK & Rees Centre, 2026). Nonetheless this highlights the need for coordinated support across sectors to prevent the occurrence of ACEs and to mitigate their negative impacts where they occur.

Other reports indicate many kinship carers experience considerable deprivation (McCartan et al., 2018; Nandy & Selwyn, 2013) and that financial strain may be experienced by most special guardians (Wade et al., 2014). Nearly three quarters of the sample had a lower gross household income than median in the UK and half lived in areas classified as among the 40% most deprived areas according to the Index of Multiple Deprivation (IMD/WIMD). This reflects the findings of the other part of our study, see report for Work Package 1 (Warner et al., 2026) which indicates that special guardianship households in Wales are more likely to experience poverty and deprivation than other households with children and live in the most deprived areas of Wales. Research consistently shows the impact of persistent poverty on child development and mental health (Adjei et al., 2022; Dickerson & Popli, 2016), and the relationship between poverty and neighbourhood deprivation on child harm (Skinner et al., 2023). That carers who took part in this research were supporting children who had experienced significant early adversity while also, in many cases, facing financial strain themselves, highlights the considerable pressures kinship families navigate as they seek to meet the needs of the children in their care.

Mental Health Difficulties

Both carers and teachers reported that children with SGOs/in long term kinship care had elevated mental health difficulties compared to general population scores. A high proportion of children were rated as experiencing high to very high levels of total difficulties on the SDQ (indicating clinical range difficulties) reported by carers (61.9%) and teachers (50.5%). Both reports highlighted particularly elevated levels of behavioural difficulties, for example, with carers reporting 64.3% of children as having high/very high conduct problems, and 66.6% high/very high hyperactivity difficulties. Compared to Wade (2014), where 24% of the sample scored above the clinical threshold for total difficulties, the rates observed in our sample are considerably higher. However, it must be noted that our sample comprised younger children; in Wade (2014), 47% of the sample at follow-up were under the age of 10. As behavioural difficulties tend to decline from early to middle childhood (Papachristou & Flouri, 2020), age-related differences may account for these differences in part. Nonetheless, these findings indicate that carers are managing relatively high levels of behavioural and emotional needs. Given that evidence from adoption research suggests that, for many children, difficulties can persist across childhood (Paine, Fahey, et al., 2021), these findings underscore the need for early and ongoing support within this population.

Carers rated the total difficulties of children higher than teachers, and there was low to moderate agreement between teachers and carers. This could reflect different behaviours of children at home and in the classroom, or different understandings of the measure. It is not possible with these findings to determine definitively why this discrepancy exists. However, consultation with carers highlighted that they did not feel teachers always recognised the challenges faced by the children in their care. The findings highlight the need for communication between teachers and carers about children’s needs and behaviours to develop shared understandings and strategies.

Cognitive Systems

Although as a group, children generally performed within average range in assessments within the Cognitive Systems domain, a notable percentage scored below expected range on several tasks. Over a quarter of the sample scored below average on inhibition (34.2%), cognitive flexibility (27.0%), and verbal working memory (26.2%). A notable area of difficulty was in sustained attention, where sample means for standardised scores fell below the average range, with 88.1% of children scoring below age-based population norms. Although not all notable effect sizes reached significance, the pattern of findings indicated that children's difficulties in the Cognitive Systems domain were associated with teacher- and carer-reports of mental health difficulties. This pattern of performance is particularly important given that difficulties in these cognitive constructs cut across mental health and neurodevelopmental differences (Caspi et al., 2014; Hendry et al., 2020), and are key predictors of academic attainment (Polderman et al., 2010; St Clair-Thompson & Gathercole, 2006).

Cognitive control executive functions (including attention, inhibition, cognitive flexibility) and verbal working memory are essential cognitive processes that support everyday functioning, for example in managing emotion (Fox & Calkins, 2003), and are key mechanisms for learning (Draheim et al., 2022). Children who experience difficulties in working memory may have difficulty integrating speed, knowledge, strategies for problem solving, and storing and manipulating information to acquire complex concepts and skills (Alloway, 2006). Evidence from non-clinical samples suggests that children with poor verbal working memory are perceived by teachers as having difficulties with attention and executive functioning, including short attention, distractibility, and difficulties maintaining focus and using creativity for problem solving. These challenges are associated with and difficulties meeting the everyday cognitive demands of the classroom and poorer academic attainment (Gathercole et al., 2008). Together, these findings suggest that although cognitive performance across the sample appeared broadly within the expected range, at least a quarter of children experience specific difficulties that may have meaningful implications for their day-to-day functioning and learning.

Systems for Social Processes

We also investigated children's functioning across constructs within the Systems for Social Processes Domain. Children in the sample showed pronounced difficulties in recognising fear expressions, with mean standardised scores falling below the average range and 78.6% of children performing below age-based norms. More broadly, most children scored below average in recognising at least one negative facial expression (88.1%). In addition, over a quarter of the sample showed below average performance in understanding mental states (i.e., theory of mind tasks; 26.2%). Children's ability to accurately recognise emotions was associated with teacher- and carer-reported difficulties on the SDQ. Lower performance in understanding mental states was associated with teacher-reported total difficulties, particularly emotional and peer problems, while better performance was linked to higher levels of prosocial behaviour.

Emotion recognition and understanding mental states have both been identified as transdiagnostic factors that are evident across symptoms of mental health and neurodevelopmental conditions (Collin et al., 2013; Crisci et al., 2025; Devine et al., 2025). Both constructs are fundamental to children's capacity to effectively navigate social interactions: Understanding mental states enables children to interpret and predict others' behaviour and to coordinate perspectives in social interactions. Children who are more skilled in mentalising are typically rated as more socially competent by teachers (Devine et al., 2016); conversely, children who struggle with theory of mind are more likely to experience social difficulties such as chronic friendlessness and loneliness (Fink et al., 2015; Koerber & Osterhaus, 2020). Accurately recognising emotions is also a vital skill in navigating social interactions and is associated with positive social relationships, better social competence, and peer acceptance (Denham et al., 2014). Whereas difficulties in recognising negative expressions, such as sadness, anger, and fear are associated with social rejection, victimisation, and adjustment problems (Cooper et al., 2020). Our findings indicate that children in this sample may struggle with everyday understanding of social cues and insights into others' perspectives that guide behaviour, and these difficulties – at least in part – may underpin their mental health difficulties.

4.2 Implications

Implications for Practice: The Importance of Early Assessment and Identification of Difficulties

These findings underscore the value of using comprehensive, dimensional assessment to capture the complexity of neurodevelopmental profiles among young children with care experience (Woolgar & Simmonds, 2019). They also emphasise the need for more inclusive recruitment strategies in research, to capture the full range of individual variability among children who fall below diagnostic thresholds or have complex profiles of functioning (Astle et al., 2022).

Early and timely assessment is critical for identifying children's support needs. Moreover, providing practitioners with an accurate understanding of a child's individual profile enables the selection of targeted and effective support strategies. However, there remains a gap in provision for children who do not meet diagnostic thresholds but nonetheless require additional support (Welsh Parliament, 2020). This is particularly important given evidence that early emerging difficulties, if unaddressed, may escalate into more significant challenges later in development (Copeland et al., 2015).

In this sample, very few children had a formal diagnosis, but many showed elevated levels of mental health difficulties. While many had accessed some form of school-based support (e.g., ELSA or play therapy), our findings suggest that children with SGOs or in kinship care may benefit from the model of service delivery offered by NDAU; by offering timely assessment and personalised feedback outlining children’s strengths and areas of need (Paine et al., under review). These reports also provide practical, low-intensity strategies that practitioners can be implement in the classroom and inform practitioners when children may benefit from additional monitoring or adjustments within the classroom. The additional utility for kinship carers and special guardians lies in the provision of accessible, low-burden strategies that can be readily implemented within the home environment, offering supportive guidance for caregivers who are often managing multiple and complex demands.

Implications for Practice: Support for Cognitive Systems

Our findings demonstrated that a substantial subgroup of children experienced difficulties in attention, inhibition, cognitive flexibility, and verbal working memory that are likely to impact learning and everyday functioning, and potentially psychological distress. Given the transdiagnostic role of attention and cognitive control processes across mental health difficulties and neurodevelopmental differences, interventions targeting these domains may offer widespread benefits (Draheim et al., 2022).

Children with working memory difficulties may struggle to retain and manipulate information, particularly in cognitively demanding classroom environments. Reducing task-related cognitive load, maintaining engagement, and encouragement can therefore support children’s management of tasks, persistence, independence, and task completion (Alloway, 2006). Some classroom and home-based strategies can include:

- Providing concise, clearly structured instructions for tasks.
- Giving clear instructions with simple vocabulary and sentence structure.
- Breaking tasks down and focusing on one small step at a time, with frequent, simple reminders of the current step.
- Asking children to repeat instructions to support their understanding and help them to self-monitor their own difficulties with memory.
- Using visual prompts such as key information in classroom displays, such as pictures or short words, to support independence.
- Teaching simple memory aids, such as repetition and mnemonic strategies, e.g., with rhymes, songs, and stories.
- Providing regular positive feedback and encouragement for children to seek support, e.g., when they have forgotten information.

Implications for Practice: Support for Systems for Social Processes

Our findings also showed that the majority of children experienced difficulties recognising negative emotional expressions, and a notable proportion had difficulty in understanding mental states. These difficulties are likely to impact children's ability to navigate social relationships effectively. Evidence suggests that these skills can be supported through targeted interventions, including 1:1 training to improve facial emotion recognition (Hunnikin et al., 2022; Wells et al., 2021), and whole-class programmes designed to enhance mentalising abilities (Bianco et al., 2016; Bianco et al., 2019).

A range of low-intensity strategies can also be embedded within classroom and home environments to support the development of these skills (Slaughter & Peterson, 2011):

- Encouraging children to label and discuss emotions during everyday activities (e.g., storytelling or role play), including reflecting on what characters may be thinking, feeling, and likely to do next.
- Drawing explicit links between mental states (e.g., thoughts, feelings, desires) and observable behaviour.
- Supporting children to consider alternative perspectives and recognise that others may think or feel differently to themselves and other people.
- Guiding children through real-life social interactions to scaffold understanding of others' intentions and responses.
- Using clear, developmentally appropriate language to explain mental states, ranging from simple labels (e.g., wants, feelings) to more complex explanations of how thoughts and beliefs influence behaviour.
- Importantly, these approaches should be tailored to the child's developmental level, with simpler, concrete language used for younger children or those with communication difficulties, and more complex, causal explanations introduced as children's understanding develops.

Implications for Practice: Social Work

Our findings indicate that children in long term kinship care or with a Special Guardianship Order may have significant challenges that persist beyond settling with a kinship carer permanently. Despite children finding early permanence, which is thought to be protective, the impact of adversity experienced in pre-birth and in their infancy, may contribute to mental health and developmental challenges that could indicate on-going care and support needs. Findings also highlight that carers are managing the needs of their children while also disproportionately experiencing deprivation. While recent changes in policy in Wales reduce the frequency of reviews for children in kinship foster care (Senedd, 2026) and on-going support for children and families with a Special Guardianship Order remains inconsistent across local authorities, this study strongly indicates that children may have significant on-going support needs that might not be immediately apparent when a permanency and support plan is developed. As such, services should consider how support needs will be regularly and proactively revisited, at key developmental and transitional milestones (i.e. school entry) to consider how to offer targeted early intervention. The study underscores the importance of collaborating with teachers, whose daily contact with children enables them to identify potential issues at an early stage. Collaborative reviews and support planning with carers, teachers, and social workers could identify the need for targeted support, before children experience significant challenges.

Implications for Research

Carers and practitioners who expressed interest in this research, but the children in their care were not eligible to take part due to the age criteria, highlighted directions in which future research would be helpful. While they valued the early identification, assessment, and intervention approach of the NDAU, they also suggested that a similar model could be beneficial for older children. They noted that older children, particularly those approaching or experiencing the transition to secondary school, may have particular and changing needs that would also benefit from individualised support. This highlights the need for future research to investigate how the model of NDAU could be adapted and extended across different age groups, recognising that children’s strengths and needs evolve over time.

Stakeholder feedback also emphasised the importance of understanding longer-term outcomes, particularly in relation to understanding the effectiveness of support children receive. Future researchers should consider taking a longitudinal approach to examine the development of children with SGOs/in long term kinship care over time. Given the variability of service provision, further research is needed to evaluate the effectiveness of different forms of support, to provide a clearer understanding of which forms of support are most helpful and contribute to positive outcomes.

4.3 Strengths and Limitations

Although this research has notable strengths, such as the use of multiple informants of child mental health and in-depth, task-based neuropsychological assessments, several limitations should be noted. First, the sample size was relatively small. This reflects several practical constraints: the age-restriction of the NDAU (being focused on early assessment and intervention), the limited number of children with a Special Guardianship Order in the population, and the requirement for families to travel to the university for detailed assessments. However, this limitation is offset by the depth and comprehensiveness of information collected for each child, including multi-informant reports and a broad cognitive and social assessment battery. Nonetheless, this issue affected our analyses in terms of power. For example, numerous associations between cognitive assessments and teacher-reported mental health difficulties trended towards significance. These patterns require cautious interpretation, and replication – ideally within larger samples – is warranted.

A key strength of this study is the inclusion of constructs across two domains of the RDoC framework. The inclusion of Systems for Social Processes is notable, as transdiagnostic dimensional research often focuses on cognitive profiling and comparatively little attention is given to Social Processes (Perlis, 2025). Nevertheless, other domains such as Positive and Negative Valence Systems – comprising processes related to reward and motivation, as well as responses to threat, loss, and frustrative non-reward – may also be highly relevant for consideration in future research. For example, research suggests that children exposed to early life stress and maltreatment can show altered sensitivity to reward and punishment, associated with psychopathology (Mueller et al., 2012). While child data for this domain is available with NDAU and could be explored in future research, this was beyond the scope of the current project.

4.4 Reflections and Overcoming Challenges

Working with kinship and special guardianship families required approaches that were flexible, responsive, and attentive to the complexities of families' experiences. Throughout this project, we developed our understanding of how best to support engagement and participation within this group. Drawing on this learning, we produced a "top tips" document to offer practical guidance for researchers and practitioners (see Figure 13), which is summarised in greater detail in the following sections.

Recruitment and Engagement

The recruitment of special guardian and kinship care families was overwhelmingly the biggest challenge faced throughout this project. Whilst we anticipated this population may be difficult to reach, particularly considering the varied availability of support services and follow-up provision across local authorities, the extent and persistence of these recruitment challenges required ongoing adaptation, flexibility and reflection.

To enhance recruitment efforts, eligibility criteria were broadened to include long-term kinship carers and those on the pathway to a Special Guardianship Order, alongside the recruitment of families living in England, widening access to the study population. We worked to reduce practical barriers to participation by offering reimbursement for travel and lunch expenses and arranged accommodation for families travelling further distances. An expression of interest form was introduced to help streamline initial contact and enable both families and professionals to connect with the research more easily.

TOP TIPS
FOR ENGAGING SPECIAL GUARDIAN AND KINSHIP FAMILIES IN RESEARCH

Involve lived experience voices throughout the research process. Advisory groups and public involvement activities can help ensure recruitment approaches, research materials, and communication are accessible, relevant, and sensitive to families' experiences.

Maximise reach through **multiple recruitment routes** (e.g. schools, social care, third sector organisations and direct family engagement) and **co-shape approaches with practitioners** who have valuable insight into how best to reach families. Using **accessible referral pathways** to express interest such as short online forms can facilitate engagement.

Communicate clearly the research aims, what participation involves and the value of participation, including how findings and assessment feedback may support families and professionals. Provide **non-diagnostic assessment feedback** where possible and manage expectations of support appropriately.

Build strong partnerships with professionals across education, social care, and the third sector to build trust, raise awareness, and support ongoing referrals. **Minimise professional burden** by contacting families directly where possible rather than relying on practitioners as intermediaries.

Prioritise appropriate **researcher training and supervision**. Ensure robust guidance in managing safeguarding concerns, and sensitive discussions and disclosures with families in an ethical and responsive way.

Support participation by **reducing practical and financial barriers** through travel and accommodation support, flexible scheduling, and keeping measures as brief and focused as possible, helping make participation more feasible for families.

Be flexible and accommodating around scheduling and participation methods, to meet the needs of families with complex routines or caring responsibilities. **Be available and respond promptly** to questions and concerns, helping to maintain open communication and build trust.

Develop **adaptable project timelines and delivery plans.** Recruitment and engagement may take longer than anticipated when working around family schedules and institutional constraints, requiring projects to **respond to changing demands and priorities**.

Figure 13. Tip tips for engaging kinship and special guardianship families in research.

Recruitment was supported through sustained collaboration and strong partnerships with a range of professionals across education, social care, and third-sector organisations who, once familiar with the study, often supported multiple referrals. We found in-person engagement at events and regular consultation with professionals most effective, following their lead on methods that would best engage families. Establishing interest and referrals through schools could be challenging, particularly given the competing demands on teachers' time, and where children were not presenting with identifiable difficulties. In these cases, clearly communicating the broader aims of the project and the value of the individual feedback reports was beneficial. Where possible, limiting burden on referring professionals was crucial; in practice this looked like obtaining consent for direct contact with families and engaging them directly from that point onwards.

Flexibility was vital for scheduling around family availability and the operational constraints of the NDAU. Whilst this was not possible at the NDAU, we recognise that continuing recruitment through school summer holidays may be beneficial for accommodating family schedules and reducing barriers to participation for working carers and families with complex routines. Being available, accessible, and responsive as a research team to queries and concerns was important in maintaining interest and building trust with both participants and professionals.

Overall, recruitment required ongoing coordination, repeated engagement with referrers, and continuous adjustment of our approaches, reflecting the absence of any single route through which this population could be reached effectively.

We note that successfully engaging this population in research often required more time for communication and scheduling than initially anticipated. This had implications for project timelines and researcher workload. Thanks to the award of a no cost extension, alongside continuously adapting our timeframes and task priorities, we were able to reach recruitment targets. However, the later stages of the project were notably a demanding period of overlapping activities including final data collection, data analysis, production of reports and literature writing, and further dissemination. This should be a key consideration for the planning of future research within this population.

Collaboration

An important consideration with this research was the integration of our study aims within the pre-existing infrastructure of the NDAU. This involved adhering to the Unit's established ethical procedures, governance frameworks, and referral processes, including requirements around teacher referrals. This did at times create additional barriers within recruitment and participant engagement. Despite these challenges, close collaboration and strong working relationships with the NDAU team enabled the effective implementation of the research. Their support enabled us to accommodate complex scheduling requirements with families, alongside the addition of project-specific assessment measures into existing protocols.

Being an interdisciplinary team spanning Cardiff University's School of Psychology and School of Social Sciences meant navigating differences in disciplinary language and terminology. This was effectively supported through guidance from public engagement activities and input from our advisory group, which helped ensure consistency and accessibility across all project materials.

Research with care-experienced families

Alongside the practical challenges of recruitment and delivery, there were a range of ethical and methodological considerations inherent to conducting research with young children and kinship families. Working with children aged 4–8 required assessment activities to be developmentally appropriate and considerate of individual needs. Relevant safeguarding procedures were followed at all times, and where families expressed a need for additional support, they were signposted to relevant third sector and statutory services. Interviews with guardians occasionally involved sensitive discussions around adversity, trauma, and children's wellbeing, requiring a careful balance between gathering meaningful data and maintaining a supportive, ethically responsive research environment. Appropriate researcher training and guidance was key to ensuring the safety and wellbeing of participants and staff.

5. Conclusions

To our knowledge, this is the first study to show that young children with Special Guardianship Orders or in long-term kinship care experience elevated mental health difficulties, alongside subtle but meaningful differences in their cognitive and social development. Notable proportions of children showed specific difficulties in inhibition, cognitive flexibility, working memory, attention and recognising facial expressions and understanding mental states. These domains are critical for self-regulation, navigating interpersonal relationships, and learning, and are implicated in mental health difficulties.

Together, these findings highlight the value of early, comprehensive, and dimensional assessment approaches to identify support needs that may otherwise go unrecognised. They underscore the potential benefit of timely, targeted, and developmentally informed interventions to support children's cognitive, emotional, and social functioning, with the potential to mitigate longer-term difficulties.

References

Adjei, N. K., Schlüter, D. K., Straatmann, V. S., Melis, G., Fleming, K. M., McGovern, R., Howard, L. M., Kaner, E., Wolfe, I., & Taylor-Robinson, D. C. (2022). Impact of poverty and family adversity on adolescent health: a multi-trajectory analysis using the UK Millennium Cohort Study. *The Lancet Regional Health–Europe*, *13*.

Alloway, T. P. (2006). How does working memory work in the classroom? *Educational Research and reviews*, *1*(4), 134–139.

Alloway, T. P. (2007). *Automated working: memory assessment*. Pearson.

Anning, K. L., Langley, K., Hobson, C., & Van Goozen, S. H. (2023). Dimensional associations between executive function processes and symptoms of ADHD, ASD, oppositional defiance and anxiety in young school-referred children. *Cortex*, *167*, 132–147. https://doi.org/10.1016/j.cortex.2023.06.005

Anthony, R. E., Paine, A. L., & Shelton, K. H. (2019). Adverse childhood experiences of children adopted from care: The importance of adoptive parental warmth for future child adjustment. *International journal of environmental research and public health*, *16*(12), 2212.

Astle, D. E., Bathelt, J., Team, C., & Holmes, J. (2019). Remapping the cognitive and neural profiles of children who struggle at school. *Developmental Science*, *22*(1), e12747. https://doi.org/10.1111/desc.12747

Astle, D. E., Holmes, J., Kievit, R., & Gathercole, S. E. (2022). Annual Research Review: The transdiagnostic revolution in neurodevelopmental disorders. *Journal of child psychology and psychiatry*, *63*(4), 397–417. https://doi.org/10.1111/jcpp.13481

Bianco, F., Lecce, S., & Banerjee, R. (2016). Conversations about mental states and theory of mind development during middle childhood: A training study. *Journal of Experimental Child Psychology*, *149*, 41–61.

Bianco, F., Lombardi, E., Massaro, D., Castelli, I., Valle, A., Marchetti, A., & Lecce, S. (2019). Enhancing advanced Theory of Mind skills in primary school: A training study with 7-to 8-year-olds. *Infant and Child Development*, *28*(6), e2155.

Burley, D. T., Hobson, C. W., Adegboye, D., Shelton, K. H., & Van Goozen, S. H. (2022). Negative parental emotional environment increases the association between childhood behavioral problems and impaired recognition of negative facial expressions. *Development and psychopathology*, *34*(3), 936–945. https://doi.org/10.1017/S0954579420002072

Carter, B., Shelton K H, Holmes L J, Sprecher E A, Ramsay-Patel T M, Macleod J A A, Selwyn J, Siraj I, Robinson C, & Hiller R. (under review). A longitudinal qualitative study of what helps and hinders the mental health and wellbeing of young people as they “age-out” of the care system in the United Kingdom.

Carter, B., Shelton, K. H., Holmes, L. J., Sprecher, E. A., Javed, M., Macleod, J., Park, J., Selwyn, J., Siraj, I., & Robinson, C. (2025). The mental health and wellbeing of care-experienced young people during early and later adolescence. *Clinical child psychology and psychiatry*, *30*(3), 611–631.

Caspi, A., Houts, R. M., Belsky, D. W., Goldman-Mellor, S. J., Harrington, H., Israel, S., Meier, M. H., Ramrakha, S., Shalev, I., & Poulton, R. (2014). The p factor: one general psychopathology factor in the structure of psychiatric disorders? *Clinical psychological science*, *2*(2), 119–137.

Chawner, S. J., Paine, A. L., Dunn, M. J., Walsh, A., Sloane, P., Thomas, M., Evans, A., Hopkins-Jones, L., Struik, S., & consortium, I. I. (2023). Neurodevelopmental dimensional assessment of young children at high genomic risk of neuropsychiatric conditions. *JCPP Advances*, *3*(2), e12162. https://doi.org/10.1002/jcv2.12162

Clements, J., & Birch, S. (2025). Exploring risk and resilience in school environments for students in kinship care. *Educational Psychology in Practice*, *41*(1), 24–50.

Coghill, D., & Sonuga-Barke, E. J. (2012). Annual research review: categories versus dimensions in the classification and conceptualisation of child and adolescent mental disorders–implications of recent empirical study. *Journal of child psychology and psychiatry*, *53*(5), 469–489.

Collin, L., Bindra, J., Raju, M., Gillberg, C., & Minnis, H. (2013). Facial emotion recognition in child psychiatry: a systematic review. *Research in Developmental Disabilities*, *34*(5), 1505–1520. https://doi.org/10.1016/j.ridd.2013.01.008

Cooper, S., Hobson, C. W., & van Goozen, S. H. (2020). Facial emotion recognition in children with externalising behaviours: A systematic review. *Clinical child psychology and psychiatry*, *25*(4), 1068–1085.

Copeland, W. E., Wolke, D., Shanahan, L., & Costello, E. J. (2015). Adult functional outcomes of common childhood psychiatric problems: a prospective, longitudinal study. *JAMA psychiatry*, *72*(9), 892–899. https://doi.org/10.1001/jamapsychiatry.2015.0730

CoramBaaf. (2024). *Statistics: Wales*. https://corambaaf.org.uk/resources/statistics/statistics-wales

Crisci, G., Lievore, R., & Mammarella, I. C. (2025). Facial Emotion Recognition in Neurodevelopmental Disorders: A Comparative Study in Children and Adolescents With and Without Autism, ADHD and Specific Learning Disorders. *Journal of autism and Developmental disorders*, 1–15. https://doi.org/10.1007/s10803-025-07120-3

Cuthbert, B. N. (2022). Research domain criteria (RDoC): progress and potential. *Current Directions in Psychological Science*, *31*(2), 107–114. https://doi.org/10.1177/09637214211051363

De Sonneville, L. (1999). Amsterdam Neuropsychological Tasks: A computer-aided assessment program. *Cognitive ergonomics, clinical assessment and computer-assisted learning: Computers in psychology*, *6*, 204–217.

De Sonneville, L. (2005). Amsterdam neuropsychological tasks: Scientific and clinical applications. *Tijdschrift voor Neuropsychologie*, *1*, 27–41.

De Sonneville, L. (2025). *Handbook ANT March 2025*.

Denham, S. A., Bassett, H. H., Zinsser, K., & Wyatt, T. M. (2014). How preschoolers' social–emotional learning predicts their early school success: Developing theory-promoting, competency-based assessments. *Infant and Child Development*, *23*(4), 426–454.

Devine, R. T., Byrne, I., & Kovatchev, V. (2025). Mentalizing difficulties are transdiagnostic and explain links between mental health and neurodevelopmental symptoms and social adjustment in school-aged children. *JCPP Advances*, e70034. https://doi.org/10.1002/jcv2.70034

Devine, R. T., White, N., Ensor, R., & Hughes, C. (2016). Theory of mind in middle childhood: Longitudinal associations with executive function and social competence. *Developmental Psychology*, *52*(5), 758.

Dickerson, A., & Popli, G. K. (2016). Persistent poverty and children's cognitive development: evidence from the UK Millennium Cohort Study. *Journal of the Royal Statistical Society Series A: Statistics in Society*, *179*(2), 535–558.

Dorval, A., Lamothe, J., Hélie, S., & Poirier, M.-A. (2020). Different profiles, different needs: An exploration and analysis of characteristics of children in kinship care and their parents. *Children and Youth Services Review*, *108*, 104531.

Draheim, C., Pak, R., Draheim, A. A., & Engle, R. W. (2022). The role of attention control in complex real-world tasks. *Psychonomic Bulletin & Review*, *29*(4), 1143–1197.

Dunn, L. M., & Dunn, D. M. (2009). *The British picture vocabulary scale*. GL Assessment Limited.

Ecorys UK & Rees Centre. (2026). *Family Routes: Exploring needs, experiences and outcomes among young people growing up in adoption and special guardianship.* . https://assets.publishing.service.gov.uk/media/697799b7f909df76c5e71f5a/Family_routes_exploring_needs_experiences_and_outcomes_among_young_people_adoption_special_guardianship.pdf

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

Fine, S. E., Izard, C. E., Mostow, A. J., Trentacosta, C. J., & Ackerman, B. P. (2003). First grade emotion knowledge as a predictor of fifth grade self-reported internalizing behaviors in children from economically disadvantaged families. *Development and psychopathology*, *15*(2), 331–342.

Fink, E., Begeer, S., Peterson, C. C., Slaughter, V., & de Rosnay, M. (2015). Friendlessness and theory of mind: A prospective longitudinal study. *British Journal of Developmental Psychology*, *33*(1), 1–17.

Fletcher-Watson, S. (2022). Transdiagnostic research and the neurodiversity paradigm: commentary on the transdiagnostic revolution in neurodevelopmental disorders by Astle et al. *Journal of child psychology and psychiatry*, *63*(4), 418–420. https://doi.org/10.1111/jcpp.13589

Foundations. (2024). *Kinship care and children’s outcomes: Administrative data analysis.* https://foundations.org.uk/wp-content/uploads/2022/05/WWCSC_kinship_care_report_FINAL_accessible-v2-Feb-2024.pdf

Fox, N. A., & Calkins, S. D. (2003). The development of self-control of emotion: Intrinsic and extrinsic influences. *Motivation and emotion*, *27*(1), 7–26.

Garstang, J., Selwyn, J., Meakings, S., Wijedasa, D., & Mason, C. (2025). *Practice and outcomes for special guardianship and adoptive families with safeguarding issues: A mixed methods study.* https://pure-oai.bham.ac.uk/ws/portalfiles/portal/272391440/Safeguarding_after_adoption_or_SGO_FINAL_REPORT.pdf

Gathercole, S. E., Alloway, T. P., Kirkwood, H. J., Elliott, J. G., Holmes, J., & Hilton, K. A. (2008). Attentional and executive function behaviours in children with poor working memory. *Learning and individual differences*, *18*(2), 214–223.

Goodman, R. (1997). The Strengths and Difficulties Questionnaire: a research note. *Journal of child psychology and psychiatry*, *38*(5), 581–586. https://doi.org/10.1111/j.1469-7610.1997.tb01545.xDigital Object Identifier (DOI)

Goodman, R., Ford, T., Simmons, H., Gatward, R., & Meltzer, H. (2000). Using the Strengths and Difficulties Questionnaire (SDQ) to screen for child psychiatric disorders in a community sample. *The British Journal of Psychiatry*, *177*(6), 534–539. https://doi.org/10.1192/bjp.177.6.534

Hales, G., Debowska, A., Rowe, R., Boduszek, D., & Levita, L. (2023). Comparison of person-centered and cumulative risk approaches in explaining the relationship between adverse childhood experiences and behavioral and emotional problems. *Journal of interpersonal violence*, *38*(13-14), 8065–8087.

Hamilton, S., & Blades, R. (2025). Family Routes study: Making decisions about their children's care.

Harden, K. P., Engelhardt, L. E., Mann, F. D., Patterson, M. W., Grotzinger, A. D., Savicki, S. L., Thibodeaux, M. L., Freis, S. M., Tackett, J. L., & Church, J. A. (2020). Genetic associations between executive functions and a general factor of psychopathology. *Journal of the American Academy of Child & Adolescent Psychiatry*, *59*(6), 749–758. https://doi.org/10.1016/j.jaac.2019.05.006

Harter, S., & Pike, R. (1984). The pictorial scale of perceived competence and social acceptance for young children. *Child Development*, 1969–1982. https://doi.org/10.2307/1129772

Hendry, A., Jones, E. J., Bedford, R., Andersson Konke, L., Begum Ali, J., Bölte, S., Brocki, K. C., Demurie, E., Johnson, M., & Pijl, M. K. (2020). Atypical development of attentional control associates with later adaptive functioning, autism and ADHD traits. *Journal of autism and Developmental disorders*, *50*(11), 4085–4105.

Howe-Davies, H., Hobson, C., Waters, C., & van Goozen, S. H. (2023). Emotional and socio-cognitive processing in young children with symptoms of anxiety. *European Child & Adolescent Psychiatry*, *32*(10), 2077–2088. https://doi.org/10.1007/s00787-022-02050-2

Hunnikin, L. M., Wells, A. E., Ash, D. P., & Van Goozen, S. H. (2020). The nature and extent of emotion recognition and empathy impairments in children showing disruptive behaviour referred into a crime prevention programme. *European Child & Adolescent Psychiatry*, *29*(3), 363–371. https://doi.org/10.1007/s00787-019-01358-w

Hunnikin, L. M., Wells, A. E., Ash, D. P., & Van Goozen, S. H. (2022). Can facial emotion recognition be rapidly improved in children with disruptive behavior? A targeted and preventative early intervention study. *Development and psychopathology*, *34*(1), 85–93. https://doi.org/10.1017/S0954579420001091

Insel, T., Cuthbert, B., Garvey, M., Heinssen, R., Pine, D. S., Quinn, K., Sanislow, C., & Wang, P. (2010). Research domain criteria (RDoC): toward a new classification framework for research on mental disorders. *The American Journal of Psychiatry*, *167*(7), 748–751. https://doi.org/10.1176/appi.ajp.2010.09091379

Kinship. (2024a). *Forgotten: Education, SEND and support for kinship families*. https://kinship.org.uk/wp-content/uploads/2024/10/forgotten-report-2024.pdf

Kinship. (2024b). *Make or break: The state of kinship care in England and Wales*. https://kinship.org.uk/wp-content/uploads/2024/10/make-or-break-report-2024.pdf

Koekkoek, S., de Sonneville, L. M., Wolfs, T. F., Licht, R., & Geelen, S. P. (2008). Neurocognitive function profile in HIV-infected school-age children. *European journal of paediatric neurology*, *12*(4), 290–297.

Koerber, S., & Osterhaus, C. (2020). Some but not all aspects of (advanced) theory of mind predict loneliness. *British Journal of Developmental Psychology*, *38*(1), 144–148.

Langner, O., Dotsch, R., Bijlstra, G., Wigboldus, D. H., Hawk, S. T., & Van Knippenberg, A. (2010). Presentation and validation of the Radboud Faces Database. *Cognition and Emotion*, *24*(8), 1377–1388. https://doi.org/10.1080/02699930903485076

Lewis, E. E., Dozier, M., Ackerman, J., & Sepulveda-Kozakowski, S. (2007). The effect of placement instability on adopted children's inhibitory control abilities and oppositional behavior. *Developmental Psychology*, *43*(6), 1415.

Mareva, S., Astle, D., Baker, K., Gathercole, S., Holmes, J., Kievit, R., Manly, T., of Researchers, T., Akarca, D., & Bathelt, J. (2024). Mapping neurodevelopmental diversity in executive function. *Cortex*, *172*, 204–221. https://doi.org/10.1016/j.cortex.2023.11.021

McCartan, C., Bunting, L., Bywaters, P., Davidson, G., Elliott, M., & Hooper, J. (2018). A four-nation comparison of kinship care in the UK: The relationship between formal kinship care and deprivation. *Social Policy and Society*, *17*(4), 619–635.

Meltzer, H., Gatward, R., Goodman, R., & Ford, T. (2003). Mental health of children and adolescents in Great Britain. *International review of Psychiatry*, *15*(1-2), 185–187. https://doi.org/10.1080/0954026021000046155

Meltzer, H., Gatward, R., Goodman, R. Ford, F. . (2000). Mental health of children and adolescents in Great Britain. *London: The Stationery Office*.

Michelini, G., Palumbo, I. M., DeYoung, C. G., Latzman, R. D., & Kotov, R. (2021). Linking RDoC and HiTOP: A new interface for advancing psychiatric nosology and neuroscience. *Clinical psychology review*, *86*, 102025. https://doi.org/10.1016/j.cpr.2021.102025

Mueller, S. C., Hardin, M. G., Korelitz, K., Daniele, T., Bemis, J., Dozier, M., Peloso, E., Maheu, F. S., Pine, D. S., & Ernst, M. (2012). Incentive effect on inhibitory control in adolescents with early-life stress: An antisaccade study. *Child abuse & neglect*, *36*(3), 217–225.

Nandy, S., & Selwyn, J. (2013). Kinship care and poverty: Using census data to examine the extent and nature of kinship care in the UK. *British Journal of Social Work*, *43*(8), 1649–1666.

National Institute of Mental Health. (2025). *Research Domain Criteria (RDoC)*. https://www.nimh.nih.gov/research/research-funded-by-nimh/rdoc

Office for National Statistics. (2025a). *Average household income, UK: Financial Year Ending 2024*. https://www.ons.gov.uk/peoplepopulationandcommunity/personalandhouseholdfinances/incomeandwealth/bulletins/householddisposableincomeandinequality/financialyearending2024

Office for National Statistics. (2025b). Education and training statistics for the UK.

Oldridge, J., Crawford, K., Venturini, E., Minnis, H., & Rizeq, J. (2026). A longitudinal study examining emotional, behavioural and attachment disorder symptoms of care-experienced young children: the role of early adversity and age at entry to care. *European Child & Adolescent Psychiatry*, 1–10.

Paine, A., S, E., A, B., C, H., C, W., A, T., H, S. K., K, L., G, J. C. R., F, H. D., R, L. S., E, v. d. H., Team, T. N. A. U., & M, v. G. S. H. (under review). A new approach to assessment for young children referred by education professionals for socio-emotional, behavioural, and cognitive difficulties.

Paine, A. L., Burley, D., Anthony, R., Van Goozen, S. H., & Shelton, K. H. (2021). The neurocognitive profiles of children adopted from care and their emotional and behavioral problems at home and school. *Child Neuropsychology*, *27*(1), 17–36.

Paine, A. L., Fahey, K., Anthony, R. E., & Shelton, K. H. (2021). Early adversity predicts adoptees' enduring emotional and behavioral problems in childhood. *European Child & Adolescent Psychiatry*, *30*, 721–732.

Paine, A. L., Hashmi, S., Roberts, S., Fyfield, R., & Hay, D. F. (2019). Concurrent associations between mothers' references to internal states and children's social understanding in middle childhood. *Social Development*, *28*(3), 529–548.

Paine, A. L., van Goozen, S. H., Burley, D. T., Anthony, R., & Shelton, K. H. (2023). Facial emotion recognition in adopted children. *European Child & Adolescent Psychiatry*, *32*(1), 87–99.

Papachristou, E., & Flouri, E. (2020). Distinct developmental trajectories of internalising and externalising symptoms in childhood: Links with mental health and risky behaviours in early adolescence. *Journal of affective disorders*, *276*, 1052–1060.

Park, J., Holmes, L., Hiller, R., Selwyn, J., Shelton, K., & al., e. (2024). *The ReThink Programme Work Package 1: Using administrative data to elucidate pathways through care and life outcomes.* . https://osf.io/ufycx

Parliament, W. (2020). *Mind over matter: Two years on.* Retrieved 6 September from https://senedd.wales/laid%20documents/cr-ld13568/cr-ld13568-e.pdf

Perlis, R. H. (2025). Research Domain Criteria in NIMH Grants Characterized Using Large Language Models. *JAMA Network Open*, *8*(2), e2459371. https://doi.org/10.1001/jamanetworkopen.2024.59371

Perner, J., & Wimmer, H. (1985). "John thinks that Mary thinks that…" attribution of second-order beliefs by 5-to 10-year-old children. *Journal of Experimental Child Psychology*, *39*(3), 437–471. https://doi.org/10.1016/0022-0965(85)90051-7

Polderman, T. J., Boomsma, D. I., Bartels, M., Verhulst, F. C., & Huizink, A. C. (2010). A systematic review of prospective studies on attention problems and academic achievement. *Acta Psychiatrica Scandinavica*, *122*(4), 271–284.

Poletti, M., Carretta, E., Bonvicini, L., & Giorgi-Rossi, P. (2018). Cognitive clusters in specific learning disorder. *Journal of learning disabilities*, *51*(1), 32–42. https://doi.org/10.1177/002221941667840

The Fostering Panels and Care Planning (Miscellaneous Amendments) (Wales) Regulations 2026, (2026). https://laiddocuments.senedd.wales/sub-ld17767-en.pdf

Skinner, G. C., Bywaters, P. W., & Kennedy, E. (2023). A review of the relationship between poverty and child abuse and neglect: Insights from scoping reviews, systematic reviews and meta-analyses. *Child Abuse Review*, *32*(2), e2795.

Slaughter, V., & Peterson, C. C. (2011). How conversational input shapes theory of mind development in infancy and early childhood.

St Clair-Thompson, H. L., & Gathercole, S. E. (2006). Executive functions and achievements in school: Shifting, updating, inhibition, and working memory. *Quarterly journal of experimental psychology*, *59*(4), 745–759.

Thapar, A., Cooper, M., & Rutter, M. (2017). Neurodevelopmental disorders. *The Lancet Psychiatry*, *4*(4), 339–346. https://doi.org/10.1016/S2215-0366(16)30376-5

Toolbox Assessments Inc. (2024). The NIH Toolbox®. In: https://nihtoolbox.org.

Trentacosta, C. J., & Fine, S. E. (2010). Emotion knowledge, social competence, and behavior problems in childhood and adolescence: A meta-analytic review. *Social Development*, *19*(1), 1–29.

Van Goozen, S. H., Langley, K., & Hobson, C. W. (2022). Childhood antisocial behavior: A neurodevelopmental problem. *Annual Review of Psychology*, *73*(1), 353–377. https://doi.org/10.1146/annurev-psych-052621-045243

Wade, J., Sinclair, I., Stuttard, L., & Simmonds, J. (2014). *Investigating special guardianship: Experiences, challenges and outcomes*. https://eprints.whiterose.ac.uk/id/eprint/82322/1/SpecialG2014.pdf

Social Services and Well-being (Wales) Act, (2014). https://www.legislation.gov.uk/anaw/2014/4/contents

Warner, N., Dorrans, E. M., Bennett, V., Shelton, K. H., Paine, A. L., Evans, G., & Stabler, L. (2026). *Special guardianship families in Wales: Characteristics and care pathways*. Nuffield Foundation.

Wechsler, D. (2011). Wechsler abbreviated scale of intelligence - Second Edition (WASI-II). *APA PsycTests*.

Wechsler, D. (2012). *Wechsler Preschool and Primary Scale of Intelligence - fourth edition technical manual and interpretive manual.* Psychological Corporation.

Wellman, H. M., & Liu, D. (2004). Scaling of theory-of-mind tasks. *Child Development*, *75*(2), 523–541. https://doi.org/10.1111/j.1467-8624.2004.00691.x

Wells, A. E., Hunnikin, L. M., Ash, D. P., & Van Goozen, S. H. (2021). Improving emotion recognition is associated with subsequent mental health and well-being in children with severe behavioural problems. *European Child & Adolescent Psychiatry*, *30*(11), 1769–1777. https://doi.org/10.1007/s00787-020-01652-y

Welsh Government. (2025). Children looked after by local authorities: April 2023 to March 2024. .

Wimmer, H., & Perner, J. (1983). Beliefs about beliefs: Representation and constraining function of wrong beliefs in young children's understanding of deception. *Cognition*, *13*(1), 103–128. https://doi.org/10.1016/0010-0277(83)90004-5

Woolgar, M., & Simmonds, J. (2019). The diverse neurobiological processes and legacies of early adversity: implications for practice. In (Vol. 43, pp. 241–255): SAGE Publications Sage UK: London, England.

Wretham, A. E., & Woolgar, M. (2017). Do children adopted from British foster care show difficulties in executive functioning and social communication? *Adoption & Fostering*, *41*(4), 331–345.

Youth in Mind. (2025). *SDQ: Information for researchers and professionals about the Strengths & Difficulties Questionnaires*. https://www.sdqinfo.org

Appendix

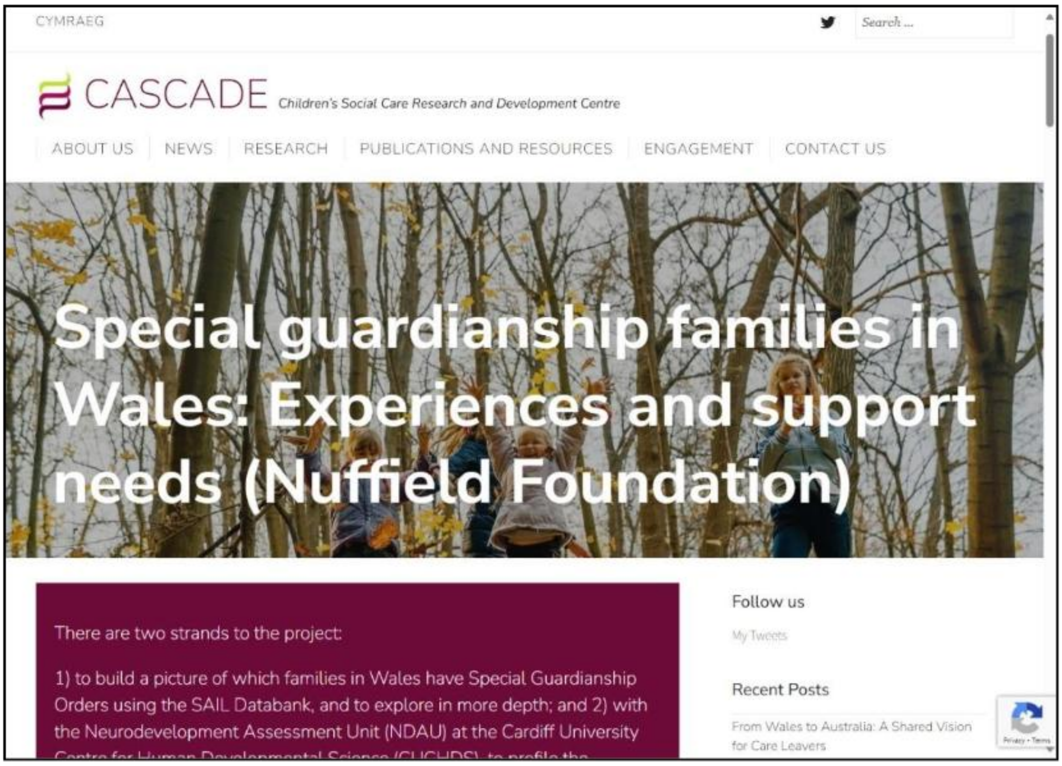
Recruitment for this project consisted of various approaches to reach eligible families. We note that participants came through no one pathway.

Materials

At the beginning of the project, a dedicated study webpage was created on the Children's Social Care Research and Development Centre (CASCADE) website (Figure A1). This webpage provided an overview of the project, including information about the two project workstreams, eligibility criteria, study documentation, and referral materials required for participation.

To support accessibility and engagement, a short video was created featuring Dr. Lorna Stabler, outlining the purpose of the research and what participation would involve. This video was uploaded to YouTube and embedded in our study page.

The study webpage can be accessed here: https://cascadewales.org/research/special-guardianship-families-in-wales-experiences-and-support-needs-nuffield-foundation/



Special guardianship families in Wales: Experiences and support needs (Nuffield Foundation)

There are two strands to the project:

1) to build a picture of which families in Wales have Special Guardianship Orders using the SAIL Databank, and to explore in more depth; and 2) with the Neurodevelopment Assessment Unit (NDAU) at the Cardiff University

Figure A1: Project Webpage on CASCADE Website

In September 2024, a project-related blog post was published on the ExChange Wales Webpage. ExChange is a knowledge exchange initiative linked to the Children's Social Care Research and Development Centre (CASCADE), working to connect researchers, practitioners and individuals with lived experience to share their expertise, research evidence and care experiences.

The blog post, titled "*Education Needs of Primary School Children with Special Guardianship Orders (SGOs)*" was written by Lorna Stabler and research consultant, Daisy Chaudhuri. The article was primarily targeted towards education professionals and explains the rationale, aims and potential value of this research, along with information on how to get involved in the study.

The ExChange blog post webpage can be accessed here:
https://www.exchangewales.org/educational-needs-of-primary-school-children-with-special-guardianship-orders-sgos/

Research flyers were created during Summer 2024 to assist with recruitment (Figure A2). Separate versions were created for guardians and education professionals, each version appropriately altered to be directed to their target audience. These flyers included the information on eligibility, the referral process, what participation would involve and contact details for the research team. Each flyer included a QR code linking directly to the project webpage. These materials were routinely included on correspondence with practitioners regarding recruitment.

Flyers were also used as part of wider advertising and outreach activities. Printed copies of flyers were distributed across various locations in South Wales including Cardiff, Swansea, Rhondda Cynon Taff, Neath and Newport. Flyers were placed in community hub locations where potentially eligible families may be more likely to access them, including leisure centres, libraries, play centres and community halls. Physical copies of flyers were sent directly to schools, social work teams and other professionals who expressed interest in this study. In addition, members of the research team distributed flyers at conferences and other relevant in-person events.

Families with Special Guardianship Orders

Are you a Special Guardian of a child aged 4 to 7?

Would you like to take part in research about the experiences of families with Special Guardianship Orders?

LEARN MORE

We are inviting children aged 4 to 7 and their Special Guardians to the Neurodevelopment Assessment Unit (NDAU) at Cardiff University.

With the Special Guardian's permission, school teachers refer children to NDAU.

Families visit NDAU to take part in interviews and child assessments. Travel expenses will be reimbursed.

School teachers receive a report to help them understand ways to support your child at school.

This research will help us to understand the experiences of Special Guardianship families. We are looking forward to hearing from you!

CONTACT US

Watch our video and email us at:

SGO@cardiff.ac.uk

Teachers of 4-7 year olds

There could be children in your class who live with a Special Guardian rather than their parents.

A special guardian could be a grandparent, close relative, family friend or former foster carer. They have parental responsibility for the child.

These children often experience early years trauma, which can affect their learning and behaviour.

Would you like to learn more about how you can support these children?

LEARN MORE

We are inviting any child aged 4 to 7 with an SGO and their guardians to the Neurodevelopment Assessment Unit (NDAU) at Cardiff University.

With the Special Guardian's permission, school teachers refer children to NDAU.

Families visit NDAU to take part in interviews and child assessments. Travel expenses will be reimbursed.

School teachers receive a report written by an Ed Psych to help understand ways to support the child at school.

This research will help us understand how teachers can better support children with a Special Guardianship Order to thrive in school. We look forward to hearing from you!

TO MAKE A REFERRAL
EMAIL:
SGO@CARDIFF.AC.UK

Watch our video

Figure A2: Research Flyers aimed at families and teaching professionals

Advertisements

In October 2024, a research advert was placed in the Cardiff and Vale Primary Times (Figure A3). This advert was directed at guardians and, to ensure maximum reach, it was placed in three separate sections of the magazine. In addition to being available online, they print 45,000 printed copies going directly into 140 schools in Cardiff and The Vale with children aged 4-11, approximately two weeks before the October half-term break.

The webpage to this edition of the magazine can be found here: https://digital.magmanager.co.uk/Preview/Index/2717886#page/14

Special Guardianship Order Research – Call for Participants!

A team in the School of Psychology at Cardiff University is appealing for participants to take part in research aimed at understanding the experiences of children with Special Guardianship Orders (SGOs). Children with an SGO can often struggle to get support at school and so this research will help researchers understand how teachers can better support them to thrive in school.

The team is inviting children aged 4 to 7 and their special guardian to the Neurodevelopmental Assessment Unit (NDAU) at the university. With the guardian's permission, school-teachers will refer children to the NDAU. If you would like to take part, please get in touch with the team. With your permission, they will then contact your child's school.

Your visit to the NDAU would involve two half day sessions in which you will take part in interviews and child assessments. Travel expenses will be reimbursed. After the sessions, the research team will provide your child's school with a personalised report written by an educational psychologist outlining their strengths and challenges, helping them to understand how to better support your child.

If you are the guardian of a child aged 4 to7 with an SGO, the university would love to hear from you! Contact them at SGO@cardiff.ac.uk

Visit Santa and Support Noah's Ark

The award-winning Santa's Grotto at IKEA Cardiff is back for 2024. No need to book, just go along and enjoy the magic of Christmas. There'll be extra festive entertainment at weekends, specially adapted quiet sessions for children with sensory needs, plus Welsh language dates if your child would prefer to visit Sion Corn. Prices are £12 per child for a visit and gift, £14 for a visit, gift and photo. Adults are free.

All proceeds go to the Noah's Ark Children's Hospital Charity, which helps ensure that treatment and outcomes for children can continue to improve, funding new and innovative medical equipment and facilities. It will support the 90,000 children treated at the hospital each year. Your visit will also help fund emotional support services and help make the hospital a less frightening, more familiar place for children by sprinkling a little fun and happiness into hospital days. For more info, visit: noahsarkcharity.org/santas-grotto

Come Join the Fun at babyballet!

Discover the magic of babyballet, where little stars can shine. Its award-winning dance classes are designed for children aged 6 months to 6 years, blending fun, movement, and learning in a nurturing and inclusive environment. Led by friendly and experienced instructors, your child will develop coordination, confidence, and social skills while twirling to their favourite tunes. Whether you're looking for a bonding activity with your baby or your pre-schooler is ready to learn ballet basics, babyballet Cardiff is the perfect place to grow, giggle, and groove.

Book your introductory trial today and let your little star's dance journey begin with joy!

www.babyballet.co.uk

Howell's: a Prep for Life

Howell's Prep School provides a stellar education to an energetic community of girls aged between 3 and 11, encouraging them to recognise that education does not stop at the classroom door, and that each moment of every day represents an opportunity to learn and to understand.

The Prep School boasts vibrant, well-equipped facilities, designed to stimulate and inspire young learners. All classrooms are bright, colourful and well-resourced, complete with interactive whiteboards and an array of equipment to enhance learning through experience. In the outdoor classroom, girls develop a broad range of practical skills and an in-depth knowledge grounded in active, hands-on learning.

In addition, the Prep School girls are taught all their PE lessons by sports specialists, and have access to the superb facilities of the Senior School, which include a sports complex, floodlit all-weather pitch, playing fields and a pool for their weekly swimming lessons.

Before and after school, extra-curricular clubs keep the girls busy with physical, creative and problem-solving skills. Early morning yoga gets the day off to a fantastic start, running club and Forest School both get the girls exploring the expansive school grounds and, for budding linguists, there are after-school clubs in French, Mandarin and Spanish.

howells-school-llandaff.gdst.net

20 OCTOBER HALF TERM 2024 primarytimes.co.uk/cardiff

primarytimes.co.uk/cardiff OCTOBER HALF TERM 2024 21

Figure A3: Image of the project advertisement in the October 2024 edition of The Cardiff and Vale Primary Times magazine.

Research adverts were also placed in several newsletters from September to December 2024, with materials translated into both English and Welsh. Multiple newsletters were distributed by various Cardiff University research teams to their previous research participants which included a summary of our research and how to get involved. As these newsletters were sent to families who had previously engaged in university research, this provided an opportunity to reach audiences who may have been more open to participating in future studies if eligible.

Newsletters were distributed by university teams including the NDAU December Newsletter (circulated to over 700 families) and the BabyLab Newsletter. We advertised in the School Health Research Network (SHRN) Newsletter. SHRN is a well-established policy-practice-research partnership between Cardiff University, Public Health Wales and Welsh Government. This aims to improve young people's health and wellbeing in Wales by working with schools to establish and utilise strong evidence base for health improvement. Since 2017, half of all primary schools in Wales have registered for SHRN membership.

In January 2025, with the assistance of the Welsh Government Policy Manager for Care Experienced Children and Young People, we shared research adverts on Education platforms accessible to education professionals teaching across all schools in Wales. We posted information to the ‘Hwb’ Platform, which is the Welsh Government Digital Learning Platform, and to the ‘Dysg’ Platform which is the Welsh-Language Education Portal, accessible to all educators teaching in the Welsh Language. This policy manager also shared information about our research at a national delivery group for looked after children whose members include local authorities and third sector organisations, including Adoption UK.

Social Media

Throughout the project, social media was utilised to help raise awareness of the research. Numerous posts outlining the project, alongside images of our recruitment flyers were posted periodically across multiple platforms including Facebook, X (formerly Twitter), LinkedIn and Viva Exchange, Cardiff Universities internal social networking platform designed to foster effective communication, collaboration and knowledge exchange amongst estimated 40,000 staff and student population. These posts were frequently shared by established research centres and university staff members, including by the CASCADE page, to help increase reach and engagement. Individuals who had large LinkedIn networks working or interested in the child social care sector were also identified and contacted for support in sharing recruitment materials and study information.

A dedicated Facebook study page was created to support recruitment activities. Through this page, we shared relevant posts by organisations such as Kinship and engaged with related posts to help build awareness of the study page and project.

Whilst direct outreach to individual users may have been beneficial, Facebook restricts direct messaging from research and organisational pages, unless there has been prior mutual interaction from users, such as commenting on posts or reacting to shared content. This feature is intended to encourage authentic, reciprocal engagement and to prevent unsolicited outreach.

Additionally, although Facebook hosts a number of groups and communities related to kinship care (more so than special guardians), direct recruitment through these spaces was often limited. Many of these communities are primarily designed to offer peer support and so group administrators are understandably protective of their members’ privacy and well-being. Instead, we posted project information on established organisations pages, where research recruitment was already encouraged, such as on fellow research centres’ pages working with young children at Cardiff University, or individuals with large followings in care experienced support.

Engaging Education Professionals

As mentioned in the NDAU referral pathway section, as schoolteachers needed to complete a referral pack for each child taking part in our research, a large portion of our recruitment efforts were focused on reaching and engaging schools and teachers. We also recognised that this was likely to be an effective way of identifying eligible and interested families, given that schools, in particular Additional Learning Needs Co-ordinators (ALNCos) and Special Educational Needs Co-ordinators (SENCos) would likely be aware of those within their school that are currently subject to a Special Guardianship Order (SGO).

A mass mailout was sent to schools across South Wales in November 2024 and again in February 2025. The mailout detailed the research purpose, who was eligible, what taking part would involve as well as how to contact the research team should school staff identify families who may be eligible and interested in participating. All emails were sent either to the school office email address or, where available, directly to the school ALNCo/SENCo email address. All emails were addressed to the ALNCo/SENCo, and where the ALNCo/SENCo name was not available, they were addressed to the Headteacher. Staff names and email addresses were primarily sourced from school websites, with additional information obtained through local authority websites. A total of 412 schools were contacted through this mailout.

At the same time, a further roughly 300 different teaching professionals were also contacted with the same information by the NDAU team. These emails were sent directly to all teaching professionals who had referred a child to the NDAU at any point between January 2024 and January 2025. These emails were distributed in October 2024 and January 2025.

In addition to the mailouts, schools were contacted directly by the NDAU Team. Preliminary work using the SAIL Databank (conducted as part of our partner workstream, as discussed in the SAIL Nuffield Report) identified individual counties across South Wales with the highest rates of Special Guardianship Orders granted from 2011 to 2021. These counties included Merthyr Tydfil, Caerphilly, Torfaen and Newport. Primary schools in these areas with the largest student populations were identified and from February 2025 onwards, these schools were contacted directly. Where possible, team members requested to speak directly to the school ALNCo/SENCo or Headteacher. As a result of these communications, various follow-up information emails and physical flyers were sent. Several teachers offered to circulate study information to education professionals within their local networks, and our study information was shared into a WhatsApp Group for ALNCos in the Swansea area.

After engaging with education professionals at the Cardiff Emotion Recognition Training workshop delivered by the NDAU team, a follow-up meeting was held to gather further input on strengthening school-based recruitment routes. This discussion highlighted the importance of key contacts such as Additional Learning Needs Co-ordinators (ALNCos) and designated teachers for looked-after children. It was also suggested that study information could be disseminated through existing local authority and education networks, including virtual schools and family support services such as the Newport Family and Friends Team, to support wider engagement across schools and related services.

We also sought collaboration with educational psychology services to support recruitment. A Principal Educational Psychologist advised on additional recruitment avenues, including engagement with legal professionals and parenting practitioners working with special guardians. Further guidance was obtained from the co-director of a Doctorate in Educational Psychology programme, who highlighted Children’s Services in Cardiff and neighbouring South Wales local authorities as key access points for kinship carers and special guardians, due to their role in maintaining relevant records. Study information was subsequently shared and circulated via Principal Educational Psychologists across several Welsh local authorities, with requests for onward sharing to Children’s Services teams.

Engaging Social Work Practitioners

Engagement with social work teams formed an important part of recruitment activity, supporting access to eligible families through information sharing. Project information was shared with numerous individual social workers, lead social workers and dedicated Special Guardian social work teams across Wales. Partnerships were developed and strengthened at events attended by the research team.

Many teams engaged well with the project, including the Families First Team at Monmouthshire County Council and the Swansea Council Social Work Team, inviting the research team to attend team meetings, events and support groups where information could be shared with practitioners, alongside eligible carers and guardians directly.

Third Sector Engagement

We also engaged with key third sector organisations, including the Association for Fostering, Kinship and Adoption (AFKA) Cymru, Kinship, The Fostering Network and Supporting Parents and Children Everywhere (SPACE). These organisations provided advice on relevant events and opportunities for engagement, and supported dissemination of study information. Their involvement in our project advisory and special interest groups helped to inform the study and maintain continuous sector engagement.

In-person Event and Conference Attendance

The team attended a range of events and conferences to support recruitment efforts alongside learning and dissemination objectives, with a particular focus on in-person engagement, which proved effective in generating interest and establishing connections with potential participants.

In August 2024, the team hosted a recruitment stall at a kinship care family fun-day event organised by the Monmouthshire Family and Friends Team, where kinship carers gathered to share experiences and learn about available support and opportunities. The team returned to the event in August 2025 and generated interest amongst eligible families, some of whom provided their contact details, enabling the research team to initiate follow-up communication.

In June 2025, the team hosted a stall at the Kinship Conference organised by AFKA Cymru in Cardiff. The conference brought together professionals, practitioners and kinship carers to explore recent developments in kinship care research, policy and practice. This event generated notable interest in the research from potential referring practitioners and special guardians in attendance, some of whom provided their contact details and later participated in the study.

In September 2025, the research team attended a Fostering Festival organised by Foster Wales in Bridgend. The event was aimed at foster and kinship families and included a range of family-friendly activities and opportunities for support and community engagement (Figure A4).

Figure A4: Team members Georgia and Ellie at the Fostering Festival organised by Foster Wales

Cardiff University hosted several in-person events that aligned closely with our project aims, which the team attended to raise awareness of the research and establish professional connections. In March 2025, the University hosted a Welsh Government conference, *Promoting the Education of Care Experienced Learners*, attended by local authority teams, designated school professionals and third sector organisations working with care-experienced children and young people. In April 2025, the Cardiff University Centre for Human Developmental Science (CUCHDS) hosted a training event for teaching professionals, ALNCos and Teacher Advisors for Additional Learning Needs, on how to support children using the Cardiff Emotion Recognition Training (CERT). Many attendees were already familiar with the NDAU referral pathway through previous engagement with the unit, while others demonstrated strong interest in research and supporting children with additional needs.

In April 2026, the team presented at *The European Conference for Social Work Research* (ECSWR) 2026 in Aberdeen, disseminating project findings and building professional connections to support wider sharing of findings and future research.

We also attended online events to share information on the project. In February 2025, Lorna Stabler and Daisy Chaudhuri delivered an online session through the School Health Research Network (SHRN) webinar series titled *Special Guardianship Order and Children's Education in Wales*. The session outlined the aims of the project and emerging findings. This was made publicly available via YouTube to support wider dissemination.

The YouTube recording of the SHRN webinar can be accessed here:
https://www.youtube.com/watch?v=QCWMOqmET_Q

The team were also invited to discuss the project at the Kinship Wellbeing Masterclass organised by The Fostering Network, which was attended by kinship carers and aimed at supporting the wellbeing of the children they care for.

Extended Recruitment Pathways

The project adopted a flexible approach to eligibility criteria and was creative with referral pathways to ensure recruitment targets were met and to reflect diversity of kinship care arrangements. Eligibility criteria were extended to include long-term kinship carers and families on the pathway to receiving an SGO, including those living in England.

A brief online expression of interest form was created as a quick and effective way of registering interest and streamlining referrals. This reduced administrative burden on referring practitioners and improved accessibility for interested families.

In addition, eligible children referred through the standard NDAU pathway were invited to take part in the project, as the assessment procedures and feedback reports provided were identical across studies. Eligible siblings and cousins of existing participants were also identified and subsequently invited to take part.