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## ORIGINAL RESEARCH

# Can teacher–child relationships support human rights to freedom of opinion and expression, education and participation?

CEN WANG<sup>1</sup> , LINDA J. HARRISON<sup>1</sup> , SHARYNNE MCLEOD<sup>1</sup> , SUE WALKER<sup>2</sup>   
& JANTINE L. SPILT<sup>3</sup> 

<sup>1</sup>School of Teacher Education, Faculty of Arts and Education, Charles Sturt University, Bathurst, Australia,

<sup>2</sup>Early Childhood and Inclusive Education, Faculty of Education, Queensland University of Technology, Brisbane, Australia, and <sup>3</sup>School Psychology and Development in Context, KU Leuven, Leuven, Belgium

### Abstract

**Purpose:** This study explored how teacher–child relationships change over the early school years, in terms of closeness and conflict, whether these trajectories differ in type and frequency for children with typical development and children with speech and language concern (SLC), and whether the trajectories are associated with school outcomes at 12–13 years.

**Method:** Participants were children, parents and teachers in the Longitudinal Study of Australian Children. Parents identified 2890 children with typical communication and 1442 children with SLC. Teacher-rated teacher–child closeness and conflict were collected biennially over six years. Academic and social-emotional outcomes were reported by teachers and children. Growth mixture modelling was conducted to generate teacher–child relationship trajectories and Wald’s chi-square analyses were used to test the association between trajectories and school outcomes at 12–13 years, after controlling for a range of covariates including child’s sex, language background, Indigenous status, age and socio-economic position.

**Result:** In both groups, the majority of children had teacher–child relationship trajectories with sustained high closeness and low conflict that predicted positive outcomes at age 12–13, but the SLC group was more at risk of less positive trajectories and poorer school outcomes.

**Conclusion:** Close, less conflicted relationships with teachers may provide a supportive context for later language, literacy and social-emotional development. This study highlights the role of teachers in supporting children in their development of communication and academic skills that will optimise their capacity for freedom of opinions and expression, education and participation, as enshrined in Articles 19, 26 and 27 of the Universal Declaration of Human Rights.

**Keywords:** Article 19; Universal Declaration of Human Rights; United Nations; speech and language concern; teacher–child relationship; literacy achievement; school adjustment

### Introduction

Children’s rights to freedom of opinion and expression, education and participation are enshrined in Articles 19, 26 and 27 of the Universal Declaration of Human Rights (United Nations, 1948). However, children with speech, language and communication needs need additional support to realise these rights. In celebrating the 70th anniversary of the Universal Declaration of Human Rights, which champions human rights, dignity and justice, the present study contributes to the United Nations’ mission by raising awareness of the difficulties experienced by children with speech and language concern (SLC) in education settings and highlighting the potential for positive teacher–child relationships to address educational disadvantage.

Communication is a basic human right. Children with speech, language and communication needs, however, have reduced capacity to communicate, learn and interact with others. They have been consistently reported to have poorer academic and social-emotional outcomes, including lower literacy and numeracy skills, less enjoyment of school, poorer peer relations, higher internalising problems and more behavioural problems when compared to their typically developing peers (Fujiki, Brinton, & Clarke, 2002; Harrison, McLeod, Berthelsen, & Walker, 2009; McCormack, Harrison, McLeod, & McAllister, 2011; Qi & Kaiser, 2004). Children with speech, language and communication needs have difficulties expressing themselves, understanding concepts and social cues, holding conversations, and responding in socially appropriate ways

Correspondence: Cen Wang, Ph.D., Research Fellow, School of Teacher Education, Faculty of Arts and Education, Charles Sturt University, Panorama Ave, Bathurst, NSW 2795, Australia. Email: auwang@csu.edu.au

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(Marshall, Ralph, & Palmer, 2002). As such, these children are at enhanced risk for relational stress in the classrooms, including more difficulty establishing a positive relationship with their teachers.

Studies in the United States and Australia have shown that relationships with teachers are associated with children's language skills (Justice, Cottone, Mashburn, & Rimm-Kaufman, 2008; Peisner-Feinberg et al., 2001; Spilt, Koomen, & Harrison, 2015). For example, McCormack et al. (2011) reported that Australian children whose parents identified them as having parent-reported SLC at age 4–5 years had higher teacher-reported conflict four years later at age 8–9 years, compared to children without SLC. Spilt et al. (2015) reported that good receptive language skills are needed to “engage in more sophisticated and extended conversations” (p.186), which in turn appears to contribute to the development of a close and affectionate relationship. This in turn has a positive effect on subsequent growth in receptive language. Conversely, children with poor language abilities are at-risk of less close relationships with teachers, which appears to further enlarge individual differences in language development.

Researchers also have shown that teacher–child relationship patterns can change over children's school years. The ideal pattern is sustained low levels of teacher–child conflict and high levels of teacher–child closeness. This adaptive pattern tends to be seen in the majority of students studied longitudinally. O'Connor and McCartney (2007) identified three trajectories from pre-school to the third grade: 62% of children had highly positive relationships with teachers that became more positive over time; 25% maintained moderately positive relationship with teachers; and 13% had poorer relationships that became worse over time. Similarly, Spilt, Hughes, Wu, and Kwok (2012), who studied 657 children from Grade 1 to Grade 5, reported that 85% had an adaptive pattern of teacher–child closeness that started high and decreased slightly over time. The rest had a trajectory that started with low closeness that increased slightly over time. More variation, however, was found in trajectories for teacher–child conflict: over 57% had consistently low teacher–child conflict; 20% had high initial teacher–child conflict that decreased over time; 18% had a low initial level of teacher–child conflict that increased over time; and 5% (but only boys) experienced consistently high teacher–child conflict. To date, no research has studied trajectories of teacher–child relationship in children with SLC, but prior studies suggest these children have more conflict and less closeness with teachers compared to their typically developing peers (McCormack et al., 2011) and could be expected to experience poorer relationships with teachers over time.

Importantly, a substantial body of research has demonstrated links between the quality of the

relationships children form with their teachers and later academic and social-emotional outcomes (see Roorda, Koomen, Spilt, & Oort, 2011 for a review). A decrease in teacher–child relationship quality has been associated with academic and behavioural problems throughout elementary school (O'Connor & McCartney, 2007) and more so for academically and behaviourally at-risk children (Spilt et al., 2012). As such, children who start school with a SLC may be doubly at risk, not only for poorer teacher–child relationships but also for poorer academic and social-emotional outcomes, compared with typically developing children.

### *The present study*

The present study used longitudinal data collected in a large nationally representative sample of Australian children to generate trajectories of teacher–child relationships from age 4–5 to age 10–11 for children with SLC and typically developing children, and investigate predictive associations between different developmental trajectories and children's academic and social-emotional outcomes at 12–13 years. This study aimed to investigate two research questions:

- (1) Do relationship trajectories differ for children with SLC compared to their typically developing peers?
- (2) How are relationship trajectories for children with SLC associated with academic and social-emotional outcomes at 12–13 years?

## **Method**

### *Participants and procedure*

This study used data from Growing Up in Australia: The Longitudinal Study of Australian Children Kindergarten cohort (LSAC-K) of 4983 children and their families. LSAC is a nationally representative longitudinal study of child development funded by the Australian Government Department of Social Services. A full description of the LSAC design is available in Soloff, Lawrence, and Johnstone (2005). LSAC-K data collection started in 2004 when children were 4–5 years old with subsequent waves of data collected every two years. The current study used the first five waves of data for this cohort: Wave 1 (4–5 years); Wave 2 (6–7 years); Wave 3 (8–9 years); Wave 4 (10–11 years); and Wave 5 (12–13 years).

### *Sample selection*

Participants in the current study were restricted to children who had complete parent-reported data on children's expressive and receptive speech and language ability at both Waves 1 and 2 (these data were only collected during the first two waves). There were 651 children with missing speech and language

information, resulting in a final sample of  $n = 4332$  (mean age = 4.17 years,  $SD = 0.38$ ; 51% boys). Among these children, 3.4% were identified by their parents as Indigenous Australians and 11.1% were identified as speaking a language other than English.

#### *Identification of typical and SLC groups*

Identification of children with typically developing communication skills versus those with SLC was based on parents' response to two questions from the Parents' Evaluation of Developmental Status (PEDS) (Glascoe, 2000) about children's expressive and receptive speech and language. The PEDS is a widely used measure in longitudinal population-based research for identifying speech and language status (e.g. McLeod & Harrison, 2009; McLeod et al., 2017). Parents are asked to indicate *yes*, *a little* and *no* regarding whether they had any concerns about how their child "talks and makes speech sounds" (i.e. expressive SLCs) and whether they have any concerns about how their child "understands what you say" (i.e. receptive language concerns). Two groups of children were identified based on the recommendations in the PEDS manual (Glascoe, 2000): the typical group ( $n = 2890$ ) included children whose parents gave a rating of *no* to both PEDS questions at Waves 1 and 2, and the SLC group ( $n = 1442$ ) included children whose parents gave a rating of *yes* or *a little* to either of the two PEDS items at Waves 1 and 2.

### **Measures**

#### *Teacher-child relationships*

Teacher-child relationship closeness and conflict were measured by the Student-Teacher Relationship Scale-Short Form (STRS; Pianta, 2001) when children were 4-5, 6-7, 8-9 and 10-11 years. Cronbach's alpha was used to illustrate the scale reliability, with a value larger than 0.70 considered adequate (DeVellis, 2012). The *closeness* subscale consists of seven items tapping teachers' perceptions of the amount of warmth and the willingness of communication the students have towards him/her ( $\alpha = 0.87$ , e.g. "Shares affectionate relationship"). The *conflict* subscale consists of seven items tapping teachers' perceptions of the conflicting relationship with the students ( $\alpha = 0.88$ , e.g. "Struggle to get along"). Each item was rated on a five-point Likert scale (1 = definitely does not apply; 3 = neutral/not sure; 5 = definitely applies).

#### *Academic and social-emotional outcomes*

Five outcomes at 12-13 years were included in the current study to capture students' academic achievement and social-emotional adjustment at school: literacy, school engagement and adjustment, peer relations, teacher liking and school belongingness. *Literacy* was measured by the Academic Rating Scale

(National Center for Education Statistics, 1998-1999). Teachers rated students on items capturing their language and literacy skills (nine items;  $\alpha = 0.97$ ; e.g. "Reads and comprehends expository text") on a five-point Likert scale (1 = not yet; 2 = beginning; 3 = in progress; 4 = intermediate; 5 = proficient). *School engagement and adjustment* was measured by a nine-item subscale of the Social Skills Rating System (Gresham & Elliott, 1990), plus a single item added for the LSAC to report on students' focussed attention in school-work and classroom instruction, and commitment in finishing school assignments (10 items;  $\alpha = 0.93$ ; e.g. "Ignores peer distractions when doing class work"). Teachers rated each item on a three-point Likert scale (1 = never; 2 = sometimes; 3 = often). *Peer relations* were measured by the peer problems subscale of the Strength and Difficulties Questionnaire (Goodman, 1997) (five items;  $\alpha = 0.97$ ; e.g. "Picked on or bullied by other children"). Items were rated by teachers on a three-point scale (1 = not true; 2 = somewhat true; 3 = certainly true). *Teacher liking* was measured by People in My Life Teacher Affiliation Scale (Ridenour, Greenberg, & Cook, 2006). Students self-reported their feelings towards teachers and their perceptions of teachers' attitudes and behaviours towards them (eight items;  $\alpha = 0.91$ ; e.g. "I like my teachers"). Each item was rated on a four-point Likert type scale (1 = almost never/never; 4 = almost always/always true). *School belongingness* was measured by the Psychological Sense of School Membership Scale (Goodenow, 1993), reflecting students' sense of belongingness (12 items;  $\alpha = 0.86$ ; e.g. "I feel I don't belong"). Students rated each item on a five-point Likert type scale (1 = not at all true; 5 = completely true).

#### *Covariates*

A range of covariates including child's sex, language background (English vs. others), Aboriginal and Torres Strait Islander (Indigenous) status (*yes* vs. *no*), age and socio-economic position (SEP) were assessed to control for possible sample bias. Children's initial performance on tests of school readiness was also included to control for early literacy abilities at the start of school. SEP is an LSAC derived variable that combines measures of total household income, mother's and father's education and mother's and father's occupational prestige. SEP has an approximate mean of zero and standard deviation of one (Blakemore, Gibbings, & Strazdin, 2006). Initial measures of children's *school readiness* skills at age 4-5 years were the Who Am I? test of *early literacy and numeracy skills* (de Lemos & Doig, 1999) and an LSAC developed short-form of the Peabody Picture Vocabulary Test-PPVT III of *receptive language abilities* (Dunn & Dunn, 1997; Rothman, 2005).

**Data analysis**

The attrition rate of LSAC data from Wave 1 (4–5 years) to Wave 5 (12–13 years) was approximately 20%. Missing data were imputed using the complete dataset, within the maximum likelihood expectation-maximisation method.

To generate developmental trajectories of teacher–child closeness and teacher–child conflict over multiple time points, growth mixture modelling using the Mplus program (1998–2012) was conducted separately for the typically developing children and children with SLC. Bayesian information criteria, entropy, posterior probabilities and the interpretability of trajectory shapes were used to determine the optimal number of trajectories (Jung & Wickrama, 2008; Nylund, Asparouhov, & Muthén, 2007). Chi-square and multiple-group analyses were conducted to test for differences in the numbers of typically developing children and children with SLC in each of the teacher–child relationship trajectories, the initial levels of closeness and conflict, and the rate of change in relationship quality over time.

Wald’s chi-square analyses were applied to test the extent to which developmental trajectories for closeness and conflict explained variances in outcomes at age 12–13 beyond that accounted for by child and family background, and school readiness, using standardised residuals. Figures below zero indicate a lower than expected outcome value (a negative effect on the outcome measure) and above zero suggest a higher than expected outcome value (a positive effect). Between-group comparisons using ANOVA with Scheffe post-hoc analyses were conducted to compare outcomes within each trajectory for typically developing children and children with SLC.

**Result**

The means, standard deviations, correlations and Cronbach’s alpha among variables across waves are presented separately for children in the typical group and the SLC group (see Table I). Correlation patterns for STRS ratings from age 4–5 to age 10–11 were similar for both groups: moderate correlations for conflict ( $r_s = 0.30$  to  $0.53$  for typical;  $r_s = 0.45$  to  $0.62$  for SLC); weak correlations for closeness ( $r_s = 0.20$  to  $0.31$  for typical;  $r_s = 0.26$  to  $0.35$  for SLC). STRS ratings associations with outcomes at age 12–13 were stronger for conflict ( $r_s = -0.09$  to  $-0.42$  for typical;  $r_s = -0.20$  to  $-0.51$  for SLC) than for closeness ( $r_s = -0.05$  to  $0.19$  for typical;  $r_s = -0.05$  to  $0.24$  for SLC).

**Teacher–child closeness developmental trajectories**

Results showed that for children in both groups, a two-class trajectory solution fitted the model the best.

Table I. Means, standard deviations, correlations and reliability coefficients among variables for typically developing children ( $n = 2890$ ; below diagonal) and children with speech and language concern (SLC) ( $n = 1442$ ; above diagonal).

|                                 | Typically developing children |         |         |         |         |         |         |         |         |         |        |        |    | Children with speech and language concern |                     |             |      |
|---------------------------------|-------------------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|--------|--------|----|---|---------------------|-------------|------|
|                                 | 1                             | 2       | 3       | 4       | 5       | 6       | 7       | 8       | 9       | 10      | 11     | 12     | 13 | Mean (SD)                                 | Cronbach’s $\alpha$ |             |      |
| 1 Conflict 4–5 years            | –                             |         |         |         |         |         |         |         |         |         |        |        |    |   |                     |             |      |
| 2 Conflict 6–7 years            | 0.41**                        | –       |         |         |         |         |         |         |         |         |        |        |    |   |                     |             |      |
| 3 Conflict 8–9 years            | 0.38**                        | 0.53**  | –       |         |         |         |         |         |         |         |        |        |    |   |                     |             |      |
| 4 Conflict 10–11 years          | 0.30**                        | 0.46**  | 0.53**  | –       |         |         |         |         |         |         |        |        |    |   |                     |             |      |
| 5 Closeness 4–5 years           | -0.26**                       | -0.11** | -0.08** | -0.05** | –       |         |         |         |         |         |        |        |    |   |                     |             |      |
| 6 Closeness 6–7 years           | -0.10**                       | -0.25** | -0.11** | -0.12** | 0.26**  | –       |         |         |         |         |        |        |    |   |                     |             |      |
| 7 Closeness 8–9 years           | -0.10**                       | -0.10** | -0.30** | -0.15** | 0.24**  | 0.28**  | –       |         |         |         |        |        |    |   |                     |             |      |
| 8 Closeness 10–11 years         | -0.10**                       | -0.09** | -0.16** | -0.29** | 0.20**  | 0.20**  | 0.31**  | –       |         |         |        |        |    |   |                     |             |      |
| 9 Literacy 12–13 years          | -0.15**                       | -0.22** | -0.24** | -0.27** | 0.18**  | 0.17**  | 0.14**  | 0.13**  | –       |         |        |        |    |   |                     |             |      |
| 10 Engage & adj 12–13 years     | -0.23**                       | -0.34** | -0.40** | -0.42** | 0.16**  | 0.18**  | 0.19**  | 0.16**  | 0.65**  | –       |        |        |    |   |                     |             |      |
| 11 Peer problems 12–13 years    | 0.28**                        | 0.28**  | 0.32**  | 0.33**  | -0.10** | -0.05** | -0.11** | -0.12** | -0.24** | -0.32** | –      |        |    |   |                     |             |      |
| 12 Teacher liking 12–13 years   | -0.09**                       | -0.14** | -0.14** | -0.14** | 0.11**  | 0.12**  | 0.14**  | 0.18**  | 0.23**  | 0.33**  | 0.30** | –      |    |   |                     |             |      |
| 13 School belonging 12–13 years | -0.16**                       | -0.19** | -0.18** | -0.23** | 0.15**  | 0.11**  | 0.12**  | 0.18**  | 0.26**  | 0.30**  | 0.24** | 0.72** | –  |   |                     |             |      |
|                                 |                               |         |         |         |         |         |         |         |         |         |        |        |    | Mean (SD)                                 | Cronbach’s $\alpha$ |             |      |
|                                 |                               |         |         |         |         |         |         |         |         |         |        |        |    | 1.41 (0.51)                               | 0.87                | 1.58 (0.65) | 0.89 |
|                                 |                               |         |         |         |         |         |         |         |         |         |        |        |    | 1.30 (0.50)                               | 0.88                | 1.46 (0.66) | 0.90 |
|                                 |                               |         |         |         |         |         |         |         |         |         |        |        |    | 1.35 (0.57)                               | 0.90                | 1.50 (0.67) | 0.91 |
|                                 |                               |         |         |         |         |         |         |         |         |         |        |        |    | 1.33 (0.54)                               | 0.91                | 1.46 (0.65) | 0.92 |
|                                 |                               |         |         |         |         |         |         |         |         |         |        |        |    | 1.16**                                    | 0.86                | 1.42 (0.60) | 0.87 |
|                                 |                               |         |         |         |         |         |         |         |         |         |        |        |    | 1.10**                                    | 0.86                | 1.42 (0.60) | 0.87 |
|                                 |                               |         |         |         |         |         |         |         |         |         |        |        |    | 1.15**                                    | 0.84                | 1.47 (0.58) | 0.83 |
|                                 |                               |         |         |         |         |         |         |         |         |         |        |        |    | 1.13**                                    | 0.85                | 1.47 (0.62) | 0.85 |
|                                 |                               |         |         |         |         |         |         |         |         |         |        |        |    | 1.07**                                    | 0.86                | 1.48 (0.61) | 0.85 |
|                                 |                               |         |         |         |         |         |         |         |         |         |        |        |    | 1.13**                                    | 0.86                | 1.48 (0.61) | 0.85 |
|                                 |                               |         |         |         |         |         |         |         |         |         |        |        |    | 0.93 (0.61)                               | 0.96                | 1.32 (0.35) | 0.74 |
|                                 |                               |         |         |         |         |         |         |         |         |         |        |        |    | 4.11 (0.74)                               | 0.93                | 2.60 (0.37) | 0.93 |
|                                 |                               |         |         |         |         |         |         |         |         |         |        |        |    | 2.70 (0.34)                               | 0.96                | 3.75 (0.88) | 0.97 |
|                                 |                               |         |         |         |         |         |         |         |         |         |        |        |    | 1.21 (0.27)                               | 0.64                | 1.32 (0.35) | 0.74 |
|                                 |                               |         |         |         |         |         |         |         |         |         |        |        |    | 1.21 (0.27)                               | 0.64                | 1.32 (0.35) | 0.74 |
|                                 |                               |         |         |         |         |         |         |         |         |         |        |        |    | 3.09 (0.62)                               | 0.91                | 3.05 (0.62) | 0.91 |
|                                 |                               |         |         |         |         |         |         |         |         |         |        |        |    | 4.08 (0.57)                               | 0.86                | 3.94 (0.61) | 0.85 |

\* $p < 0.05$ .

\*\* $p < 0.01$ .

Engage & adj: Engagement & adjustment.

These trajectories are presented in Figure 1. For the typically developing children (dotted lines), the majority (94.4%) had a high initial level of closeness which slightly decreased across waves (high decreasing,  $n = 2728$ ), and a smaller number (5.6%) had a moderate initial level of closeness which increased over the early school years and then slightly decreased later on (moderate increasing-decreasing,  $n = 162$ ). Similar patterns were observed in the SLC group (solid lines): the majority (92.3%) had a high-decreasing trajectory ( $n = 1331$ ), and a smaller number (7.7%) had a moderate increasing-decreasing trajectory ( $n = 111$ ).

Chi-square comparisons showed that a higher proportion of children in the SLC group were in the moderate increasing-decreasing trajectory than for the typically developing group,  $\chi^2 = 7.13, p = 0.008$ . A further difference was noted for the high-decreasing trajectory: the typical group had a higher initial level of closeness with teachers than for those in the SLC group, Wald's test = 51.12,  $df = 1, p < 0.001$ .

None of the other comparison tests showed significant differences between the typical and SLC groups.

**Teacher-child conflict developmental trajectories**

The developmental trajectories for STRS conflict were more complex; however, as for closeness, analyses for both groups of children generated a four-class trajectory solution (see Figure 2). For the typically developing children, the majority (86.1%) had a low initial level of conflict that stayed low during the school years (i.e. low stable;  $n = 2480$ ). The remaining children were distributed across three smaller trajectories: 5.5% had a moderate initial level of conflict that increased during the early school years and then reduced (moderate increasing-decreasing,  $n = 160$ ); 5% had a moderate initial level of conflict that increased during the course of the school years (moderate increasing,

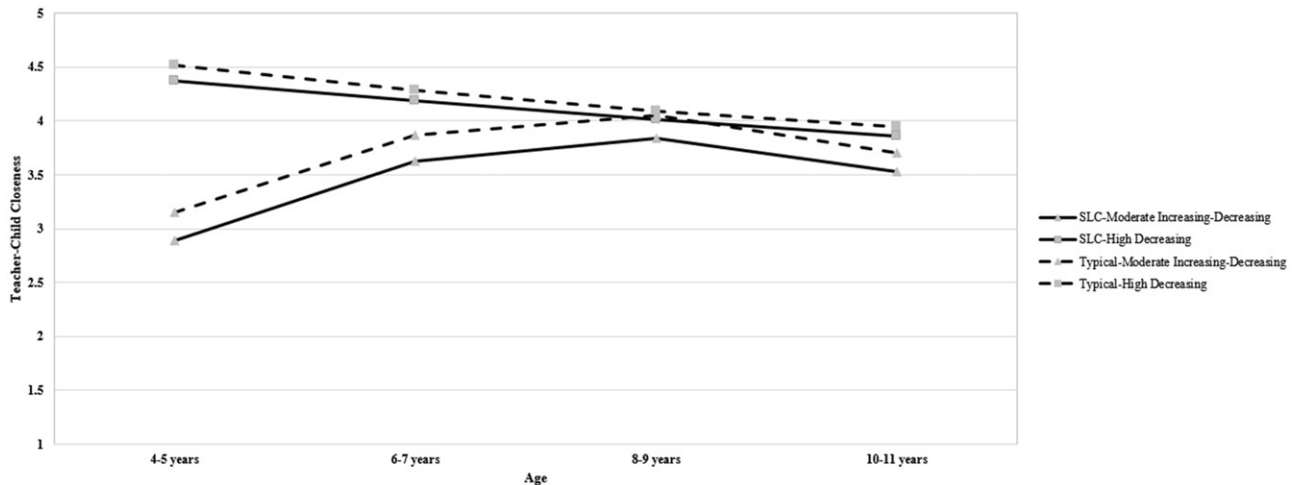


Figure 1. Latent growth trajectory of average teacher-child closeness across waves for typically developing children and children with speech and language concern (SLC).

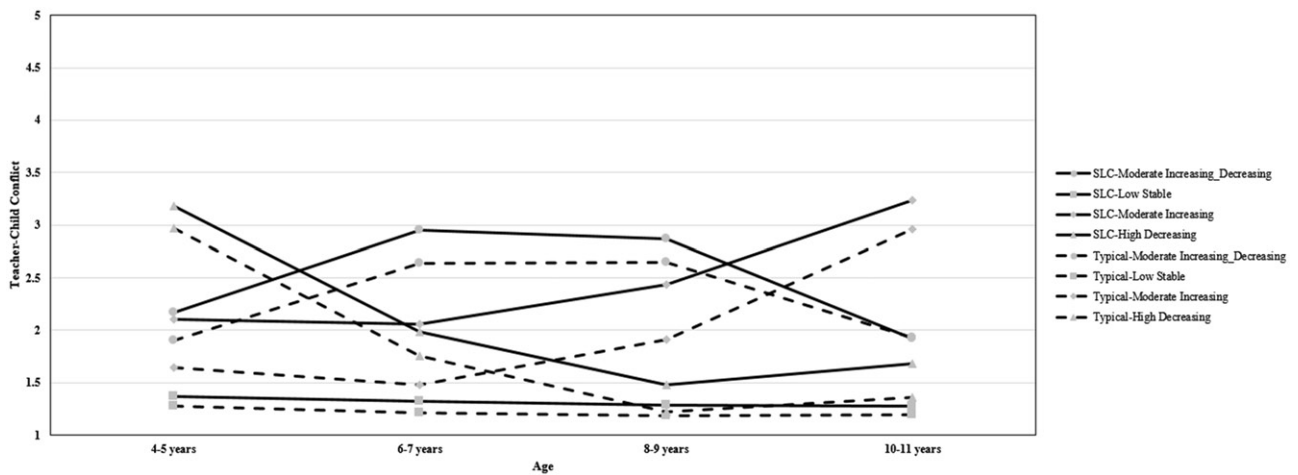


Figure 2. Latent growth trajectory of average teacher-child conflict across waves for typically developing children and children with speech and language concern (SLC).

$n=144$ ); and 3.7% had a high initial level of conflict that decreased during the course of the school years (high decreasing,  $n=106$ ). For children in the SLC group, the majority (82.1%) had a low-stable trajectory ( $n=1183$ ); 5.1% had a moderate increasing-decreasing trajectory ( $n=74$ ); 6.6% had a moderate increasing trajectory ( $n=95$ ); and 6.2% had a high-decreasing trajectory ( $n=90$ ).

Comparison tests between the groups showed that the proportion of children in the SLC group was higher in the high-decreasing trajectory compared to the typically developing children,  $\chi^2=20.49$ ,  $p<0.001$ . Further analyses showed differences in initial levels of teacher-child conflict. For the low-stable trajectory and the moderate increasing group, children in the SLC group had significantly higher initial conflict with teachers than the typical group, Wald's tests = 26.30,  $df=1$ ,  $p<0.001$ , and 13.98,  $df=1$ ,  $p<0.001$ , respectively. None of the other tests showed significant differences between the typical and SLC groups.

**Developmental trajectories and children's academic and social-emotional outcomes**

Results of a series of Wald's chi-square analyses predicting each of the five outcomes at age 12-13 years are presented in Table II for teacher-child closeness and Table III for teacher-child conflict.

*Teacher-child closeness*

Results showed that, for the typical group, children with a moderate increasing-decreasing trajectory had poorer outcomes for teacher liking and sense of school belongingness than children with a high-decreasing trajectory (see Table II, columns titled "Class comparison"). There were no significant differences between the two trajectories on literacy, school engagement and adjustment, and peer problems. For the SLC group, children with a moderate increasing-decreasing trajectory had significantly lower levels of school engagement and adjustment, and school belongingness, and higher peer problems than children with a high-decreasing trajectory.

There were no differences for literacy and teacher liking.

Within trajectory comparisons showed that in the high-decreasing trajectories, typically developing children had significantly higher literacy, sense of school belongingness, and lower peer problems than children in the SLC group,  $p_s<0.001$ , and in the moderate increasing-decreasing trajectories, typically developing children had significantly lower peer problems compared to children with SLC,  $p<0.001$ .

*Teacher-child conflict*

Results indicated that the predictive associations with student achievement and adjustment at age 12-13 for some trajectories were similar in the typical and SLC groups of children. In both groups, for all five outcomes, children with a moderate increasing-decreasing and a moderate increasing trajectory had worse scores than for the children with a low-stable trajectory (see Table III, Class comparison columns for literacy, school engagement and adjustment, teacher liking, sense of school belongingness and peer problems). Children in these two trajectories also had poorer outcomes than the high-decreasing trajectory on literacy for the SLC group, school engagement and adjustment for both the typical and SLC groups, and peer problems for the typical group. Figures in Table III, columns 2 and 3 for typical and SLC groups, show large deviations from zero on the academic and social-emotional outcomes, approximately 1 standard deviation (SD) lower or higher than the mean for children with SLC and 0.7 SD for typical children. Results also showed that children with a pattern of high-decreasing conflict had poorer outcomes than children in the low-stable trajectory on school engagement and adjustment, sense of school belongingness, and peer problems for both the typical and SLC groups, and on teacher liking for the SLC group; however, the deviations from zero were less marked for this group (see Table III, columns 4).

Within the trajectories, results showed some differences in academic and social-emotional outcomes for typical versus SLC groups. For the low stable and the moderate increasing trajectories,

Table II. Within-group comparisons of teacher-child closeness trajectory classes on school academic and social-emotional outcomes.

|                                | Closeness                                 |                                |          |    |       |                               |                 |       |          |    |       |                  |
|--------------------------------|---|--------------------------------|----------|----|-------|-------------------------------|-----------------|-------|----------|----|-------|------------------|
|                                | Children with speech and language concern |                                |          |    |       | Typically developing children |                 |       |          |    |       |                  |
|                                | 1   | 2                              | $\chi^2$ | df | p     | Class comparison              | 1               | 2     | $\chi^2$ | df | p     | Class comparison |
| Moderate increasing-decreasing | High decreasing                           | Moderate increasing-decreasing |          |    |       |                               | High decreasing |       |          |    |       |                  |
| Literacy                       | -0.36                                     | -0.12                          | 3.36     | 1  | ns    |                               | -0.09           | 0.08  | 2.53     | 1  | ns    |                  |
| Engagement & adjustment        | -0.28                                     | -0.03                          | 3.92     | 1  | 0.048 | 2>1                           | -0.12           | 0.04  | 2.47     | 1  | ns    |                  |
| Peer problems                  | 0.50                                      | 0.13                           | 8.19     | 1  | 0.004 | 1>2                           | 0.00            | -0.07 | 0.75     | 1  | ns    |                  |
| Teacher liking                 | -0.15                                     | 0.00                           | 1.68     | 1  | ns    |                               | -0.21           | 0.03  | 5.45     | 1  | 0.02  | 2>1              |
| School belonging               | -0.32                                     | -0.08                          | 4.35     | 1  | 0.037 | 2>1                           | -0.20           | 0.08  | 8.93     | 1  | 0.003 | 2>1              |

All values reported are standardised residuals. The effect of trajectories on adjustment outcomes was obtained after controlling for sex, language background other than English, Indigenous status, family socio-economic position, child age, and age 4-5 school readiness and receptive vocabulary.

Table III. Within-group comparisons of teacher-child conflict trajectory classes on school academic and social-emotional outcomes.

|                         | Conflict                                  |                                |                     |                 |            |                                |                               |                            |          |       |       |                  |       |   |        |                       |
|-------------------------|---|--------------------------------|---------------------|-----------------|------------|--------------------------------|-------------------------------|----------------------------|----------|-------|-------|------------------|-------|---|--------|-----------------------|
|                         | Children with speech and language concern |                                |                     |                 |            |                                | Typically developing children |                            |          |       |       |                  |       |   |        |                       |
|                         | 1   | 2                              | 3                   | 4               | 1          | 2                              | 3                             | 4                          | 1        | 2     | 3     | 4                |       |   |        |                       |
|                         | Low stable                                | Moderate increasing-decreasing | Moderate increasing | High decreasing | Low stable | Moderate increasing-decreasing | Moderate increasing           | High decreasing            | $\chi^2$ | df    | $p$   | Class comparison |       |   |        |                       |
| Literacy                | -0.03                                     | -0.66                          | -0.91               | -0.21           | 60.10      | 3                              | <0.001                        | 1 > 3; 1 > 2; 4 > 3; 4 > 2 | 0.12     | -0.34 | -0.22 | -0.02            | 24.01 | 3 | <0.001 | 4 > 2; 1 > 2; 1 > 3   |
| Engagement & adjustment | 0.12                                      | -0.96                          | -0.97               | -0.47           | 119.33     | 3                              | <0.001                        | 1 > 4 > 3; 1 > 4 > 2;      | 0.14     | -0.76 | -0.69 | -0.20            | 94.34 | 3 | <0.001 | 1 > 4 > 2; 1 > 4 > 3  |
| Peer problems           | 0.00                                      | 0.90                           | 1.10                | 0.67            | 84.78      | 3                              | <0.001                        | 3 > 4 > 1; 2 > 1;          | -0.15    | 0.60  | 0.47  | 0.09             | 68.90 | 3 | <0.001 | 2 > 4 > 1; 3 > 4 > 1; |
| Teacher liking          | 0.06                                      | -0.36                          | -0.43               | -0.25           | 26.15      | 3                              | <0.001                        | 1 > 3; 1 > 2; 1 > 4        | 0.05     | -0.24 | -0.37 | -0.02            | 16.74 | 3 | 0.001  | 1 > 2; 1 > 3; 4 > 3;  |
| School belonging        | 0.00                                      | -0.51                          | -0.68               | -0.44           | 40.00      | 3                              | <0.001                        | 1 > 3; 1 > 2; 1 > 4        | 0.12     | -0.26 | -0.35 | -0.12            | 29.18 | 3 | <0.001 | 1 > 2; 1 > 4; 1 > 3;  |

All values reported are standardised residuals. The effect of trajectories on adjustment outcomes was obtained after controlling for sex, language background other than English, Indigenous status, family socio-economic position, child age, and age 4-5 school readiness and receptive vocabulary.

children in the typical group had higher scores for literacy and lower peer problems than children in the SLC group,  $p < 0.01$ . In addition, for the high-decreasing trajectory, typically developing children had lower peer problems than children with SLC,  $p < 0.05$ . There were no differences between groups in the moderate increasing-decreasing trajectory.

In examining outcomes across the trajectories for the two groups, it is important to note that children in the typical group with moderate increasing-decreasing and/or moderate increasing trajectories had poorer scores, on all five outcomes, namely, literacy, school engagement and adjustment, peer problems, school belongingness and teacher liking, than children in the SLC group with a low-stable trajectory.

### Discussion

This study sought to ascertain how teacher-child relationship trajectories for children with SLC were associated with academic and social-emotional outcomes at 12-13 years by comparing a large, nationally representative sample of children with SLC with their typically developing peers. The study showed that over the first six years of schooling (age 4-5 to 10-11 years) teacher-child relationship trajectories were very similar for these two groups of children. The majority had experienced positive, adaptive relationships with their teachers: 92% of children in the SLC group and 94% of children in the typical group had sustained high closeness; 82% of SLC and 86% of typical children had sustained low conflict. As reported in other studies (Meehan, Hughes, & Cavell, 2003; O'Connor, & McCartney, 2007; Spilt et al., 2012), this study has shown that more positive relationships with teachers may be a protective factor of peer relationships, language and literacy achievement for children with speech and language difficulties (McCormack et al., 2011). The study has extended previous research by testing the effects of teacher-child relationship closeness and conflict trajectories on a wider range of school outcomes. Further, analyses controlled for the effects of child and family background and children's early school readiness to ensure a more rigorous test of the unique contribution of teacher-child relationship trajectories on outcomes. The results suggest that teacher-child relationships may provide support for the human rights of children with SLC to participate effectively and positively in school.

Despite these encouraging findings, the study also raised concerns. Results showed that a lower proportion of children with SLC were identified as having adaptive teacher-child relationship trajectories, and their initial ratings of closeness and conflict at age 4-5 years were less favourable. The diverging patterns of teacher-child relationship closeness and conflict trajectories illustrated in Figures 1 and 2, respectively, underline the



importance of the first relationships children form with their teachers. Consistent with Spilt et al. (2012), the present study suggested that the negative effects of early conflictual relationship patterns are accumulative over time, particularly in patterns of increasing conflict. This was evidenced by large deviations from zero on the academic and social-emotional outcomes for children in the maladaptive moderate increasing–decreasing and *moderate increasing* conflict trajectories, which were even more marked for children with SLC.

The results call for efforts to help teachers and children form more adaptive relationships, especially for children with SLC. A first step towards this goal is for teachers to be cognisant of their role in supporting children with whom they may find it harder to relate due to difficulties in communication. Previous researchers have suggested that speech and language difficulties may reduce children's capacity to understand their emotional experiences, express their needs effectively and regulate their behaviours (Fujiki, Brinton, & Clarke, 2002); such a reduced capacity has negative implications for social relationships. Interestingly, in evaluating an intervention program designed to improve teacher–child relations in prior-to-school settings, Driscoll and Pianta (2010) reported improved teacher–child relationship closeness, but also improvements in children's regulatory abilities: increased frustration tolerance, task orientation and decreased conduct problems. As with earlier work by Spilt et al. (2015), the present study has shown that close, less conflicted relationships with teachers may provide a supportive context for later language and literacy development and other aspects of children's social-emotional adjustment at school.

### Conclusions and future directions

The ability to communicate is crucial in ensuring children's full participation in life activities and fulfilment of their human rights as enshrined in the Universal Declaration of Human Rights. This study provides evidence that teachers may help support these human rights. The present study provides guidance on when and where difficult relationships can arise across the first six years of school. Children whose initial relationships with teachers were characterised by low closeness or moderate to high conflict were at greater risk of forming less positive teacher–child relationship trajectories, but the children who experienced increasing levels of conflict with subsequent teachers were most at risk. Efforts to improve teacher–child relationships with children with speech and language difficulties, or whose parents are concerned about their communication, need to start early, but relationship quality also needs continual monitoring as these children move into the middle years of childhood. Teachers, speech-language pathologists and parents need to

be aware of the potential challenges that children with SLC may have in forming positive relationships with teachers, and together provide support for children's speech and language skills, social relations and self-regulation.


Professional development designed for improving teachers' relationships with children are proving effective (Driscoll & Pianta, 2010), but the extent to which such programs are effective for children with speech and language difficulties is yet to be determined. Future research is needed to develop and trial new or adapted programs, and to ensure that they are focussed on early formation of positive teacher–child relationships as well as ensuring relationship support into the middle years of school. These endeavours will support children's rights to freedom of opinion and expression, education and participation that are enshrined in Article 19, 26 and 27 of the Universal Declaration of Human Rights.

### Declaration of interest

No potential conflict of interest was reported by the author(s).

### ORCID

Cen Wang  <http://orcid.org/0000-0002-3151-1466>

Linda J. Harrison  <https://orcid.org/0000-0003-3835-6283>

Sharynne McLeod  <http://orcid.org/0000-0002-7279-7851>

Sue Walker  <https://orcid.org/0000-0002-7267-9978>

Jantine L. Spilt  <http://orcid.org/0000-0002-3863-9868>

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