



The Development of Empathic Responding During
Early Childhood (3-6 years): Evidence from a
Behavioural Comforting Task.

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Abstract

Empathic responding involves both affective and cognitive components and is important for socio-emotional development. This study investigated whether age was associated with children's comforting responses to a caregiver displaying simulated distress. An observational design was used with 31 children aged 3-6 years ($M = 4.71$ years, $SD = 1.07$). Children completed an adapted *Comforting Task*, in which their caregiver simulated a minor injury and the child's behavioural responses were video recorded. Comforting behaviours, including patting, hugging, kissing, offering objects, and verbal comforting, were coded alongside latency to first comforting. Spearman's rank-order correlations examined associations between age in months and comforting and concern scores. 25 of 31 children (80.6%) displayed at least one comforting behaviour, with verbal comforting and patting the most frequent responses. Median latency to first comforting was 13 seconds (range = 1-30 seconds). No significant association was found between age and comforting score ($\rho = -.031$, $p = .869$) or concern score ($\rho = .094$, $p = .615$). These findings showed that comforting was frequently observable overall across the 3-6 year age range, but there was no evidence of a straightforward linear increase in comforting with age. This contrasts with previous research demonstrating an increase in comforting between 9 and 18 months (Vreden et al., 2025), suggesting that developmental changes during the preschool years may involve changes in the appropriateness or sophistication of empathic responses, rather than simply an increase in comforting frequency. Limitations include the small sample size, cross-sectional design, and use of a single behavioural measure.

Empathy is commonly defined as the ability to share and understand others' emotional states (Vreden et al., 2025). There are two key components of empathy distinguished by Preston and de Waal (2002): *affective empathy*, which is the sharing of others' emotions, and *cognitive empathy*, which is understanding others' emotional states. It is important to study both components of empathy in adults and children because empathy is associated with social behaviours, including prosocial behaviours such as kindness and helping (Singer and Klimecki, 2014), and lower levels of antisocial behaviour such as aggression (Malti, 2020). These social abilities can facilitate cooperation, conflict resolution and the development of positive social relationships (Singer and Klimecki, 2014). It is particularly important to understand empathy development during early childhood as it helps track emotional evolution from emotion contagion (e.g. crying when another child cries) to cognitive perspective-taking, the ability to understand another person's thoughts, feelings or point of view, as children mature (Sultan and Khan, 2025). High levels of empathy in early childhood have also been positively associated with prosocial behaviours such as helping, sharing, comforting and cooperation, and negatively associated with anti-social traits, such as bullying (van Noorden et al., 2015). Thus, understanding empathy development is important for supporting children's positive social relationships (Rieffe et al., 2010).

While empathy has early emerging biological and developmental foundations (Decety & Svetlova, 2012), research has increasingly highlighted empathy as a developmental process also shaped by environmental factors and learning (Eisenberg et al., 2015). This developmental perspective does not exclude biology; infants demonstrate early forms of emotional responsiveness that indicate biological pre-dispositions, including emotion contagion, the process by which observing the emotional state of others can evoke a similar emotional response in oneself (Li et al., 2022), and concern for others

(Decety & Svetlova, 2012; Vreden et al., 2025). As children move into the preschool years, developing perspective-taking, theory of mind and emotion regulation enable them to better understand others' experiences and manage their own emotional responses, supporting increasingly complex empathic behaviours. These abilities are further supported through social experiences, including caregiver modelling, shared play and peer interaction, which can help children practice and refine their empathic and prosocial behaviours (Eisenberg et al., 2015; Rieffe et al., 2024).

One important mechanism through which caregivers support these processes of socio-emotional development is scaffolding (Dahl et al., 2017). Within the context of development, scaffolding refers to the support provided by caregivers (including parents and teachers) that enables children to perform behaviours beyond their current independent abilities (Wood et al., 1976). Scaffolding may support the development of empathy and prosocial behaviour by providing children with guided experiences, reinforcement, and opportunities to practise socially adaptive behaviours within supportive interpersonal contexts.

Vreden et al. (2026) examined maternal scaffolding in rural and urban Uganda, and urban UK to investigate how cultural variation influences the development of prosocial behaviours. They found that cultural differences in maternal scaffolding were associated with differences in children's helping behaviour, with infants in the rural Ugandan sample demonstrating higher rates of spontaneous helping than those in the urban UK, along with differences in maternal scaffolding strategies. As part of a broader longitudinal cross-cultural research programme, these findings suggest that prosocial behaviour like helping is shaped not only by age-related development, but also by the social and cultural environments in which children are raised. Although

helping behaviour and empathy are conceptually distinct, research suggests that they are interrelated during development. MacGowan and Schmidt (2021), for example, found that helping behaviour at age 5 mediated the relationship between shyness at age 4 and affective empathy at age 6, suggesting that opportunities to engage in prosocial behaviour may contribute to the later development of empathic responding.

In addition, children's emotional competencies, especially emotion regulation, have been associated with empathy and prosocial behaviour (Simon & Nader-Grosbois, 2026). Gross (1998) defines emotion regulation as the processes by which individuals influence which emotions they have, when they have them, and how they express these emotions. Emotional intelligence is conceptualised as the ability to perceive, understand and regulate emotions to promote intellectual and emotional growth (Salovey & Mayer, 1997). Recent findings suggest that emotion regulation may support empathic responding by enabling children to manage their own emotional responses, while still attending to the emotions of others (Simon & Nader-Grosbois, 2026). However, empathy is not expressed uniformly across children, and differences in empathic expression may reflect neurodevelopmental differences, rather than simply indicating an empathy deficit (Milton, 2012).

Alongside the aforementioned influences, neurodiversity is an important area of discussion in empathy research due to stereotypes that neurodiverse individuals, particularly those with autism, lack empathy. Milton's (2012) "Double Empathy Problem" counters this view, suggesting that perceived empathy deficits are the result of reciprocal misunderstandings about how neurotypical and neurodiverse individuals communicate and express emotions, rather than reflecting a lack of empathy in autistic individuals. A recent study by Li et al. (2023) found that while autistic children

experienced difficulty acknowledging others' emotions and initiating prosocial actions, they did not differ from non-autistic children in emotion contagion, suggesting similarities in early affective responsiveness. Additionally, Li et al. (2023) found that although autistic children showed lower overall levels of prosocial actions, these behaviours increased at a greater rate than in their non-autistic peers. However, the article suggests that measures of emotion acknowledgement were based on a neurotypical framework, so, as Milton (2012) argues, these methods may not fully capture autistic children's emotional experiences, or alternative forms of empathic expression.

In both neurotypical and neurodivergent populations, empathy is difficult to measure directly because it involves internal emotional and cognitive processes that cannot be explicitly observed. Historically, this has required researchers to infer empathic responding from external behaviour or validated questionnaires (Decety & Svetlova, 2012; Rieffe et al., 2010) along with making inferences from psycho-physiological measures. In recent years, developments in the neuroscience of empathy (Singer, 2006), as well as technological advancements within the field of psychology have allowed empathy to be investigated using more diverse and objective physiological measures; these include hormonal measures (e.g. salivary oxytocin; Procyshyn et al., 2020), infrared thermal imaging (Vreden et al., 2025), and facial electromyography (Geangu et al., 2016). These novel techniques can be coupled with behavioural tasks to measure both physiological responses to others' distress, and observable behavioural markers, such as vocalisations or facial expressions (Vreden et al., 2025). However, although some psychophysiological measures can be used with young children, they can be more technically demanding to implement than behavioural measures. For this reason, empathy is typically assessed using behavioural tasks that

allow participants to demonstrate or evaluate prosocial behaviours associated with empathy, particularly comforting behaviours in response to distress (Dunfield, 2014) and children's understanding of appropriate empathic actions (Paulus et al., 2020).

Behavioural tasks are particularly valuable when studying empathy in young children who may not have the ability to accurately report their own internal emotional experiences, especially as empathy involves multiple internal affective and cognitive processes that may not be directly accessible through self-report (Decety & Svetlova, 2012). Using multiple behavioural tasks allows researchers to assess different components of empathy, providing a more comprehensive understanding of empathic responding during early childhood. Understanding the diverse influences on empathy development is particularly important during the preschool years, when children increasingly demonstrate observable empathic behaviours and prosocial responses that can be assessed using behavioural tasks (Dunfield, 2014).

Behavioural comforting tasks provide one way of examining children's responses to another individual's distress. Vreden et al. (2025) used a structured comforting paradigm with infants aged 9 to 18 months in Uganda and the UK, in which an adult simulated a minor injury, and infants' comforting behaviours and expressions of concern were observed. They found evidence of comforting behaviour at both ages, with the likelihood of comforting increasing between 9 and 18 months. The study therefore provides evidence that behavioural expressions of empathic responding emerge early in development and continue to change during infancy. However, less is known about how these behavioural responses develop across the preschool years, when children are also developing more advanced socio-cognitive abilities. The present study therefore extends the comforting paradigm to children aged 3-6 years,

allowing developmental differences in behavioural responses to distress to be examined across the preschool period.

Based on previous research demonstrating increases in comforting behaviour during early development (Vreden et al., 2025), it was hypothesised that older children (6-year-olds) would be more likely to engage in comforting behaviours and would have higher comforting and concern scores than younger children (3-year-olds). It was also expected that the frequency and range of comforting behaviours would vary with age, with older children expected to display a greater range of responses, including verbal and physical forms of comforting.

The present study investigated whether age was associated with children's comforting responses to a caregiver displaying simulated distress. Children's behavioural responses were assessed using an adapted version of the *Comforting Task* (Dunfield, 2014), alongside caregiver-report measures of children's empathy and emotional development.

Method

Participants

The present study was conducted in 2026 with 43 children aged 3-6 years and their primary caregivers. Twelve participants were excluded from the behavioural analysis due to incomplete or invalid trials (such as interacting with the child or laughing mid-trial), resulting in a final sample of 31 children (16 female, 51.6%; 15 male, 48.4%). The final sample had a mean age of 4.71 years ($SD = 1.07$). Participants were recruited through social media and the Durham University Department of Psychology Families database using opportunistic sampling. Ethical approvals were obtained from the Sub-Ethics Committee in the Department of Psychology at Durham University. Caregivers provided written informed consent after reading a participant information sheet outlining the purpose and procedures of the study. All data was recorded anonymously, and participants were assigned unique identification numbers to maintain confidentiality.

Design

The present study employed an observational design to investigate behavioural expressions of empathy in children aged 3-6 years. The primary behavioural measure was the *Comforting Task*, adapted from Vreden et al., 2025, which was originally adapted from Dunfield et al. (2011). This task used a structured observational design, in which all children were exposed to a standardised scenario of their caregiver displaying distress. Age in months was the primary predictor variable, while the primary outcomes were the child's comforting and concern scores. Additional outcomes included children's verbal responses to follow-up questions assessing their understanding of the caregiver's emotional state and the situation.

Measures

Empathic responding was assessed using an age-appropriate behavioural comforting task and caregiver-report questionnaires.

The behavioural measure was the *Comforting Task*, adapted from Vreden et al., 2025. In this task, the child's caregiver simulated a minor injury, while the child's spontaneous behavioural responses were observed and video recorded. Following the task, the child answered a series of questions assessing their understanding of the situation, their caregiver's emotional state and thoughts, and their own response to the caregiver's distress. Behavioural and verbal responses were subsequently coded using the project's coding framework.

Caregivers also completed questionnaires assessing family background, caregiver wellbeing and social support, responses to children's emotions, children's empathy, and children's emotional vocabulary. Some were completed before the laboratory visit, while others were completed on the day of testing. These included a background questionnaire on family life, the Coping with Children's Negative Emotions Scale (CCNES), the WHO-5 Well-Being Index, the Multidimensional Scale of Perceived Social Support (MSPSS), the Child Empathy Questionnaire (EmQue), and the Emotion Word Inventory. Access to all questionnaires is provided in Appendix A.

Procedure

Following informed consent, families attended a single laboratory session, during which children completed the behavioural tasks with two experimenters while caregivers completed any remaining questionnaires.

Children first completed the *Comforting Task*. This task began with a warm-up phase, during which the child is introduced to five objects which they would be given a chance to interact with during the trial. Two of the objects were related to empathic comforting (*plaster, toy bear*) while three were decoy objects (*crayons, LEGO blocks, a basket with scoop*). The child interacted with each object, while the caregiver was asked to show interest in the bear. Once familiarisation was complete, the tray was moved away. Following caregiver training, the trial began by the caregiver calling the child's name to draw their attention before walking towards them, then enacting a standardised simulated injury by hitting their leg on a plastic table and falling over next to the child on a playmat. The caregiver then expressed pain for one minute using pain sounds ("ooh", "ahhh") while looking at and rubbing their leg, but without using words. After one minute, an experimenter placed the tray from the warm-up phase on the mat, and the caregiver said, "Ow my leg still hurts". The caregiver then continued to express pain for a further minute, until the experimenter asked whether they were OK, at which point the caregiver responded, "I am OK now".

Following completion of the trial, the researcher asked the child five questions assessing their verbal explicit understanding of the event, the caregiver's emotional state and their own response, including "*What happened to mummy?*" and "*How do you think mummy was feeling?*". The full protocol, including the five questions, is provided in Appendix B.

Throughout the session, caregivers completed the Emotion Word Inventory while the behavioural task was administered. All other questionnaires were completed in advance of the session. All sessions were video-recorded, and children's behavioural and verbal responses were subsequently coded using the project's standardised

coding protocol to ensure consistent scoring across participants. Comforting behaviours were coded according to the type of response displayed by the child, including hugging, patting, kissing, offering an object, and verbal comforting. The latency to the first comforting response was also recorded. Children's responses to the five follow-up questions were coded according to the content of their responses, and overall comforting and concern scores were calculated using the predefined coding criteria. This protocol was applied consistently across participants to ensure that behavioural responses were recorded and scored in a standardised manner.

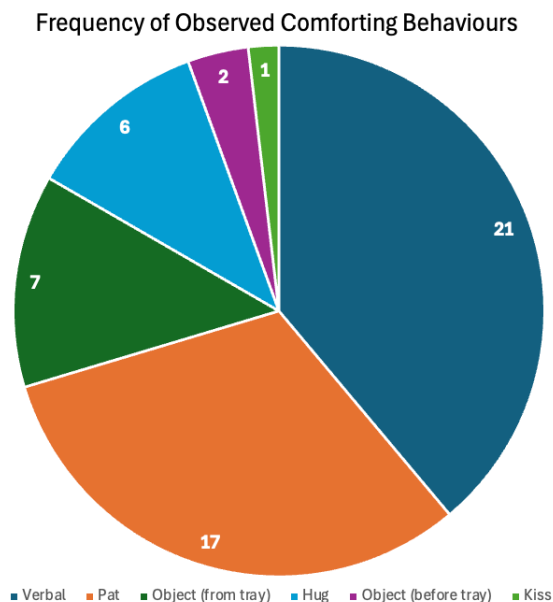
Results

A total of 43 children aged 3-6 years participated in the study. Following the exclusion of 12 participants due to incomplete or invalid trials, 31 participants were included in the final analysis. Children had a mean age of 4.71 years ($SD = 1.07$, range = 3-6 years).

Across the 31 valid trials, 54 instances of comforting behaviour were observed. Verbal comforting was the most frequently observed response ($n = 21$), followed by patting ($n = 17$), offering an object from the tray ($n = 7$), hugging ($n = 6$), offering an object before the tray was introduced ($n = 2$), and kissing ($n = 1$). The frequencies of each comforting behaviour are presented in Figure 1.

Figure 1

Frequency of comforting behaviours displayed by children during the Comforting Task.



The children's verbal responses following the *Comforting Task* were examined descriptively. Of the 27 children who provided a response to Question 2: "*How Was Mummy Feeling?*", 15 (55.6%) identified their mother as "sad". A further six children

gave responses categorised as “hurt” or “other negative response”. Overall, 21 children (77.8%) provided a response categorised as indicating a negative emotional state. The full distribution of responses is presented in Table 1.

Table 1

Children’s Responses to “How Was Mummy Feeling?” in the Comforting Task.

Response	Frequency	Percentage
Sad	15	55.6%
Hurt	3	11.1%
Other negative response	3	11.1%
Positive response	2	7.4%
Other/ambiguous	3	11.1%
No response	1	3.7%
Total	27	100%

The latency to onset of comforting behaviour was also examined among children who displayed at least one comforting behaviour. Of the 31 children included in the behavioural analysis, 25 (80.6%) displayed at least one comforting behaviour. Among these children, the median latency to onset was 13 seconds (range = 1-30 seconds). These descriptive results are presented in Table 2.

Table 2

Latency to Onset of Comforting Behaviour

Measure	Value
Children displaying comforting behaviour, <i>n</i>	25
Median latency to onset (s)	13
Range (s)	1 – 30

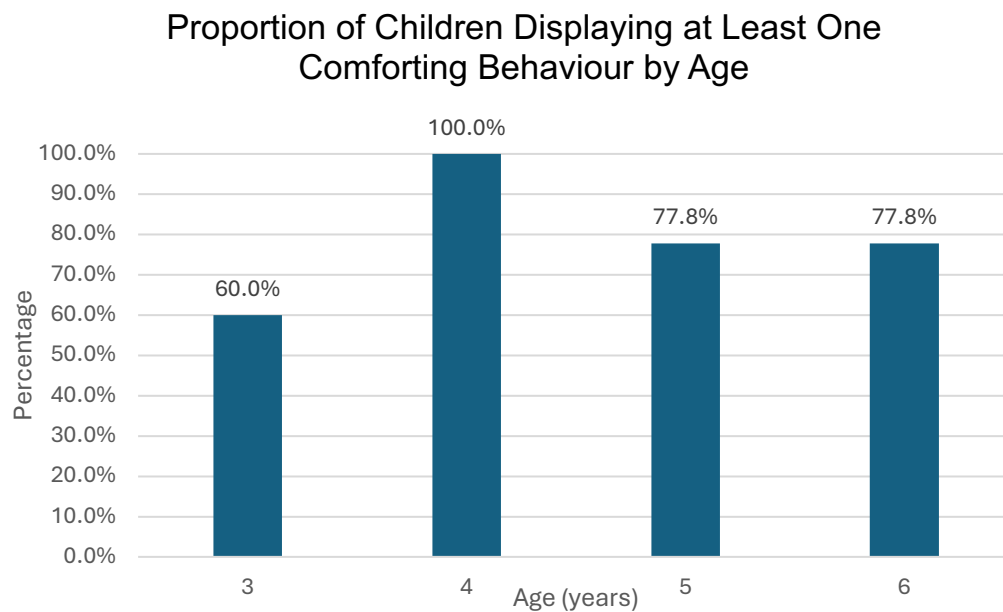
The proportion of children displaying at least one comforting behaviour was also examined across age groups. Among 3-year-olds, 3 or 5 children (60.0%) displayed at least one comforting behaviour, compared with 8 or 8 children (100.0%) aged 4 years, 7 of 9 children (77.8%) aged 5 years, and 7 of 9 children (77.8%) aged 6 years.

Overall, 25 of 31 children (806%) displayed at least one comforting behaviour. The proportion of children displaying comforting behaviour by age is presented in table and graph form in Figure 2.

Figure 2

Proportion of Children Displaying at Least One Comforting Behaviour by Age

Age (years)	<i>n</i>	<i>n</i> who comforted	Proportion who comforted
3	5	3	60.0%
4	8	8	100.0%
5	9	7	77.8%
6	9	7	77.8%
Total	31	25	80.6%



Two Spearman's rank-order correlations (ρ) were conducted in JASP (Version 0.19). Comforting and concern scores were treated as ordinal, while age in months was continuous; therefore, Spearman's ρ was selected as the appropriate test.

Comforting scores ranged from 0 to 3, with a median score of 2 (IQR = 2-3). There was no statistically significant association between age in months and comforting

score, $\rho = -.031$, $p = .869$. This indicates that age was not significantly related to comforting score. The correlation results are presented in Table 3.

Table 3

Spearman's Correlation Between Age and Comforting Score

			<i>n</i>	Spearman's rho	<i>p</i>
Age (months)	-	Comforting Score	31	-0.031	.869

Concern scores ranged from 0 to 3, with a median score of 1 (IQR = 1-2). There was no statistically significant association between age in months and concern score, $\rho = .094$, $p = .615$. This indicates that age was not significantly related to concern score. The correlation results are presented in Table 4.

Table 4

Spearman's Correlation Between Age and Concern Score

			<i>n</i>	Spearman's rho	<i>p</i>
Age (months)	-	Concern Score	31	0.094	.615

Gender differences in comforting and concern were examined using Mann-Whitney *U* tests. There was no significant difference in comforting scores between male ($n = 15$, median = 2, IQR = 2) and female children ($n = 16$, median = 2, IQR = 1), $U = 114.50$, $p = .833$. Similarly, there was no significant difference in concern scores between male ($n = 15$, median = 2, IQR = 1) and female children ($n = 16$, median = 1, IQR = 0.25), $U = 135.00$, $p = .543$.

Discussion

The present study investigated the development of empathic responding during early childhood by examining children's behavioural responses to a caregiver displaying simulated distress. It was expected that comforting behaviour would increase with age. However, no significant association was found between age and comforting score. This suggests that, within the present sample, there was no evidence of a straightforward linear increase in comforting across the 3-6 year age range.

Furthermore, the proportion of children displaying at least one comforting behaviour varied across age groups, ranging from 60.0% among 3-year-olds to 100.0% among 4-year-olds, before decreasing to 77.8% among both 5-year-olds and 6-year-olds. This pattern is consistent with the idea of a non-linear, non-significant relationship between comforting score and age.

The absence of an age-related effect on comforting and concern is not inherent evidence that empathy does not develop during the preschool years. This is because empathy encompasses both affective and cognitive components (Preston & de Waal, 2002), whereas the present study only captures one behavioural expression of empathic responding.

Despite the absence of an age-related increase, comforting was common across the sample: 25 of 31 children (80.6%) displayed at least one comforting behaviour, with a median latency of 13 seconds (range = 1-30 seconds). This suggests that comforting was a readily observable form of empathic responding across the 3-6 year age range. This supports Dunfield's (2014) distinction of comforting as a specific form of prosocial behaviour, directed towards another's distress.

Vreden et al. (2025) found an increase in comforting from 9 to 18 months, whereas the present study found no age-related effect from 3 to 6 years. This could suggest that some quantitative development in comforting occurs earlier in childhood, before becoming relatively established by the preschool period. However, this interpretation cannot be confirmed from the present cross-sectional design. Therefore, development during the preschool years may involve changes in the quality or sophistication of empathic responses, rather than simply an increase in comforting frequency. This possibility is consistent with Paulus et al. (2020), who found that 5-year-olds showed a greater understanding of comforting as an appropriate response to others' distress than 3-year-olds; this suggests that preschool development may involve increasing understanding of the social value of comforting.

The quantitative response section that followed the task was completed by 27 participants. In response to Question 2: *"How was Mummy Feeling?"*, 15 children identified their mother as "sad", while a further 6 identified other negative emotions. Thus 21 children (77.8%) gave a response consistent with recognition of their caregiver's negative emotional state. However, recognising a caregiver's distress did not necessarily result in a comforting response. This distinction reflects the cognitive and affective components of empathy, as understanding another's emotional state may not always directly result in an appropriate behavioural response (Decety & Svetlova, 2012).

There were also no significant gender differences in comforting or concern, suggesting that gender was not clearly associated with children's behavioural responses to distress in the present sample. However, due to the relatively small sample size and

the exploratory nature of the comparisons, this finding should be interpreted with caution.

Limitations and future research

The task only involved 31 participants, making the sample size small, which may reduce statistical power. Alongside this, there was only a single behavioural task conducted, which measures just one behavioural expression of empathic responding: comforting. This task therefore cannot capture the full cognitive and affective components of empathy.

The comforting measure may also have been subject to a ceiling effect, as several children received high scores, potentially limiting its sensitivity to further age-related differences.

Additionally, the use of a simulated injury involving the child's caregiver may have influenced children's responses, as individual children may have differed in how seriously they interpreted the scenario, or how familiar they were with the caregiver's behaviour.

Future research should use longitudinal designs spanning the preschool years and extending into later childhood and early adolescence, to investigate developmental changes in empathic responding. Additionally, adopting a cross-cultural, multi-method approach, similar to Vreden et al. (2025), would help to determine whether developmental patterns are consistent across different social and cultural contexts. Using multiple behavioural tasks could also assess whether the form, sophistication and latency of empathic responses change with age, rather than solely focussing on the frequency of comforting.

Conclusion

Overall, the present findings provide evidence that empathic responding in the form of comforting is frequently observable during early childhood. However, there was no evidence of an age-related increase in comforting or concern across the 3-6 year age range, suggesting that empathic responding may not develop through a clear linear increase in observable comforting during the preschool period. Instead, important developmental changes may occur earlier in childhood or may be reflected in qualitative changes in empathic responses that are not captured by a single behavioural measure (Dunfield, 2014).

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Appendix A

Coping with Children's Negative Emotions Scale (CCNES): <https://ccnes.org>

WHO-5 Well-Being Index: <https://www.who.int/publications/m/item/WHO-UCN-MSD-MHE-2024.01>

Multidimensional Scale of Perceived Social Support (MSPSS):

https://www.researchgate.net/publication/311534896_Multidimensional_Scale_of_Perceived_Social_Support_MSPSS_-_Scale_Items_and_Scoring_Information

Child Empathy Questionnaire (EmQue):

<https://www.focusonemotions.nl/instruments/empathy-questionnaire-emque>

Emotion Word Inventory:

Number	English	Child understands	Child says
6	Afraid		
12	Amazed		
14	Angry		
15	Annoyed		
28	Attacked		
31	Bad-tempered		
42	Bored		
43	Bothered		
44	Brave		
45	Broken		
48	Calm		
50	Caring		
56	Cheated		
57	Cheered		
58	Cheerful		
59	Choosing		
60	Close		
63	Cold		
64	Comfortable		
69	Complaining		
71	Concentrating		
75	Confused		
89	Cross		
90	Cruel		

91	Crushed		
95	Daydreaming		
97	Deciding		
101	Delighted		
106	Desperate		
113	Difficult		
116	Disappointed		
125	Disgust		
128	Dislike		
140	Disturbed		
144	Dreamy		
147	Embarrassed		
150	Enjoyment		
152	Excited		
155	Fear		
156	Fed up		
157	Fierce		
158	Fine		
167	Friendly		
168	Frightened		
172	Gentle		
173	Giving		
174	Glad		
175	Gloomy		
177	Grateful		
181	Grumpy		
183	Happy		
186	Hate		
190	Helpful		
196	Horried		
199	Hurried		
200	Hurt		
201	Ignored		
202	Impatient		
203	Impressed		
204	Injured		
209	Interested		
212	Jealous		
213	Joking		
214	Jolly		
215	Joy		
218	Keen		
219	Kind		
220	Knowing		

221	Liked		
222	Listening		
224	Lonely		
226	Lost		
227	Love		
231	Lying		
232	Mean		
233	Merry		
234	Mischievous		
235	Miserable		
241	Moody		
245	Nasty		
246	Needed		
249	Nervous		
250	Nosy		
261	Panic		
262	Peaceful		
264	Playful		
265	Pleased		
266	Pleasure		
268	Proud		
269	Puzzled		
273	Relaxed		
278	Sad		
279	Safe		
281	Scared		
284	Serious		
287	Shocked		
288	Shy		
291	Sorry		
292	Spiteful		
294	Stupid		
295	Sulky		
296	Sure		
297	Surprised		
298	Tearful		
299	Teasing		
303	Terrified		
304	Terror		
305	Thankful		
306	Thinking		
307	Thoughtful		
311	Touched		
312	Trapped		

314	Trusting		
315	Uncaring		
317	Uncomfortable		
318	Understanding		
319	Unfriendly		
320	Unhappy		
321	Unsure		
322	Upset		
324	Useless		
326	Wanted		
327	Warm		
331	Whining		
333	Wonder		
334	Wondering		
335	Worried		

Appendix B

Comforting Protocol

Materials:

Mat and plastic table; Tray with 5 objects and cloth: toy bear, plaster, hair clip, crayon, box; Hair tie for mother's hair if needed. Two camcorders.

- **Setup:** The child is seated on the far end of mat/rug. Ensure there is enough room for their mother to fall onto the mat, where the camera will capture her face. Place the blue plastic table askew so the mother can pretend to hit her foot on it. Make sure two cameras are recording (don't forget to clap) before the mother begins. one records the mother and one the child's face
- Start the trial when both cameras are running and first Clap.

Procedure:

Warm-up phase:

During warm-up phase at start of session: E2 presents a tray of objects to the child while E1 is with mother.

In this tray are 5 objects: toy bear, plaster, hair clip, crayons, key that opens a toy box. E2 demonstrates each object to the child and lets them interact with them. For the teddy bear, we ask the mother to show interest, she says, "I like this teddy!". After familiarisation is complete, the tray is covered over with a cloth.

Training phase with the mother

Conducted by E1 while E2 is distracting the child outside of the room/visible earshot of the child.

Essential that mother has sufficient time to practise, that she understands the timings and is not laughing/breaking character.

"For the next part, we want to see how your child reacts when you are upset after an injury. [The other experimenter] will sit here with your child and you will walk over to them.

Before you reach the mat, pretend to bump your foot on this table. Before you walk over, make sure your child is looking at you by saying their name. Please do not start walking until they are looking.”

When you bump your foot, pretend you are in pain. Fall to the ground so you are facing the camera with your injured leg. If you have long hair, please tie it up as we need to see your face. Then rub your leg with your hand while looking at it until you receive the cue. Please do not use any words, just sounds of being in pain. Please do not look at the child or break your character. Keep rubbing your leg and making the sounds of pain. Please do not engage with your child. If they come close and touch you, just ignore it.

Continue to act like you are hurt. After 1 minute, an experimenter will walk past and place a tray near you. When they make a cue (clear their throat), please say “ My leg is still hurting” and look at your child. Then continue to rub your leg until we tell you to stop.

The Mother Experimenter demonstrates acting out the injury, including approved vocalisations

“Have you understood the instructions? Can you please repeat back to me what you are meant to do?” The mother then verbally repeats the instructions and practices the injury at least once but more practises may be needed.

“Please wait to start until we have set our cameras. I will tell you when to begin.”

Start trial

Camera announcement: “This is Comforting at the 3-6y timepoint with UK [insert participant number] on the [insert date] at [insert time].

Child asked to sit in the corner with E2 facing their mother with the table in between

Ask the mother to start by calling their child’s name before falling over in front of the camera. Ensure one camera is on the child’s face, and the other is on the scene, being able to see the mother.

- One minute after the injury, E2 places the tray of 5 objects next to the mother on the floor without looking at the child or mother. The experimenter makes a cue to mother (clears throat). The mother then looks at her child and says “ My leg/foot still hurts, ow,” then continues to rub their leg for 1 minute.
- After 1 minute, the researcher approaches the mother and says ‘ah, you are OK now!?’ and the mother says “yes”

- Experimenter 2 then asks the child several questions. The mother is instructed to **not** assist the child in answering any of the questions or trying to answer on their behalf

Questions asked by Experimenter 2:

1. *What happened to mummy?*

(Follow-up: Did she get hurt? Where did she hurt herself?)

2. *How was mummy feeling?*

3. *What do you think mummy was thinking?*

(Follow-up: Why was mummy saying "ouch"?)

4. *Why did you help mummy? What did you do?*

5. *How did watching mummy make you feel?*