



Curious Beasts: identification of, and intervention for, social-emotional and mental health difficulties in at-risk primary school children

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Introduction

Over 50% of children's mental health difficulties start before age 14. Nationally social-emotional and mental health (SEMH) difficulties account for 16.58% of Special Educational Needs (SEN); it is the third most prevalent need behind Moderate Learning Difficulties and Speech, Language Communication Needs. Key Stage 2 (7-11 years) sees the highest proportion of SENs across the primary years, SEMH difficulties accounting for 18.10%. The Institute for Public Policy and Research report one in 50 children in the general population, and one in two pupils in alternative provision (AP) have SEMH as their primary need. SEMH may be conceptualised as an umbrella term for a range of difficulties. Children may experience internalising difficulties, such as anxiety and depressive symptoms, often appearing quiet and withdrawn, alternatively they may display problematic externalising behaviours, such as difficulties with conduct or hyperactivity (DfE, 2018). It is also likely that children with SEMH experience more than one type of difficulty under the umbrella of SEMH. The dynamic nature of behaviour means presentations may appear variable in degree of severity across different contexts and over time.

Social, emotional and mental health difficulties place children at increased risk of school exclusion (DfE, 2020, Graham et al., 2019, DfE 2017, Hayden, 2007, Visser, Daniels., and Macnab 2005), poor school attendance and attainment (DfE, 2017, DfE, 2020) and poor long-term outcomes and life chances. Many of these children are arriving in the Alternative Provision (AP) sector with unidentified and unmet needs. However, evidence from The Association of Child and Adolescent Mental Health raised concerns that schools could be



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failing to intervene in a timely or effective manner when there are concerns about a pupil's mental health, as opposed to the needs being unidentified .

Those working in schools are not only advised to be mindful of changes in children's behaviour (DfE, 2014), but are also well-placed to recognise changes in behaviour over time, in-line with the dynamic presentation of behaviour and variability in symptom severity and influence of contextual factors . Others suggest that social, emotional, and mental health (SEMH) needs are going undiagnosed because teachers are unable to identify pupils with SEMH needs. Teachers have reported that they feel they lack the skills and training to meet the needs of children with SEMH difficulties (O'Reilly et al., 2018) and are unable to distinguish between atypical and typical mental health and behaviours (Loades & Mastroyannopoulou, 2010). Yet despite these concerns, there is growing pressure from government authorities for schools to not only provide academic outcomes for children but to support the development of children's social-emotional wellbeing (Farrington et al., 2012; McCombs, 2004), and to become primary sources of early identification of difficulties.

Undoubtedly teachers are well placed to identify early onset of difficulties, yet alongside a lack of skills and training in mental health needs, there is a lack of accessible measurement tools for assessment of early difficulties in education settings. Moreover, it is already evident that the direct and indirect psychological and social effects of the Covid-19 pandemic are pervasive and could affect mental health now, and in the future (Lancet, 2020), and this is against a backdrop of variable risk factors for poor mental health evident across the country that correspond to social inequalities; children living in poverty are at increased risk of developing mental health difficulties compared to children in more affluent areas , and have more complex needs outside of the school context.

The current project enables personalised care by mobilising autonomy in children, providing opportunity to be heard through self-report and tailoring intervention creatively to meet their specific needs. Curious Beasts re-presents the SDQ for younger children through puppetry; children become active contributors to their own wellbeing whilst schools are provided with a robust means of identifying children's difficulties. The programme



incorporates an initial assessment workshop and 6-week nurture delivery targeting SEMH.

The programme is designed to support teachers in the identification of children's difficulties and in the remediation of identified difficulties, aiming to increase reliability of assessment through accessible standardised measures, and provide a potential evidence-based intervention that may integrate with school mental health support teams in the future to address children's difficulties.

Research Questions:

The current study aims to address the following research questions:

- (1) Is there a change in children's social- emotional and mental health difficulties between pre- and post- intervention as reported by children?
- (2) Is there a change in children's social-emotional and mental health difficulties between pre- and post- intervention as reported by teachers?

Methods

Design

The study is a within-subject repeated measures design whereby assessment of social, emotional, and mental health difficulties is carried out pre- and post- intervention.

Recruitment

Schools were recruited into the study through an initial telephone or email contact from the research team from September 2018-March 2020. Recruitment was due to continue until July 2020 but was halted due to Covid-19; this meant that 4 schools did not complete the intervention and 6 schools that were due to start did not receive the intervention: attrition in data from 10 schools in total. For each school recruited the project was explained to the school head teacher who agreed for children to take part. Parents were then asked to provide consent for their child to take part. Children were selected to take part in intervention based on their Strengths and Difficulties Questionnaire (SDQ) scores and discussion with the class teacher and Special Educational Needs Co-ordinator (SENCO).

Participants

Over the course of the recruitment period 10 schools received full intervention. 4 of these schools referred two classes, so there were 14 classes of children who took part overall. This equated to 734 primary school children aged 7-8 years who received the initial Curious Beasts workshop where initial assessment of difficulties was made. Of these, 182 went on to receive the 6-week intervention programme. 74% scored in the 'Abnormal' range for SEMH difficulty, 25% scored in the 'Borderline' range and 1% scored in the 'Normal' range but were referred specifically into the intervention due to teacher concerns about the child's home circumstances.

Materials

Strengths and Difficulties Questionnaire (Goodman, 1997).

The SDQ is a standardised measure of social emotional and mental health, assessing children's wellbeing in areas of emotional difficulties, conduct problems, hyperactivity, peer relationships and prosocial behaviour. Each subscale includes 5 questions which are rated as 'Not True' scoring '0', 'Somewhat True' scoring '1' and 'Certainly True' scoring '2'. Scoring is reversed for 4 questions. The questionnaire may be completed by teachers, parents, or children themselves. Each subscale will result in a score, and the sum of these subscales (not including the prosocial scale) provides a Total Difficulties score which may be categorised into 'Normal', 'Borderline' or 'Abnormal' degree of difficulty. For all scales aside from the Prosocial scale, a higher score represents increased severity of difficulty. For the Prosocial scale scoring is reversed, so a higher score indicates better prosocial behaviour. For the current project child-report and teacher-report SDQ data were completed at pre- and post-intervention time points.

The Curious Beasts SDQ workshop

The Curious Beasts workshop re-presents the SDQ to children using puppetry and replaces the SDQ child-report paper questionnaire at the pre-intervention assessment. To ensure the workshop is acceptable to schools and children taking part, each subscale includes 3 instead of 5 SDQ questions for children to answer. Children are introduced to 5 Curious Beasts by 2 professional puppeteers who adopt the role of 'explorers'. The 5 Curious Beasts each



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represent a subscale of the SDQ- one has emotional difficulties, one had conduct problems, one is hyperactive, one had peer problems and one has prosocial behaviour. Children are asked to become explorer assistants and to help find the Curious Beasts by answering some questions (taken directly from the SDQ) which, when answered will make the Curious Beast appear. Each child receives a numbered bag of coins coloured bronze, silver and gold. Puppeteers explain to the children that they are to use the coins to answer questions by placing their selected coin into 'Beuler', a machine that collects coins from each child after each question is asked so that the research team can obtain data. A bronze coin represents a response of 'not true/not like me at all', a silver 'somewhat true/sometimes like me' and gold 'certainly true/ a lot like me'. Data from coin responses is collected after each question and then entered onto an SDQ scoring sheet. Responses are therefore scored in the same way as on the paper questionnaire. Subscale totals are calculated, and a Total Difficulties score is created from the sum of subscales (aside from the Prosocial scale).

The Curious Beasts Nurture Programme

The 6-week nurture programme follows the Curious Beasts workshop and works with children identified in the workshop and by teachers as having social-emotional and mental health difficulties. Nurture sessions are delivered by an experienced nurture practitioner and sessions 1-5 are centred around a 'Curious Story'- a short story written about each puppet in the Curious Beasts workshop. The story is read through by the practitioner with children. For each story, children are asked a series of questions about what the puppet character could have done differently to achieve a better outcome, for example 'what could he do differently to feel better?'. This discussion is followed by asking the child about their own behaviour, for example 'do you think it is helpful to tell people how you are feeling?'. This type of question was asked with a view to each child creating a positive statement of behaviour, written down on a coloured piece of card which they could then keep, for example 'when I feel worried I tell someone how I am feeling so they can help me'. The 6th nurture session is reflective, the practitioner supports each child to reflect on their learning and behaviour from the previous 5 weeks.



Procedure

For each school recruited an initial meeting was held between the research team and headteacher to organise delivery of the Curious Beasts workshop and the collection of teacher-reported SDQ forms. Class teachers completed SDQ forms for their whole class prior to the delivery of the workshop with children. Class teachers were also asked to divide their class in half for participation in the workshop, ensuring an appropriate adult-child ratio as well as enough space in the Curious Beasts tent for children to take part and engage with the content. The workshop lasted approximately 1.5 hours and was held in a large space in the school which can accommodate the Curious Beasts tent; typically, the school hall. Each Curious Beasts workshop provided child-reported SDQ data for the whole class. These data alongside teacher-reported SDQ data were then scored and a high-scoring children were identified by the research team. A meeting was then held between the research team, class teacher and SENCO to select up to 12 children per class to take part in the 6-week Curious Beasts nurture programme. Selection of children was based on the consideration of their SDQ data and in-depth discussions with the teacher and SENCO about each child. Children were then placed into groups of 3 or 4 by their teacher to take part in weekly nurture sessions. Nurture sessions occurred in school in a quiet area and were delivered by an experienced nurture practitioner. Sessions lasted approximately 45 minutes. After 6 weeks of nurture sessions, teachers completed a post- intervention SDQ form for each child in the nurture workshop, and each child receiving nurture completed a child-report SDQ with the support from their nurture practitioner. Data was then analysed by the research team and compared to pre-intervention data to measure change over time.

Analysis plan

We report the results using descriptive data and effect size analysis. Effect size analysis enables us to establish the magnitude of effect and uses a statistic called Hedges G. Using conventional interpretation an effect size around 0.2 is considered a small effect, an effect size around 0.5 is considered a medium effect, and around 0.7 is considered a large effect.

Results

Research Question 1: Is there a change in children's social-emotional and mental health



difficulties between pre- and post- intervention as reported by children?

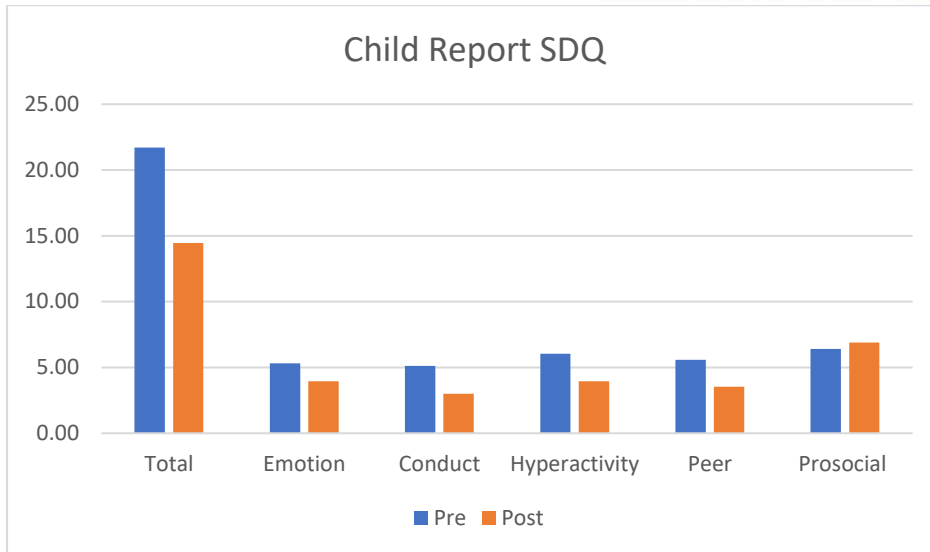
Table 1 below displays the descriptive statistics for child-reported data at the pre- and post-intervention time points and the effect size associated with each outcome.

Table 1: Descriptive data for child-reported social-emotional and mental health difficulties at pre- and post- intervention time points.

n =182	Mean (sd) Pre	Mean (sd) Post	Effect Size
Total	21.70 (6.18)	14.46 (5.72)	1.2
Emotion	5.32 (2.53)	3.94 (2.16)	0.58
Conduct	5.11 (2.71)	3.00 (1.91)	0.88
Hyperactivity	6.04 (2.46)	3.95 (2.19)	0.89
Peer	5.58 (2.56)	3.54 (2.09)	0.86
Prosocial	6.41 (2.86)	6.90 (3.01)	0.16

Descriptive data indicates a decrease in child-reported social-emotional and mental health difficulties across all difficulty subscales and an increase in prosocial behaviour. This suggests children are reporting themselves to have improved in social-emotional mental health and wellbeing across all scales over the duration of the intervention. Standard deviations are comparable between time points indicating small variability in scores. Effect size analysis shows large effects for total difficulties, conduct, hyperactivity and peer-problems subscales and a medium effect for emotional difficulties. These results are displayed visually in the graph below.

Figure 1: Child-reported social-emotional and mental health difficulties at pre- and post-intervention time points.



Research Question 2: Is there a change in children’s social- emotional and mental health difficulties between pre- and post- intervention as reported by teachers?

Table 2 below displays the descriptive statistics for teacher-reported data at the pre- and post- intervention time points and the effect size associated with each outcome.

Table 2: Descriptive data for teacher-reported social-emotional and mental health difficulties at pre- and post- intervention time points.

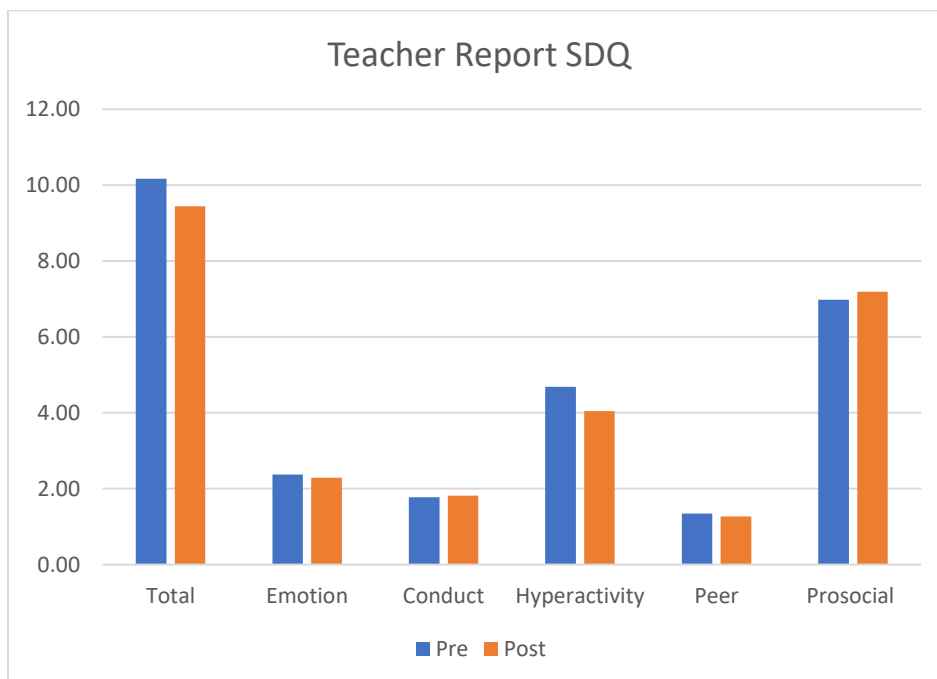
n=182	Mean (sd) Pre	Mean (sd) Post	Effect Size
Total	10.16(6.96)	9.44 (7.10)	0.10
Emotion	2.37 (2.59)	2.29 (2.29)	0.03
Conduct	1.77 (2.24)	1.82 (2.36)	-0.02
Hyperactivity	4.69 (3.25)	4.04 (3.29)	0.19
Peer	1.34 (1.66)	1.27 (1.70)	0.04
Prosocial	6.98 (2.62)	7.19 (2.41)	0.08

Descriptive data indicates a decrease in all difficulty subscales aside from conduct behaviour, and an increase in prosocial behaviour, therefore teachers are reporting children to have improved in social-emotional mental health and wellbeing over the duration of intervention. Standard deviations are comparable across groups for subscales indicating small variability in scores, however it is important to note here than in comparison to the



mean for Total Difficulties standard deviations are large, suggesting that some children are reported as having difficulties in the borderline range at baseline, and some in the normal range. Such variability in scores means it is less likely that an overall effect of intervention would be found in teacher-reported data, and we are likely to see less movement in scores. In comparison to child-reported data, the degree of reported change is smaller, resulting in smaller effect sizes across subscales. The graph below displays these changes visually.

Figure 2: Child-reported social-emotional and mental health difficulties at pre- and post-intervention time points.



Discussion

Outcomes demonstrate positive change in children’s social-emotional and mental health difficulties over the course of intervention as reported by children and teachers. Effect sizes indicate a large magnitude of effect for child-reported difficulties which suggests if replicated again with a different cohort of children it is highly likely the same outcomes



would be found. Effect sizes are smallest for the emotional difficulties subscale however this is not surprising as there is a latency effect for emotional difficulties; these difficulties are often more robust and are hardest to change in a short intervention period. What is particularly promising is the positive change in hyperactive, conduct and peer behaviours which are often regarded as most problematic within a school setting and are most linked to school exclusion and juvenile delinquency; these behaviours are externalising in nature so impact on not only the child but those around them including their peers and teachers.

Interestingly there is a stark contrast at baseline between child and teacher-reported difficulties with children scoring themselves much higher (greater degree of need) than teachers. This has impacted results as the increased variability in total difficulty scores in the teacher data means an effect of intervention is less likely to be found, nevertheless, the teacher data demonstrates trends in the right direction, with a decrease in severity across scales. Differences in child and teacher data raise the question of reliability, which most represented the true characteristics of the child. This is where the importance of the face-to-face meeting between the research team and teacher at baseline is highlighted. It is in these meetings that the reliability of teacher data, rather than child data, is often called into question. As teachers are offered the opportunity to reflect on children's behaviours in a deeper way, a discrepancy between the degree of difficulty they had initially reported, and the reality of children's behaviour may be found. Therefore, it is our belief that in fact the child-reported data is a more reliable measure of degree of difficulty than the teachers. This warrants further exploration in the future but so far makes a significant contribution to how mental health difficulties may be assessed in sub-clinical populations in a school context. Furthermore, it cannot be overlooked that benefits of Curious Beasts further extend beyond the assessment of mental health alone. The theatrical and submersible nature of Curious Beasts brings the creative arts to marginalised communities where children are less likely to have access to the arts; offering children the opportunity to escape complex and challenging lives and engage themselves in a different fun and exciting world, a world that may elicit long-term change and spark new interests in children.



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It is noted here that the current sample size was smaller than initially anticipated due to covid-19 national lockdown. Therefore, a larger sample size may provide less variability in data and therefore an increased chance of detecting stronger intervention effects in teacher data. In response to the pandemic, Life and Limb puppets has adapted the Curious Beasts offer to be digitised creating 'Curious Beasts Online', using video workshop content and animated nurture stories. This is an innovative, responsive and timely move which places Curious Beasts at a significant advantage over other school-based programmes, particularly given the substantial increase in mental health difficulties in children due to the pandemic and lockdown as reported by the lancet (2020).

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