Parents' observed responses to children's emotional distress: Relations with social competence in preschool

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Although affective interactions in the family are important for development, home observational data are sparse. We replicated and extended one such study, Roberts & Strayer (1987, *Developmental Psychology,* 23, 415). Interactions in 33 two-parent families (mean child age = 4.8 years; 48% girls) were observed for four evenings, from suppertime until the child settled for the night. Parents completed the Child Rearing Practices Q-sort. Peer interactions and friendship networks in preschool were observed over four days. Teachers and observers completed the Preschool Behavior Q-Sort. Based on Q-rated peer competence and aggression, three expected groups of children were identified, one of them high on both aggression and peer competence. Although socially active and accepted by peers, they were, compared with other children, less cooperative with adults, less prosocial with peers, more impulsive, less achievement oriented, less purposive, and less happy (mean $\eta^2 = .52$). Parenting, especially observed impatience, threats, and use of force when children were emotionally distressed, showed important differences across groups.

Statement of contribution
What is already known on this subject?
- Affective factors in the family influence children's social competence.
- These include parents' comforting and supportive responses to distress; their pressure for children to control expressed negative affect; their pragmatic, problem-solving responses to distress; and their own irritation and anger.
- There is rough consensus that social competence in preschool entails active engagement with peers and peer acceptance.
- Prior to the 1990s, it was assumed that social engagement and acceptance entailed positive social skills; but it is now accepted that moderate aggressiveness is compatible with peer acceptance in young children.
- Much remains to be learned about different types of socially competent children.

What does this study add?
- Research on emotional socialization has usually relied on parent self-reports, since intense emotional distress can't be ethically induced in the laboratory and is infrequent outside it.

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- The current study presents extensive home observation data on emotional distress, some of it intense and prolonged.
- Three types of children were identified, one of them socially competent as well as aggressive and bullying.
- We replicated this pattern in a second sample.
- We identified links between these types of socially competent children and emotional factors in the family.
- Thus the current article clarifies relations reported in Roberts and Strayer (1987) and replicates a number of their findings.

Background

There are good reasons to think that affective factors in the family influence children's social competence (e.g., Grusec & Davidov, 2008; Ladd, 2005). Responsiveness to distress influences attachment status, which in turn influences social relationships outside the family (Bowlby, 1982; Sroufe, 2000). How parents respond to distress also influences children's emotion self-regulation, an important component of social interactions and relationships (e.g., Kopp, 1989; Saarni, 1999; Thompson, 2015). It is through parent–child interactions that children are thought to acquire their ability to recognize and respond to others' emotions, an important social skill (e.g., Eisenberg, Cumberland, & Spinrad, 1998; McElwain, Halberstadt, & Volling, 2007). This study examines parents' responses to the distress of their preschool-age children, a time when children are first forming important relations with peers and with adults outside the family.

Although emotional socialization has been an active area of research since the 1980s, researchers have usually relied on parent self-reports, since intense emotional distress cannot be ethically induced in the laboratory and is infrequent outside it. This study replicates and extends one of the few observational studies to assess responses to naturally occurring child distress, Roberts and Strayer (1987). Whereas Roberts and Strayer reported on 3,840 minutes of home observations, which included 297 parental responses during 135 episodes of children's emotional distress, this paper, using the same focal-individual sampling strategy and a nearly identical coding taxonomy (described below), reports on 10,669 minutes of home observations, which included 934 parental responses during 346 episodes of children's spontaneous emotional distress. Some of this distress was intense and prolonged. In addition to a larger behaviour sample, the number of participating families was increased from 30 to 33. Both studies included a Q-sort assessment of parenting; but whereas the earlier study used a 91-item Q-sort (Block, 1965), the current study used the modified 99-item Q-sort in Roberts (1999), which has additional items assessing responses to emotional distress. Because it was decided to rely on an extended home observation record, the observer rating scales and child interview measure in Roberts and Strayer (1987) were not used. Both studies obtained Q-sort assessments of children's behaviour from preschool teachers, but the current study added observations of children's social interactions in preschool and their classroom social networks.

Thus, like Roberts and Strayer (1987), the current paper presents extensive – and rare – observational evidence on what parents actually did when their children were emotionally distressed. This simple descriptive task provides a necessary framework for theorizing about how parents respond when their young children are distressed; and it addresses an expressed need for replication in the field of psychology (e.g., Earp & Trafimow, 2015). At the same time, changes were made in the analysis to clarify how

family interactions mapped onto children's behaviour in preschool. Although Roberts and Strayer (1987) have usually been interpreted as supporting a link between parenting and children's social competence (e.g., Bugental, & Goodnow, 1998; Denham, Salisch, Olthof, Kochanoff, & Caverly, 2002; Eisenberg, Fabes, & Murphy, 1996; Miller-Slough, Dunsmore, Zeman, Sanders, & Poon, 2018; Nelson, Leerkes, Perry, O'Brien, Calkins, & Marcovitch., 2013), in fact it does not clearly do so. Instead, Roberts and Strayer aggregated their scale for peer competence with measures of general competence, purposiveness, and ego strength, and their scale for peer prosocial behaviour with measures of achievement orientation and cooperativeness with adults (Roberts & Strayer, 1987, p. 419). As will be seen below, these scales were analysed separately in the current study, providing greater clarity on their relations with family characteristics.

In both Roberts and Strayer (1987) and the current study, parents' responses were assessed in the broader context of their warmth and control, both because warmth and control themselves influence children's competence (e.g., Maccoby & Martin, 1983) and because they are thought to moderate the effects of emotional socialization (Eisenberg *et al.*, 1998; Gottman, Katz, & Hooven, 1996; Grusec & Davidov, 2008). Following Davidov and Grusec (2006) and Gottman *et al.* (1996), as well as Roberts and Strayer (1987), warmth and responsiveness to distress were expected to have independent relations with child outcomes. Including measures of both in the current study allowed us to assess their relative importance for social competence.

Social competence

Following Roberts and Strayer (1987), we consider competence as an assessment in a context (cf. Thompson, 1995). It does not follow that a child who is socially competent in preschool will necessarily be socially competent in other contexts; nor is competence in future contexts relevant to the assessment of current competence, as some have suggested (e.g., Vaughn *et al.*, 2009). It is because social competence is context-bound that cultural and regional differences exist (Ladd, 2005). Context differences contribute to disagreement about the particular social skills needed by competent children (Rose-Krasnor, 1997; Vaughn *et al.*, 2009). But even though skills vary with context and change over time, there is rough consensus about what they accomplish in the particular context of preschool: active engagement with peers and peer acceptance. Acceptance can be assessed sociometrically (or by teacher reports) or by the presence of mutual friendships and participation in networks of friends (Ladd, 2005; Rose-Krasnor, 1997; Vaughn *et al.*, 2009; Waters & Sroufe, 1983). Following Roberts and Strayer (1987), we used a Q-sort measure of children's active peer engagement and acceptance developed by Waters, Wippman, and Sroufe (1979), completed by teachers. In the current study, this measure was also completed by observers, and Q-sort assessments were augmented by focal-individual observations of children's interactions and nearest-neighbour scan samples assessing their preferred partners (i.e., friends) and classroom social networks.

Prior to the 1990s, it was assumed that social engagement and acceptance entailed a variety of positive social skills, including the ability to respond to others in prosocial ways. Thus, prosocial and aggressive behaviours were often blended so that socially competent children were *defined* as prosocial, emotionally well-regulated, and dominant but not aggressive (e.g., Crick & Dodge, 1999; Rubin, Bukowski, & Parker, 2006; Sroufe, Egeland, Carlson, & Collins, 2005; Waters & Sroufe, 1983). The same bias is seen in the criterion Q-sort for general competence used by Roberts and Strayer (1987).

During the 1990s, Hawley and others pointed out that low-to-moderate levels of aggressiveness could enhance dominance and social prestige and were therefore attractive to peers (e.g., Hawley & Vaughn, 2003). At the same time, observational studies indicated that aggressive children were socially skilled and often prosocial (e.g., Pepler, Craig, & Roberts, 1995; Strayer, 1980; Strayer & Roberts, 2004; Sutton, Smith, & Swettenham, 1999; Vaughn, Vollenweider, Bost, & Azria-Evans, 2003) and that children who were not aggressive in the classroom often were so on the playground (Pepler, Craig, & Roberts, 1996, 1998). These findings suggested that aggression was in the repertoire of socially competent children and that social skills were often in the repertoire of highly aggressive children. Thus, although high levels of aggression militate against peer acceptance in older samples, it is now usually accepted that low or moderate levels of aggression are compatible with peer acceptance in younger children (e.g., Ladd, 2005; Rubin *et al.*, 2006).

Therefore, in contrast to Roberts and Strayer (1987), we expected to find two types of socially competent children. In both groups, children would be socially engaged and accepted, but one group would be moderately aggressive with peers, and the other group, not. We also expected, of course, to find a group of children who were less socially active (i.e., less socially competent). We expected these children to be low on aggression, given that aggression occurs in social contexts. Because the combination of low social engagement and high aggressiveness is a 'black swan' (possible in principle, but rare in nature), we did not expect to find such children in our sample.

In summary, our main goal was to clearly link parents' observed responses to distress with children's social competence in preschool. Roberts and Strayer (1987) reported non-linear relations between these domains, and we searched for them as well. As secondary goals, we also wished, as Roberts and Strayer did, to compare the relative importance of emotional socialization practices with measures of parental warmth and control, and to contrast the roles of comforting and parental demands for emotional control (Eisenberg & Fabes, 1992; Kopp, 1989; Saarni, 1999; Thompson, 2015). Finally, because Roberts and Strayer (1987) argued that parents' reactions to distress had implications for resourcefulness and flexibility in general, not just for social behaviours, we also assessed, as they did, purposive, achievement-oriented behaviours in the classroom.

Method

Participants

Of 42 families who initially volunteered, 33 completed the project. These 16 girls and 17 boys were, on average, 4.80 years old (range = 4.08 to 6.08 years). Over a quarter (27%) were only children (similar to the 30% reported by Roberts & Strayer for their sample); 27% had an older sibling; 33%, a younger sibling; and 12%, both. (Sibling effects were not found and will not be discussed.) Families were predominately English Canadian (85%), but second languages spoken at home included Spanish, Italian, Arabic, and Punjabi. Mothers' mean age was 34.6 years (range = 24–46); fathers', 37.7 years (range = 27–49). Mothers and fathers each reported an average of 16.3 years of education (range 10–26). Only 16% of mothers and 18% of fathers reported 12 or fewer years of schooling. Median family income was $98,000 in 2015 Canadian dollars (range = $17,000–$237,00). Most fathers (97%) but only a third of mothers were employed full-time; no fathers but 36% of mothers were full-time caregivers, $\chi^2(2, N = 66) = 29.62$, $p < .001$, $V = .67$. Thus, compared with the sample described by Roberts and Strayer (1987), this sample was slightly older (children, by half a year; their parents, by about three years), more evenly balanced by gender of child (48% girls vs. 63%), and somewhat more ethnically diverse.

Procedures

After ethical clearance was obtained from the University, families were recruited by letters distributed through preschools and day care centres in Toronto, Canada. Written consent and demographic information were obtained on the first home visit, and parents were trained to complete the revised Child Rearing Practices Q-set (CRP-Q; Block, 1965; Roberts, 1999). Completed Q-sets and additional questionnaires[1] were collected at the second visit, which was also the first of four observation sessions. Scheduled for evenings when both parents were home, sessions lasted from suppertime until the study child settled for the night. A mean of 333.4 min of focal-individual data were collected over 3.6 evenings. One family did not participate in this phase of the study, leaving a final $N = 32$ for home observation measures.

After observations were completed, teachers were contacted by school observers (blind to home data) and asked to provide a Preschool Behaviour Q-set (Baumrind, 1968) for the study child. School observers collected focal-individual samples for the study child and nearest-neighbour scan samples for the entire class during play periods when children were free to move about. A mean of 135.2 min of focal-individual data and 29.4 scan samples were obtained over 4.4 days, after which observers completed a Preschool Behaviour Q-set for the study child. Data were not collected for one family, leaving a final $N = 32$ for school observation measures, and 31 families with complete data for home and school.

Home observation measures

Ten-minute focal-individual samples, augmented by narrative notes taken between samples, alternated between the study child and each parent, that is, child, mother, child, father, and child. According to Altmann (1974), alternating focal-individual samples make it possible to assess marital interactions, parent–sibling interactions, and child–sibling interactions, as well as parent–child interactions. Coding was done by a single observer using a laptop computer, as the presence of a video camera or two observers was judged to be intrusive. As with preschool observations (below), observers recorded the actor, behaviour, and target (dyadic partner) with software recording duration and cumulative time (Roberts, 2010). When focal individuals were engaged in solitary activities (e.g., playing or doing housework), they were entered as both actor and target. Because codes were exhaustive and mutually exclusive, the onset of a new actor–behaviour–target 'sentence' automatically marked the termination of the previous sentence. According to Altmann (1974), this method of coding actors, events, and durations, coupled with focal-individual sampling and a rule insuring that sampling is independent of behaviour (in our case, focal samples began every quarter-hour on the hour), results in a random (and therefore representative) sample of behaviour. It therefore yields accurate estimates for rates and time budgets (i.e., percentage of total time spent in certain activities or with certain dyadic partners).

Based on Roberts and Strayer (1987), an initial taxonomy of 64 exhaustive and mutually exclusive codes (Appendix S1) assessed social context and the beginning, course, and resolution of episodes of emotional distress. In addition to categories for conflict (e.g., *hits*; *restrains*), emotional distress (e.g., *whines, cry-voice*; *cries; irritated, anger-voice;*

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[1] *Because it is plausible to think that parents' responsiveness to children's distress might be affected by parental stress, troubled marital relationships, lack of emotional support from kin or friends, or personal unhappiness, mothers and fathers completed self-report measures assessing these constructs. However, as reported elsewhere (Roberts & Briner, 2015), no consistent relations emerged, and these measures will not be described or discussed.*

yells) and responses to emotional distress (e.g., *problem-solving; permits expression*), there were categories for describing activities (e.g., *watches TV*), social initiations and responses (e.g., *speaks*; *ignores*), responses to non-compliance (e.g., *enforces*; *reasons*), and positive emotions (e.g., *laughs, smiles*).

Reliabilities were assessed in nine families not otherwise involved in the project. A total of 606.8 min were double-coded across 11 sessions before, during, and after data collection. All sessions were satisfactory. After data collection, following the recommendations of Bakeman and Gottman (1997), conceptually similar codes were combined to increase reliability and to form broader units, leaving a final taxonomy of 48 exhaustive and mutually exclusive categories. On this reduced taxonomy, coders achieved 86% agreement (κ = .81) across 4,056 comparisons.

Codes were then further combined to form the eight responses to distress that were our focus: *comforts* (*hugs, permits emotional expression*); *presses for control* (*attempts to quiet child*; *suppresses expression*); *pragmatic responses* (*reasons*; *resolves*; *agrees*); *distracts* (*distracts, redirects*; *jokes*); *ignores* (*ignores*; *no response*); *power assertion* (*directs; enforces; refuses request*); *speaks.* The parent code *irritated* included *hits, restrains, threatens,* and *leaves* when parents were themselves distressed (codes of *anger-voice*; *yells*). If no codes indicated parental distress, *hits, restrains*, and *threatens* were assigned to *power assertion* if they were brief and the child was non-compliant.

Identifying episodes of child distress

Episodes were identified in order to assess the contexts in which distress occurred, its course, and ultimate resolution. Onset was indicated by the first occurrence of an emotional distress code, with context set by dyadic partner and the immediately preceding events. Termination included parents' responses to the last child distress code and was clear-cut when children were free to change dyadic partner or activity. However, when movement was constrained and distress was mild and intermittent (as when a fussy child settled for the night), episode termination was ambiguous. Following Roberts (2010), this problem was approached by comparing distributions of episodes defined by competing criteria (30, 60, 90, or 125 s between adjacent distress codes). Each criterion generated *n* episodes across *m* focal samples. Because focal sampling was independent of behaviour, these episodes should be randomly distributed. This was evaluated by comparing each observed distribution with one constructed by randomly distributing *n* episodes across *m* focal samples 10,000 times and using the resulting averages as expected values in a maximum likelihood goodness-of-fit test (*G*). Values of *G,* summed across families (McDonald, 2009), provided an overall measure of fit. This process indicated that 30-, 60-, and 90-second criteria generated distributions that were not random, whereas 125 s was acceptable, $G(54) = 53.09, p = .51$. Using this criterion, 346 episodes of distress were identified, during which parents made 934 responses. Half of these episodes were relatively brief (< 16 s), but the upper quartile comprised episodes from 55 s to more than eight minutes in length.

Preschool observation measures

Focal samples

As with home observations, children's interactions were assessed by 10-minute focal-individual samples augmented by narrative notes made between samples. Coding was

done by a single observer using a laptop computer. Observers recorded the actor, behaviour, and target (the dyadic partner), with software recording duration and cumulative time (Roberts, 2010). When children were engaged in solitary activities (e.g., playing alone), they were entered as both actor and target. Because codes were exhaustive and mutually exclusive, the onset of a new actor–behaviour–target 'sentence' automatically marked the termination of the previous sentence. Focal samples began every quarter-hour on the hour to insure that data collection was independent of behaviour, resulting in representative samples of behaviour (Altmann, 1974). Thus, focal sampling allowed rates and time budgets for the focal child as an individual and as a partner in every peer and teacher dyad in which the child participated.

An initial set of 34 exhaustive and mutually exclusive codes assessed social behaviours and emotional distress (Appendix S1). In addition to categories for aggression (e.g., *hits*) and dominance (e.g., *takes*; *supplants*), emotional distress (e.g., *cries*), and responses to emotional distress (e.g., *makes reparation*), there were categories for describing activities (e.g., *social play*), social initiations and responses (e.g., *speaks*), positive emotions (e.g., *smiles*), and prosocial behaviours (e.g., *shares*). For teachers (observed when interacting with target children), codes included responses to non-compliance (e.g., *enforces directive*).

Reliabilities were assessed for five families and preschools not otherwise involved in the project. A total of 162.8 min of peer interactions were double-coded in nine sessions before, during, and after data collection. Reliabilities were satisfactory for all sessions. After data collection was complete, conceptually similar codes were combined, leaving a final taxonomy of 31 exhaustive and mutually exclusive categories. Coders achieved 85% agreement ($\kappa = .81$) across 2,046 comparisons.

Nearest-neighbour scan samples

In each of 28 participating preschools, all children were arbitrarily assigned numbers and scanned in that order (as recommended by Altmann, 1974), so that observations were independent of behaviour. Nearest neighbours were defined as being within two metres of one another and at least partially facing. Children playing alone were scored as their own nearest neighbour. Observers were trained to 80% agreement at the beginning of data collection, and reliability was assessed again at the end. A total of three classes of 20 children were each double-scanned 14 times. Observers agreed on 86% of 842 identified nearest neighbours.

Identifying friends

Friendship networks were identified from nearest-neighbour tables on the basis of effect size rather than significance levels, because class size varied from 8 to 23 (mean = 16.7). Following Strayer (1980), effect sizes were calculated by recombining each nearest-neighbour table (one for each preschool, summarizing 14 to 42 scans) into a series of 2×2 tables indexing the frequency that each member of a dyad was in proximity to the other or to all others. The strength of this association was indexed by φ.

Friends were identified using an arbitrary cut-point of $\varphi = .12$, which bounded the upper 7.5% of the distribution of 7,702 values. This yielded 522 friendships across 466 children, an average of 1.1 per child (range 0–3), values consistent with findings from other samples (Hartup, 1989; Hinde, Titmus, Easton, & Tamplin, 1985; Howes, 1983,

1988; Ladd, 2005; Sroufe, Egeland & Carlson, 1999; Strayer, 1980). Mutual (reciprocated) friendships occurred for 76% of children (nearly identical to values reported by Rubin *et al.* (2006) and Ladd, 2005); 16% belonged to groups of mutual friends. In contrast, 16% (74 of 466) had no preferred play partner. For the 31 study children for whom we had nearest-neighbour data, 28 (90%) had mutual friends and 3 (10%) had no preferred partner, proportions that did not differ significantly from the entire sample, χ^2(1, $N = 466$) = 0.956, $p = .328$, $V = .05$.

Q-sort measures

Parenting

The Child Rearing Practices Q-sort (Block, 1965), supplemented with eight items assessing responses to emotional distress (Roberts, 1999), was completed separately by mothers and fathers. Parents distributed the 99 items evenly across nine categories, from *least descriptive* (=1) to *most descriptive* (=9) of their parenting practices.

CRP-Q items were not intended to form scales (Block, 1965) but to sample emotional socialization practices in a variety of contexts. It was anticipated that analyses would be done on an item-by-item basis (cf. Block, Block, & Gjerde, 1986) for 26 items assessing warmth, conflict, and responses to emotional distress (Appendix S2).

Preschool

Teachers and observers distributed the 72 items of the Preschool Behavior Q-sort (Baumrind, 1968) evenly across nine categories, from *least descriptive* (=1) to *most descriptive* (=9) of the study child. Correlations indicated acceptable agreement between observer and teacher Q-sorts, mean $r = .50$. Following Block (2008), items were aggregated by averaging and then combined to form scales that assessed social interactions, emotions, and competence. Scale dimensionality was assessed by maximum likelihood factor analysis, as recommended by Osborne (2014). In all cases, parallel analysis (as well as the Kaiser criterion) indicated single-factor solutions. Scale scores were calculated by averaging (Roberts, 2017), after reflecting items that loaded negatively. We now describe the scales (additional details in Appendix S3).

Peer competence

Of the 12 items proposed by Waters, Wippman, and Sroufe (1979), three were placed in scales Friendly and Purposive for conceptual reasons. For the remaining nine items (e.g., *outgoing, frequently interacts with peers and teachers*; *other children seek his/her company*), one factor accounted for 69% of item variance; factor loadings ranged from .72 to .89. Cronbach $\alpha = .95$, 95% CI [0.92, 0.97].

Aggressive, bullying

This six-item scale (e.g., *hits other children frequently*; *bullies other children*) was based on Baumrind's (1971) scale 'Friendly versus hostile to peers'. One factor accounted for 58% of item variance; factor loadings ranged from .59 to .86. Cronbach $\alpha = .89$, 95% CI [0.82, 0.94].

Prosocial with peers

This six-item scale (e.g., *shares possessions willingly*; *helps other children*) was also based on Baumrind's (1971) scale 'Friendly versus hostile to peers'. One factor accounted for 47% of the variance in the items; factor loadings ranged from .54 to .82. Cronbach α = .84, 95% CI [0.73, 0.91].

Cooperative with adults

This six-item scale (e.g., *obedient*; *responsible*) was taken from Baumrind (1971). One factor accounted for 73% of item variance; factor loadings ranged from .78 to .94. Cronbach α = .94, 95% CI [0.90, 0.97].

Purposive

Based on Baumrind (1971), this seven-item scale (e.g., *self-starting and self-directed*; *generally busy*) assessed goal-directed behaviour in both social and non-social contexts. One factor accounted for 44% of item variance; factor loadings ranged from .51 to .81. Cronbach α = .84, 95% CI [0.74, 0.91].

Achievement oriented

Based on Baumrind (1971), this six-item scale (e.g., *likes to learn new cognitive skills*) assessed effort and achievement in individual contexts. One factor accounted for 53% of item variance; factor loadings ranged from .55 to .88. Cronbach α = .87, 95% CI [0.79, 0.93].

Happy

This scale comprised two items, *content, cheerful attitude, smiles often,* and *easily expresses pleasure, joy, or delight*, $r(31) = .59$, 95% CI [0.31, 0.78].

Dysregulated

This scale comprised two items, *impetuous and impulsive* and *expresses anger or frustration openly and directly*, $r(31) = .44$, 95% CI [0.11, 0.68]. It thus reflects both behavioural and emotional undercontrol (Block & Block, 1980)[2].

Results

Are there different types of socially competent children?

A *k*-means cluster analysis of unstandardized Q-scale scores for peer competence and aggression scores identified three groups of children, as shown in Table 1. As expected, two groups were high on peer competence (i.e., with scores >5 out of 9) but differed substantially on aggression, $r^2_{pb} = .79$. A third group was low on both. Groups were well defined. There was no overlap between the high-peer competence groups (Groups 1 and

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[2] *In contrast to the other Preschool Q-scales,* Dysregulated *did not clearly replicate in a reanalysis of data from Roberts and Strayer,* r(28) = .21, 95% CI [-.16, .53].

Table 1. Peer competence and aggression: *k*-means clusters

Group	Variable	Minimum	Centre	Maximum
1 (*N* = 7)	Aggressive, bullying	5.6	6.2	7.4
	Peer competence	6.2	7.3	8.4
2 (*N* = 11)	Aggressive, bullying	1.7	3.0	4.2
	Peer competence	6.3	7.6	8.8
3 (*N* = 15)	Aggressive, bullying	1.2	2.4	4.3
	Peer competence	2.8	4.6	5.9

Note. Q-sort scale scores could range from 1 (=*least descriptive*) to 9 (=*most descriptive*). In Group 3, the eight children with moderate scores on peer competence (i.e., between 5 and 6) had aggression scores <3.

2) on aggression and no overlap between the low-aggression groups (Groups 2 and 3) on peer competence. As expected, no children were both low on peer competence (< 5) and high on aggression (> 5). As shown in Appendix S4, Table 2, similar groups, also well defined, were found in a re-analysis of data from Roberts and Strayer (1987).

Consistent with their higher Q-sort scores for aggression, children in Group 1 were observed to hit peers more often than did children in Group 2 (25 times vs. 2, respectively), χ^2(1, $N = 16,338$ observed events) = 43.96, $p < .000$, $V = .05$, odds ratio = 25.8, 95% CI [6.1, 108.9]. Put another way, Group 2 children hit a peer once every 757 min; Group 1 children, once every 30. In addition, Group 1 children occasionally followed peers to hit them again; and they sometimes hit their friends or were hit by them. These behaviours were never observed in Group 2.

Consistent with their similar Q-sort scores for peer competence, Groups 1 and 2 were similar on observed measures of social competence. They did not differ significantly in number of mutual friends (means = 1.3 and 1.6 for Groups 1 and 2, respectively, *t* [16] = −0.82, $p = .422$, $r^2_{pb} = .04$), on rate of social initiations to peers (once every 38 s, on average, for children in Group 1 vs. once every 35 s for children in Group 2, *t* [15] = 0.66, $p = .52$, $r^2_{pb} = .03$), nor in time observed in solitary activities (means = 27% of all time observed vs. 23%, for Groups 1 and 2, respectively, *t*[16] = 0.79, $p = .440$, $r^2_{pb} = .04$). Thus despite their more salient aggression, children in Group 1 were observed to be socially accepted and active, as expected.

Table 2. Differences between two groups high on peer competence but differing on aggression

Variable	Means		*t*	r^2_{pb}
	Group 1 (*N* = 7)	Group 2 (*N* = 11)		
Prosocial with peers	4.0	6.5	t(16) = 9.29, *p* < .001	.84
Cooperative with adults	3.5	6.4	t(16) = 6.50, *p* < .001	.65
Dysregulated	6.7	5.0	t(16) = 3.30, *p* = .004	.40
Happy	5.8	7.8	t(16) = 3.41, *p* = .004	.42
Achievement oriented	4.2	5.9	t(16) = 4.03, *p* = .001	.50
Purposive	6.0	7.1	t(16) = 2.70, *p* = .016	.31

Note. Q-sort scale scores could range from 1 (=*least descriptive*) to 9 (=*most descriptive*). In a re-analysis of data from Roberts and Strayer (1987), effect sizes were comparable, but smaller: for prosocial behaviour, $r^2_{pb} = .69$, for cooperative with adults, $r^2_{pb} = .44$, for happy, $r^2_{pb} = .19$, for achievement oriented, $r^2_{pb} = .11$, and for purposive $r^2_{pb} = .08$.

Notwithstanding their demonstrated social competence, children in Group 1 had difficulties in other areas, multivariate $F(12,50) = 8.67$, $p < .0001$. As shown in Table 2, the aggressive children in Group 1 were less prosocial with peers and less cooperative with adults than were Group 2 children. They were also more dysregulated and less happy. Finally, Group 1 children were less achievement-oriented than Group 2 children, and less purposive. All these differences were substantial. Thus while aggression was not detrimental to the social competence of Group 1 children, its presence marked a number of worrying differences.

Consistent with their relatively low scores on peer competence, children in Group 3 were observed to spend more time in solitary activities than the engaged, socially competent children in Groups 1 and 2 – 36% of total time observed, on average, vs. 24%, $t(30) = 2.53$, $p = .017$, $r_{pb}^2 = .18$. Nevertheless, most Group 3 children (87%) had at least one mutual friend, and, overall, they did not have significantly fewer friends than children in Groups 1 and 2 (means = 1.1 vs. 1.5, respectively, $t(29) = 1.44$, $p = .159$, $r_{pb}^2 = .07$).

Although Group 3 children were lowest on Q-rated aggression, they were observed to hit peers more often than did children in Group 2 (on average, once every 206 min). Although statistically significant ($p = .049$), this difference was very small, $V = .01$, suggesting that although sometimes physically aggressive, children in Group 3, like those in Group 2, did not display the bullying behaviours more characteristic of Group 1.

Children in Group 3 resembled those in Group 2 in other ways as well. They were just as prosocial (means = 6.2 and 6.5, respectively, $r_{pb}^2 = .03$) and even more cooperative (means = 7.3 vs. 6.5, $t[30] = 2.14$, $p = .041$, $r_{pb}^2 = .13$). However, although Group 3 children were better-regulated than Group 2 children (means = 3.8 vs. 5.0, $t[30] = 2.52$, $p = .017$, $r_{pb}^2 = .17$), they were somewhat less happy (means = 6.4 vs.7.8, $t(30) = 2.60$, $p = .014$, $r_{pb}^2 = .18$). This pattern suggests that Group 3 children had a number of strengths, but may have been somewhat over-controlled (Block & Block, 1980).

Taken together, these results indicate that the groups identified here can be found in other samples; that their Q-sort classifications reflect differences in observed behaviours; and that they differ in important ways on a range of behaviours.

Are children in different social competence groups treated differently by their parents?

Although the three groups of children did not differ significantly in observed frequency of emotional distress at home, $F(2,29) = 0.88$, $p = .427$, $\eta^2 = .06$, important differences emerged in how parents responded to their distress.

Observed parental irritation, threats, and use of force

As shown in Table 3, parents of Group 1 children, more than other parents, responded to the emotional distress of their children with irritation, threats, or the use of force, $\chi^2(14, N = 934$ observed events$) = 94.933$, $p < .0001$, $V = .23$. Indeed, at 25%, this was their most frequent response (adjusted standardized deviate = 6.7, $p < .0001$). In contrast, irritation occurred at chance levels for Group 2 parents (adjusted standardized deviate = −0.7) and less-than-chance levels for Group 3 parents (adjusted standardized deviate = −3.3, $p = .001$).

Because mothers and fathers were seldom irritated during the same episode, Group 1 children experienced parental irritation more consistently than 25% implies. When distress episodes were short (< 55 s), irritation comprised 35% of mothers' responses;

Table 3. Observed responses (*N* = 934) by group, as percentages of group (Row) totals

				Responses to child distress					
Group	Speaks	Directs	Pragmatic	Comforts	Ignores	Distracts	Suppress	Vexed	Total
1	25.3	8.1	9.1	5.1	17.2	6.1	4.0	25.3	100.0
2	12.8	18.5	17.7	13.6	17.1	2.7	10.6	7.1	100.0
3	22.5	20.8	17.8	6.6	18.2	4.7	4.3	5.1	100.0

Note. Values are summed across duration and parent; see Appendix S5 for the detailed table. *Group 1*: Children ranked high on both aggression and peer competence (*N* = 7); *Group 2*: Children low on aggression and high on peer competence (*N* = 11); *Group 3*: Children low on both aggression and peer competence (*N* = 15). *Responses: Pragmat*: Pragmatic, situation-focused response; *Comforts*: Comforts, permits emotional expression; *Distracts*: Distracts, jokes; *Suppress*: Suppresses, discourages emotional expression; *Vexed*: Irritated, impatient, angry.

when episodes were long (> 55 s), irritation comprised 45% of fathers' responses. For the complete 4-way table of group x parent x duration x response, see Appendix S5, Table 2; for the 4-way interaction, $\chi^2(14, N = 934$ observed events) = 44.21, $p < .0001$.

There were qualitative differences as well. The irritated fathers in Group 1 were all angry with their emotionally distressed children (behaviour codes of 'yells' rather than 'anger-voice'), whereas anger was observed in only two other fathers (both in Group 3), $\chi^2(2, N = 33) = 9.82$, $p = .007$, $V = .55$. Thus, children in Group 1 experienced more aversive parental responses than did other children and experienced them more frequently.

Observed comfort and pressure to control emotions

Compared with other parents, Group 2 parents were more likely to focus their responses on children's distress as such, either comforting them (14% of all Group 2 responses, as shown in Table 3, adjusted standardized deviate = 3.7, $p < .001$) or exerting pressure for emotional control (11% of responses, adjusted standardized deviate = 3.8, $p < .001$). In contrast, parents of the less peer-competent children in Group 3 were significantly less likely to do either (for comforting, adjusted standardized deviate = −2.7, $p = .007$; for emotional control, adjusted standardized deviate = −3.0, $p = .003$). Children in Group 1 received the least comforting (5% of responses) and few demands for emotional control (4% of responses), although these levels were not significantly less than expected by chance.

Gender-of-parent differences for comforting and control emerged for Group 2 in a log-linear analysis of the 3-way parent x group x response table, $\chi^2(15, N = 934$ observed events) = 29.51, $p < .014$). Mothers of Group 2 children comforted them more often than did their fathers (88% of all comforting responses vs. 12%); and mothers also more often demanded emotional control (97% of such demands vs. 3% by fathers). This reflected a general pattern in Group 2, where mothers made 84% of all responses to children's distress vs. 16% by fathers, adjusted standardized deviate = 11.6, $p < .0001$. Thus, the well-functioning children in Group 2 experienced a 'traditional' family environment in which mothers did most of the emotional work. In contrast, fathers in Groups 1 and 3 were as involved as mothers when their children were distressed, making 54 and 53% of all responses, respectively. However, it was not clear how effective these fathers were. They were sometimes observed to make their children cry.

Were Group 2 mothers emotion coaching? Their greater focus on both comforting and emotional control, as well as their children's social competence in preschool, suggest they might have been. However, observation data suggest otherwise. According to Gottman *et al.* (1996), parents who emotion coach 'view the child's negative emotion as an opportunity for intimacy or teaching' (p. 244). However, Group 2 mothers were just as likely as other mothers to ignore their children's distress, not to seize it as an opportunity. Ignoring comprised 16% of the responses of Group 2 mothers, 18% of Group 1 mothers, and 21% of Group 3 mothers, differences too small to be of importance. In the second place, Gottman et al. suggest that emotion coaching is accompanied by problem-solving, but Group 2 mothers made fewer problem-solving responses than Group 3 mothers, not more (17% of all responses to distress vs. 19%, respectively). Finally, Gottman et al. suggest that parents who engage in emotion coaching are themselves emotionally well regulated, but Group 2 mothers were *less* well-regulated than Group 3 mothers. Irritation comprised 8% of all responses made by Group 2 mothers vs. 4% of responses by Group 3 mothers. Thus, although key aspects of emotion coaching (such as validating children's emotions or helping children label emotions) were not assessed, it appears that emotion coaching was not characteristic of the home environment experienced by Group 2 children.

Parents' self-reported emotion socialization practices

Three emotion socialization items from the CRP-Q differed across groups in ways consistent with observed differences in parents' behaviour.

Consistent with their more frequent observed pressure for emotional control, mothers in Group 2 (compared with other mothers) more strongly endorsed the CRP-Q item *I do not allow my child to get angry with me*, as shown in Table 4.

Perhaps because social skills were less salient for Group 3 children, their mothers (compared with Group 1 mothers) more strongly endorsed *I help my child when s/he is being teased by his/her friends*. These values also suggest that the aggressive children in Group 1 received relatively less coaching or help in resolving peer conflict, in comparison with the very prosocial, cooperative children in Group 3.

Table 4. Group differences in parents' self-reported emotion socialization practices

CRP-Q item	Means (SDs)			F (2, 30)	p	η^2
	Group 1	Group 2	Group 3			
I do not allow my child to get angry with me. (Mothers)	2.6 (0.8)	3.8[a] (1.6)	2.3 (1.1)	4.77	.016	.24
I help my child when s/he is being teased by his/her friends. (Mothers)	4.6[b] (2.0)	5.8 (1.9)	6.9 (1.4)	4.46	.020	.23
If my child is frustrated and upset because a task is too complicated or difficult, I do it for him/her (Fathers)	6.1[c] (1.3)	3.9 (1.6)	4.0 (1.6)	5.65	.008	.27

Note. Group 1: Children ranked high on both aggression and peer competence (N = 7); *Group 2*: Children low on aggression and high on peer competence (N = 11); *Group 3*: Children low on both aggression and peer competence (N = 15).
[a]Group 2 > Groups 1 and 3. For Groups 2 and 1, $t(30)$ = 2.07, p = .047, r^2_{pb} = .12; for Groups 2 and 3, $t(30)$ = 3.00, p = .005, r^2_{pb} = .23.; [b]Group 1 < Group 3, $t(30)$ = 2.94, p = .006, r^2_{pb} = .22. The mean for mothers in Group 2 did not differ significantly from the other groups.; [c]Group 1 > Groups 1 and 2. For Groups 1 and 2, $t(30)$ = 3.03, p = .005, r^2_{pb} = .23; for Groups 1 and 3, $t(30)$ = 3.07, p = .005, r^2_{pb} = .24.

Group 1 fathers (compared to other fathers) more strongly endorsed *If my child is frustrated and upset because a task is too complicated or difficult, I do it for him/her.* Because these fathers were sometimes irritated or angry with their children, it is possible that this represents an intrusive response to children's distress.

In a discriminant analysis that included CRP-Q items assessing warmth and control as well as observational measures, only the three CRP-Q items just discussed entered, together with mothers' and fathers' observed irritation. Using these five variables, 28 of 32 children were correctly classified (Appendix S6), indicating that there were important links between emotional socialization in the family and children's social competence in preschool.

Discussion

As expected, three theoretically interesting groups of children were identified, two high on social competence but differing substantially in aggressiveness, and a third group low on both measures. Using these same scales, this pattern replicated in a re-analysis of data from Roberts and Strayer (1987). Children in the aggressive group, compared with other children, experienced more frequent, and sometimes more intense, parental irritation and anger when they themselves were distressed. In contrast, fathers of children with the lowest levels of observed aggression (Group 2) were never observed to be irritated or angry when their children were distressed. Group 2 children, who were among the most prosocial, had parents, especially mothers, who were more likely than other parents to focus on children's distress as such, either by comforting or by pressing for emotional control – although it does not appear that these mothers characteristically engaged in emotion coaching (Gottman et al., 1996). Thus, this study extends and supports the theoretical expectations reviewed earlier. It also clarifies relations between parents' responses to children's emotional distress and children's social competence. Like Roberts and Strayer (1987), we found important relations between parent–child interactions and preschool outcomes in this sample – but not the non-linear relations that they reported.

By linking moderate levels of aggression and bullying to parents' responses to distress, the current study adds to evidence that affective factors in the family are important for aggressive children. Parental irritation and impatience have been linked to insecure attachments in toddlerhood and reduced empathy and heightened aggressiveness in preschool (e.g., Ladd, 2005; Sroufe et al., 1999). Intense parental distress has been frequently observed in families of highly aggressive children (Patterson, DeBaryshe, & Ramsey, 1989). Our findings are consistent with and support these views.

In longitudinal studies, aggressive behaviour shows moderately high continuity from preschool to middle and late childhood (e.g., Frick, Cornell, Bodin, Dane, Barry, & Loney, 2003). This continuity appears to rest in part on a constellation of related child behaviours. The more aggressive children in our sample were less prosocial with peers, less cooperative with adults, less happy, less achievement oriented, less purposive, and more dysregulated. They were sometimes observed to be physically aggressive with their friends and vindictive with peers. These characteristics do not bode well for the future. Like the highly aggressive children observed by Patterson (1976), they appear to be both victims and architects. Thus, current findings are consistent with the research literature on aggressive children and suggest a more detailed view of the behaviours that may contribute to continuity in aggression.

This study also addressed several secondary goals. Roberts and Strayer (1987) argued that comforting should enhance children's behavioural flexibility, whereas excessive pressure for emotional control should negatively impact flexibility over the long run. We found strong differences for purposiveness and achievement orientation favouring Group 2, which experienced more comforting than other groups – but also more pressure for emotional control. Similar group differences, but of only moderate strength, were found in a re-analysis of data from Roberts and Strayer. Thus, although there is support for the argument that emotional socialization affects not only emotional and social characteristics, but more general aspects of behaviour as well, the arguments of Roberts and Strayer need to be elaborated to take account of the fact that children experience both comforting and pressure for control, not one or the other.

In addition to comforting, researchers have argued for the positive impact of pressure to control expressiveness, pointing out that many contexts (medical and dental, for example) as well as peer relationships, call for self-regulation of frustration, anger, and fear (Eisenberg & Fabes, 1992; Kopp, 1989; Saarni, 1999; Thompson, 2015). In the current study, mothers of the most competent children employed both strategies, as just noted, especially during long episodes of intense distress. In contrast, parents in the other two groups did not often either comfort or press for emotional control, focusing instead on the situation itself: gathering information, resolving practical difficulties, or insisting on compliance. These results suggest that children may benefit from both comforting and pressure for control, either for the reasons advanced by researchers for each strategy individually or because both responses focus children's attention on their upset as such, and provide an opportunity to learn about identifying, expressing, and managing emotions (cf., Gottman et al., 1996).

We found, as others have, that links between emotional socialization practices and social competence were independent of measures of parental warmth and control (Davidov & Grusec, 2006; Gottman et al., 1996; Roberts & Strayer, 1987). In a discriminant analysis, measures of warmth and control were not strong enough to emerge as predictors, a differential pattern similar to findings reported by Roberts and Strayer (1987).

We found, as Roberts and Strayer did, that parents responded to children's distress in a variety of ways, a pattern consistent with reports from other samples (e.g., Davidov & Grusec, 2006; Goodenough, 1931; Zahn-Waxler, Radke-Yarrow & King, 1979). Longitudinal data are needed to clarify these complex relations. We agree with Sroufe et al. (1999) and Kopp (1989) that emotional regulation is an emerging ability in preschool and is best understood as an interaction of parent and child characteristics and behaviours over time. It is an important limitation of the present study that measures were collected concurrently.

Another important limitation was our inability to collect audio data during our home observations. Without such data, it is impossible to assess the extent to which parents engaged in some of the core activities of emotion coaching – the extent to which they helped children label their emotions, validated those emotions, or used episodes of distress as opportunities to teach children about emotions (Gottman *et al.*, 1996). As noted earlier, our observational data suggest that emotion coaching was not a salient activity in this sample, and if it was present, occurred in the context of a variety of other parental responses. Further research is needed to understand how the important work of Gottman and his colleagues, based on interview and physiological data, fit into observations of how parents actually respond to children's emotional distress.

In conclusion, this study makes an important contribution to research on emotional socialization by presenting extensive – and rare – observational data on parents' responses to children's spontaneous emotional distress, distress that was more prolonged and more intense than could be ethically evoked in a laboratory. We observed these responses directly, rather than relying solely on self-report measures, with their inherent limitations and distortions. We identified three theoretically interesting groups of children who differed in social competence and aggression, and we found important differences in how parents responded to their emotional distress. These aspects of parenting are worth understanding and assessing in future research.

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Author contribution

William Roberts, PhD (Conceptualization; Data curation; Formal analysis; Funding acquisition; Investigation; Methodology; Project administration; Resources; Software; Supervision; Validation; Writing – original draft; Writing – review & editing).

Data availability statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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Supporting Information

The following supporting information may be found in the online edition of the article:

Appendix S1. Behaviour codes.

Appendix S2. Child rearing practices Q-Sort (Revised).

Appendix S3. Scales for the preschool behavior Q-sort (Baumrind, 1968).

Appendix S4. Peer competence and aggression: *k*-means clusters in two samples.

Appendix S5. Observed parental responses to children's emotional distress, by parent, episode duration, and child group.

Appendix S6. Predicting social competence from family variables: A discriminant analysis.