

*Abbreviated Report on Children's Profile  
at School Entry  
2008-2010*

EVALUATION OF THE  
*'PREPARING FOR LIFE'*  
EARLY CHILDHOOD  
INTERVENTION PROGRAMME

By  
**UCD GEARY INSTITUTE**  
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The full version of the report for Wave 1, discussing each section in detail, is available upon request or may be downloaded from <http://geary.ucd.ie/preparingforlife/>.



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Noel Kelly,  
Manager, Preparing for Life.

## Executive Summary

The Children's Profile at School Entry (CPSE) was conducted by the UCD Geary Institute who are commissioned by the Northside Partnership to assess the levels of school readiness in a designated disadvantaged community of Ireland, as part of an overall evaluation of the *Preparing for Life (PFL)* early childhood intervention programme.

### Purpose and Description of the CPSE

The CPSE is an annual representative survey of the levels of school readiness of Junior Infant children attending the local primary schools in the *PFL* catchment area. These surveys will 1) indicate the general level of school readiness for the older cohorts of children in the *PFL* area, 2) indicate whether the *PFL* programme is generating positive externalities, and 3) will serve as a baseline for the *PFL* cohort.

### CPSE Method

The CPSE is conducted between October and December of each year starting in 2008 and continuing through 2012. Two waves of data have been collected to date. Data were collected via online questionnaires completed by teachers and paper and pen questionnaires completed by caregivers. The teachers' and caregivers' response rates were 99% and 76% (Wave 1) and 98% and 78% (Wave 2), respectively, resulting in a total CPSE sample of 232 children.

Pupil school readiness was assessed using teacher and caregiver reports on the Short Early Development Instrument (S-EDI; Janus, Duku, & Stat, 2005). The S-EDI is composed of 48 core items and provides scores across five domains of school readiness: *physical health and well-being*, *social competence*, *emotional maturity*, *language and cognitive development*, and *communication and general knowledge*. The S-EDI has normative data that correspond to each domain, allowing comparisons with a representative Canadian sample.

### Results:

#### School Readiness in the Wave 1 (2008-2009) CPSE Cohort

- Teachers rated children in the CPSE Wave 1 cohort as displaying significantly *lower* levels of school readiness than a Canadian norm, while caregivers rated children as displaying significantly *higher* levels of school readiness than a Canadian norm.
- Children were rated highest on *physical health and well-being* and *social competence*, while they were rated lowest on the *communication and general knowledge* scale by teachers and were rated lowest on the *language and cognitive development* scale by caregivers.
- Approximately 50% of children in the CPSE Wave 1 cohort were performing *above* the norm in terms of *physical health and well-being* and *social competence*. Approximately 70% of children were rated *below* the Canadian norm on the *emotional maturity*, *language and cognitive development*, and *communication and general knowledge* domains, demonstrating specific areas of weakness for a large portion of the CPSE Wave 1 cohort.
- Just under 18% of children scored in the lowest 10% of the entire CPSE cohort on one of the five S-EDI domains and a further 10% scored low on two domains, with 9% scoring low on three or more domains.

#### School Readiness in the Wave 2 (2009-2010 CPSE) Cohort

- Teachers rated children in the CPSE Wave 2 cohort as displaying significantly *lower* levels of school readiness than a Canadian norm, while caregivers rated children as displaying significantly *higher* levels of school readiness than a Canadian norm.



- Children were rated highest on *physical health and well-being* and *social competence* and lowest on the *language and cognitive development* domain by both teachers and caregivers.
- Approximately 60% of children in the Wave 2 of the CPSE cohort are performing *above* the norm in terms of *social competence*. Approximately 55-60% of children were rated *below* the Canadian norm on the *physical health and well-being*, *emotional maturity*, and *communication and general knowledge* domains. Seventy-four percent of children in Wave 2 were rated below the norm on the *language and cognitive development* domain. Together with the results for the previous year's sample, these findings show that there are certain areas of weakness for a large number of children in the CPSE cohort.
- Just under 12% of children in Wave 2 scored in the lowest 10% of the cohort on one of the five S-EDI domains, a further 4% scored low on two domains, with less than 7% scoring low on three or more domains.

### **Changes in School Readiness**

There are several similarities in the patterns of mean scores across the two waves of data collection. Both teachers and caregivers rated the *physical health and well-being* and *social competence* domains as ones in which the children performed best in both waves. According to caregiver reports, the level of school readiness of children in Wave 1 did not differ from children in Wave 2. However according to teacher reports, children in Wave 2 were rated higher than children in Wave 1 on the *emotional maturity* and *communication and general knowledge* domains. While this suggests that the Wave 2 cohort have better skills in these domains, we cannot conclude that this is a result of positive externalities from the *PFL* programme as it may also be driven by differences in teacher reporting or cohort effects.

### **Importance of School Readiness Domains**

Examining the importance placed on the different school readiness domains revealed that teachers rated non-cognitive skills such as *social competence* and *emotional maturity* as being most important for a child's school readiness, while caregivers placed more importance on the cognitive domains, such as *communication and general knowledge*. This suggests a divergence in caregivers' and teachers' values which may represent differential capabilities that are focused on in the home and in school environments. Exposure to diverging messages about the skills important for school success may lead to lower levels of school readiness for young children.

### **Subjective School Readiness**

Teachers in the 2009-2010 CPSE cohort indicated that approximately 48% of children were *definitely ready* for school when they started in September, 2009. This is consistent with teacher ratings in the 2004-2005 cohort, suggesting that there have been few improvements in children's school readiness, as reported by teachers, in the *PFL* communities over a 5 year period.

### **Group Differences in School Readiness**

The report also investigates differences in school readiness scores across a range of socio-demographic, parental, and environmental factors. For this analysis, data from Wave 1 and Wave 2 are combined.

- Girls were reported to have greater *physical health and well-being*, to be more *socially competent*, more *emotionally mature*, and to display higher levels of *communication and general knowledge* than boys.
- Children with no siblings were rated as being more *physically healthy*, *socially competent*, and as displaying higher levels of *communication and general knowledge* compared to children with at least one sibling.

- Children of caregivers with higher levels of education were rated as being more *physically healthy, socially competent, emotionally mature*, as well as displaying higher levels of *language and cognitive development* than children of caregivers with lower education levels.
- Children of employed caregivers were rated as being more *socially and emotionally mature* as well as displaying higher levels of *language and cognitive development*, and *communication and general knowledge* than children living in households where the caregiver was not employed.
- Children of caregivers who reported excellent or very good health were rated higher on *all school readiness domains*.
- There are no statistical differences in school readiness scores by the caregivers' relationship status, age, mental well-being or social welfare dependency.
- Children who spent time in centre-based childcare prior to school entry were rated higher across *all domains of school readiness* than children who did not experience any centre-based childcare. Note, however, that the majority of children (77%) in the sample had experienced some form of centre-based childcare.

### **School Readiness and Socio-demographic and Environmental Factors**

The combined Wave 1 and Wave 2 cohort data allowed a multivariate analysis to be conducted in which the impact of multiple factors relevant to school readiness were examined. These results echoed the findings obtained from the bivariate analyses. Specifically, children of caregivers with low education and those who have siblings display lower levels of school readiness, whereas children of employed caregivers or those who participated in centre-based childcare displayed higher levels of school readiness. A comparison of the magnitude of these effects suggests that childcare has the greatest impact on children's school readiness skills.

### **Parenting and School Readiness**

Three relationships between parenting and teacher reported school readiness emerged.

- Authoritative parenting was positively associated with readiness to explore new things.
- Authoritarian parenting was negatively associated with overall social competence with peers and positively associated with aggressive behaviour.
- Permissive parenting was negatively associated with physical health and well-being and readiness to explore new things.

### **Conclusion**

Based on teacher assessments of school readiness, the children in the *PFL* catchment areas are not performing to the level of other similar aged children at school entry, a finding that provides quantitative evidence of the need for the *PFL* intervention. However, there is much heterogeneity within the sample, with sub-groups of children performing above the norm. There is also evidence suggesting that the Wave 2 cohort are performing above the Wave 1 cohort in some domains, however, overall the same pattern of results emerges between waves. Combining the data from both waves allows us to better investigate the factors associated with school readiness, with centre-based childcare having a consistent and large impact on children's school readiness skills. The report will be amended annually until 2012 to include the results of each new data collection wave, in addition to comparisons examining annual changes in levels of school readiness. Finally, please note that the CPSE survey was conducted with a sample of Junior Infant children living in a disadvantaged urban area of Ireland, therefore these results should not be generalised to the wider population.

# **I. Introduction**

## **A. Background & Aims**

The Children's Profile at School Entry (CPSE) was conducted by the UCD Geary Institute who have been commissioned by the Northside Partnership to assess the levels of school readiness in a designated disadvantaged community of Ireland as part of an overall evaluation of the *Preparing for Life (PFL)* early childhood intervention programme.

In 2004, a school readiness survey was conducted by the Children's Research Centre in Trinity College Dublin (Kiernan et al., 2008) in the *PFL* catchment area in which teachers reported that only 48% of children were 'definitely ready' for school. As a result, the *PFL* programme was developed with the aim of increasing the levels of school readiness in these disadvantaged areas.

*PFL* is a 5-year school readiness intervention starting in pregnancy and lasting until the children start school. The programme is jointly funded by Atlantic Philanthropies and the Office of the Minister for Children and Youth Affairs. The aim of the programme is to work with families from pregnancy onwards to help and support the healthy development of the child. All programme families receive facilitated access to enhanced pre-school and public health information, in addition to the services of a support worker. Half of these families are randomly allocated to receive enhanced supports including participation in a home-visiting mentoring programme and a group parent training programme. This experimental programme is one of the first of its kind in Ireland and aims to provide real time evidence on best practice in early intervention.

The CPSE is an annual representative survey of the levels of school readiness of Junior Infant children attending the local primary schools in the *PFL* catchment area. Specifically, the survey focuses on the children's levels of school readiness in the year they started school, and will:

- 1) Indicate the general level of school readiness for the older cohorts of children in the *PFL* catchment area.
- 2) Indicate whether the *PFL* programme is generating positive externalities (i.e., whether the public health style messages and improved service integration by the local providers translate into improving levels of school readiness).

- 3) Serve as a baseline measure of school readiness for the *PFL* cohort.

## **B. Overview of Report**

This report describes the results from the first two years of the annual CPSE survey. The report will be amended throughout the next two years to include the results of subsequent data collection waves. In addition to comparing annual changes in levels of school readiness, the report also examines relationships between teacher reported school readiness and socio-demographic factors of the families and children participating in the study. The report is organised as follows:

- Section II provides a brief description of school readiness.
- Section III discusses the methodology employed.
- Section IV presents the results of the analysis.
- Section V summarises and concludes the report.

## **II. What is School Readiness?**

### **A. Definition of School Readiness**

School readiness is a multi-dimensional concept which reflects the holistic nature of children's development and takes account of a host of factors in their wider environment. While the traditional definition of school readiness focused on academic ability alone, more recent research on child development and early education has noted that school readiness is a multi-faceted concept which also includes physical health and well-being and motor development, social and emotional development, approaches to learning, language development, and emergent literacy (Child Trends, 2001; Kagan, Moore, & Bradenkamp, 1995). Together, these developmental domains have the capacity to influence the child's readiness for school and future academic achievement, as children who begin school with the appropriate cognitive and social skills maintain this advantage throughout the school years.

## **B. Determinants of School Readiness**

International research has identified several factors that influence a child's readiness for school. The key factors include child health, family factors, emergent literacy practices, early childhood care and education, school transitional practices, community and neighbourhood effects and media effects (Halle, Zaff, Calkins, & Geyelin-Margie, 2000).

## **C. Importance of School Readiness**

School readiness is important across a wide range of areas. Each dimension of school readiness may have consequences for a child's social, physical and educational outcomes. In particular, developmental problems in childhood are associated with negative life outcomes in adulthood. Poor school readiness has been linked to later academic failure (Raver, 2003), poor socio-emotional adjustment (Arnold et al., 1999; Hinshaw, 1992), and poor life outcomes such as unemployment (Ross & Shillington, 1990) and teenage pregnancy (Brooks-Gunn, 2003). School readiness has been described as a foundation on which all later learning is built and it has been argued that children who develop well at earlier stages and are ready to start school are in a position to elicit interactions and experiences that accelerate their subsequent development and facilitate their achievement (Heckman, 2000).

For more information on the definition, determinants and importance of school readiness please refer to the full report from the first year of the CPSE project located on the *PFL* Evaluation website (<http://geary.ucd.ie/preparingforlife/>).

### **III. Methodology**

#### **A. Participants**

##### ***1. Survey Design and Piloting***

In order to assess the level of school readiness in the *PFL* catchment area, a cross-sectional design was developed which collects information via surveys completed by the teachers and primary caregivers of Junior Infant children. Data are collected annually, for four years, beginning in the 2008-2009 school year. Throughout this report Wave 1 refers to data collected in the 2008-2009 academic year and Wave 2 refers to the second round of data collection that took place during the 2009-2010 academic year.

*Wave 1:* Data for Wave 1 of the CPSE were collected during October/November/December of the 2008-2009 academic year. All survey instruments were piloted prior to administering the surveys to the study population.

*Wave 2:* Data for Wave 2 of the CPSE were collected during October/November/December of the 2009-2010 academic year. A few additions were made to the Wave 2 survey. Specifically, questions assessing the caregivers' physical and mental health and school readiness perceptions when the child began school in September, 2009 were added to the questionnaire.

##### **a) Teacher Questionnaire**

The teacher questionnaire was administered using an online survey in which the teachers accessed a secure website using a unique user ID and password. The questionnaire took approximately 10 minutes to complete for each child. Teachers were asked a number of demographic questions as well as questions regarding the school readiness of participating children.

##### **b) Caregiver Questionnaire**

Families were recruited via their child's teacher. The paper and pen questionnaire took approximately 30 minutes for the respondent to complete. The questionnaire consisted of

questions regarding socio-demographic information, caregiver health, child school readiness, and parenting behaviour.

## ***2. Eligibility***

*Wave 1:* All teachers and caregivers of Junior Infant children either residing in or attending schools in the original *PFL* catchment areas were eligible for participation in the study. This resulted in two eligible primary schools. Primary caregivers of children who do not reside in the area themselves but were attending schools in the catchment area, were also asked to participate to ensure no one child was excluded or singled out in the classroom. Finally, children (n=21 from 5 schools) who lived in the *PFL* catchment area, but attended schools outside the area were invited to participate. Caregivers had to give consent to complete the questionnaire themselves and also for their child's teacher to complete the questionnaire.

*Wave 2:* All teachers and caregivers of Junior Infant children attending schools in the original and the extended *PFL* catchment areas were eligible for participation in the study. The *PFL* catchment area was expanded in January, 2009 and again in June, 2009. Therefore, the enlarged catchment area comprised three eligible primary schools. Primary caregivers had to give consent to complete the questionnaire themselves and also for their child's teacher to complete the questionnaire. As in Wave 1, caregivers of children who do not reside in the area themselves but were attending schools in the area, also were asked to participate.

As teachers in the primary schools in the *PFL* catchment area tend to teach the Senior Infant class after teaching a year of Junior Infants, the teachers completing the survey in Wave 2 were not the same teachers who completed the survey in Wave 1.

## ***3. Response Rates***

*Wave 1:* There were a total of 123 eligible pupils across five schools. In total, 94 caregiver questionnaires were returned resulting in a response rate of 76%. In total, 101 teacher questionnaires were completed, capturing data for 82% of eligible participants. Teacher

questionnaires were completed for all pupils with consent, bar one, resulting in a teacher response rate of 99%.

*Wave 2:* There were a total of 165 eligible students across three schools. In total, 129 caregiver questionnaires were returned resulting in a response rate of 78%. Of these, 126 (76%) caregivers gave consent for the teacher to complete the survey regarding their child and 123 of these teacher questionnaires were completed, resulting in a teacher response rate of 98%, capturing teacher data for 75% of eligible children.

## **B. Instruments**

Cohort specific standardised coefficient reliability estimates (Cronbach, 1951) for all measures used in Wave 1 and Wave 2 of the CPSE survey are reported in Table 1. Domains that did not reach a reliability of .65 or higher are excluded from further analyses. Additionally, although the vast majority of respondents (99%) were the parents of the CPSE children, two grandparents and one older sibling completed the caregiver questionnaire. For these three cases, the Junior Infant child resided in the same house as the respondent and there was no parent present in the household, therefore we assume that the respondent is the primary caregiver for the child. Thus these data were retained.

### ***1. Teacher Demographics***

Teachers were asked a number of demographic questions including their age, qualifications, how long they have been teaching in general, how long they have been teaching at this particular school, and how long they have taught Junior Infant classes.

### ***2. Household Demographics***

Caregivers were asked socio-demographic information related to family composition, respondent age, ethnicity, employment and education, family income, social welfare status, and childcare utilisation.



### **3. Caregiver Health**

Another factor which has been identified as important for children's school readiness is parental health. Thus, two measures of the caregiver health were added to Wave 2 of CPSE data collection. Mental well-being was assessed using the five item WHO-5 (World Health Organisation, 1998) instrument, a measure of positive mental health. Respondents were presented with five statements and asked to rate how often they have felt that way over the past two weeks on a 6-point Likert scale ranging from zero meaning 'at no time' to five meaning 'all of the time.' A raw score was obtained by summing all of the responses, giving a possible score range from zero to 25, with lower scores, particularly those below 13, indicative of poor well-being.

The subjective health of caregivers was assessed via the question: '*In general, how would you describe your overall, general health?*' Caregivers were asked to indicate if they would describe their health as 'excellent,' 'very good,' 'good,' 'fair,' or 'poor.' Higher scores to this question are representative of better self-reported health.

### **4. School Readiness<sup>1</sup>**

The core measure of school readiness in the CPSE survey is a short form of the Early Development Instrument (EDI; Janus & Offord, 2000), which was developed at the Offord Centre of Child Studies (OCCS), McMaster University (Hamilton, Ontario, Canada). It was developed to meet the needs implied by the paradigm shift in school readiness research in which a more holistic definition of school readiness was adopted. The EDI is used regularly across Canada and has been used in many countries including America, Australia, Chile, Holland, Jamaica, Kosovo, and New Zealand.

The OCCS has established normative data for the EDI in order to set a representative benchmark for comparison of data from projects using the instrument. Research comparing the predictive capability of the EDI with direct school readiness assessments has shown that the EDI predicts

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<sup>1</sup> In addition to the core measure of school readiness (i.e., S-EDI), 18 additional items were included in the teacher questionnaire to assess several further components of school readiness in Wave 1. A description of these items and the associated results are presented in Appendix D.

school achievement in early childhood as accurately as direct assessments of school readiness (Fantuzzo, Bulotsky-Shearer, Fusco, & McWayne, 2005).

Teachers and caregivers in both CPSE waves of data collection completed a short form of the EDI (S-EDI; Janus, Duku, & Stat, 2005). The OCCS developed the S-EDI by conducting a factor analysis of the 104 items on the long version of the EDI. The S-EDI is composed of 48 core items and provides scores in five domains of school readiness. The *physical health and well-being* domain is composed of three three-item subscales including physical readiness for the school day, physical independence, and gross and fine motor skills. The *social competence* domain comprises four three-item subscales including overall social competence with peers, responsibility and respect, approaches to learning, and readiness to explore new things. The *emotional maturity* domain consists of four three-item constructs including prosocial and helping behaviour, aggressive behaviour, anxious and fearful behaviour, and hyperactive and inattentive behaviour. The *language and cognitive development* domain contains four three-item subscales related to basic literacy skills, interest in literacy, numeracy, and memory, advanced literacy skills, and basic numeracy skills. The final construct, *communication and general knowledge* comprises three items including the ability to tell a story, to use language effectively, and the ability to communicate in an understandable way. For each domain of the S-EDI, ratings are converted to a scaled score ranging from zero to ten. Higher scores indicate higher levels of that specific domain. Sample items from this measure are reported in Table 1 of Appendix A.

In addition, one question assessing subjective teacher and caregiver ratings of school readiness was included in the Wave 2 CPSE data collection. Teachers and caregivers were asked ‘*In terms of school readiness, how would you have rated this/your child when he/she started school in September, 2009?*’ Teachers and caregivers were asked to indicate whether the child was ‘definitely ready,’ ‘somewhat ready,’ or ‘definitely not ready’ for school. Including this question allows for comparisons with the school readiness survey of children living in the *PFL* catchment area conducted by the Children’s Research Centre in Trinity College Dublin in 2004 (Kiernan et al., 2008).

## **5. Importance of School Readiness Domains**

Another addition to Wave 2 of CPSE data collection was teacher and caregiver ratings of the relative importance of the school readiness domains of *physical health and well-being, social competence, emotional maturity, language and cognitive development, and communication skills and general knowledge*. Teachers and caregivers were presented with these five domains of school readiness and asked to rank their importance on a scale from ‘one’ representing the area that they feel is most important to ‘five’ representing the area that they feel is least important to school readiness. This measure was included as previous research has found that teachers and parents often emphasise different areas of school readiness. In addition, the results from Wave 1 of the CPSE indicated divergences in parent and teacher reports of school readiness further illustrating the relevance of this question for the present cohort.

## **6. Parenting**

Parenting was assessed via the Parenting Styles and Dimensions Questionnaire (PSDQ; Robinson, Mandleco, Olsen & Hart, 2001). This 32-item self report measure of parenting examines how often the caregiver displays certain behaviours toward his/her child yielding scores related to the traditional Baumrind (1966; 1967; 1971) parenting styles. The caregiver is asked to indicate how often he/she performs certain behaviours on a five point scale ranging from ‘never’ to ‘always.’ This measure yields three constructs regarding caregivers’ average use of authoritative parenting, authoritarian parenting, and permissive parenting behaviours. The *authoritative* construct is composed of three subdomains (each comprised of five questions): connection, regulation, and autonomy. The *authoritarian* construct comprises three four-item subdomains including: physical coercion, verbal hostility, and non-reasoning/punitive behaviours. Lastly, the *permissive* construct contains five items such as: states punishments to child and does not actually do them, and spoils child. Examples of these items are presented in Table 2 of Appendix A.

## **C. Testing Procedures**

Classical hypothesis tests such as the t-test, f-test, and chi-square tests can be unreliable when the sample size is small. Therefore, as the CPSE study is working with a relatively small sample

size, Monte Carlo permutation tests were used throughout to test whether the observed differences in S-EDI scores within the variables of interest e.g., gender (male/female), education (high/low) etc., are statistically significant. Monte Carlo permutation based inference tests, based on 20,000 replications, are used throughout the remainder of the report to test for group differences in school readiness scores. Additionally, Cohen's *d* effect sizes (Cohen, 1988) are reported to illustrate the size of the effect in terms of the pooled standard deviation adjusted for sample sizes of groups tested.

Table 1

Standardised Cronbach Alpha Coefficients and Intercorrelations for Instruments used in the CPSE Survey

Domain/Subdomain	Teacher Ratings					Caregiver Ratings						
	N	1	2	3	4	5	N	1	2	3	4	5
<b>Caregiver Mental Well-being</b>												
<b>WHO-5</b>							111	(.91)				
<b>Child School Readiness</b>												
<b>1. Physical Health and Well-Being</b>	101	(.81)					183	(.59)				
Physical Readiness for the School Day	200	(.64)					205	(.47)				
Physical Independence	218	(.53)					201	(.36)				
Gross and Fine Motor Skills	110	(.82)					215	(.60)				
<b>2. Overall Social Competence</b>	213	.61***	(.89)				192	.32***	(.79)			
Overall Social Competence with Peers	224		(.82)				212		(.58)			
Responsibility and Respect	222		(.86)				208		(.65)			
Approaches to Learning	224		(.88)				199		(.56)			
Readiness to Explore New Things	215		(.69)				214		(.71)			
<b>3. Overall Emotional Maturity</b>	138	.51***	.79***	(.84)			150	.26***	.54***	(.71)		
Prosocial and Helping Behaviour	153			(.88)			187			(.77)		
Aggressive Behaviour <sup>†</sup>	204			(.86)			200			(.68)		
Anxious and Fearful Behaviour <sup>†</sup>	222			(.83)			202			(.64)		
Hyperactivity and Inattention <sup>†</sup>	224			(.89)			201			(.81)		
<b>4. Overall Language and Cognitive Development</b>	156	.55***	.65***	.48***	(.86)		105	.23***	.38***	.23***	(.78)	
Basic Literacy Skills	210				(.71)		187				(.56)	
Interest in Literacy/Numeracy/Memory	204				(.78)		143				(.34)	
Advanced Literacy Skills	198				(.48)		181				(.70)	
Basic Numeracy Skills	176				(.79)		179				(.55)	
<b>5. Communication and General Knowledge</b>	144	.63***	.62***	.50***	.53***	(.83)	214	.24***	.40***	.26***	.21**	(.65)
<b>Parenting Styles and Dimensions</b>												
<b>1. Authoritative Parenting Style</b>							173	(.83)				
Connection (Warmth and Support)							204	(.68)				
Regulation (Reasoning/Induction)							196	(.73)				
Autonomy (Democratic Participation)							192	(.70)				
<b>2. Authoritarian Parenting Style</b>							184	-.21**	(.78)			
Physical Coercion Dimension							200		(.67)			
Verbal Hostility Dimension							200		(.68)			
Non-Reasoning/Punitive Dimension							201		(.44)			
<b>3. Permissive Parenting Style</b>							200	-.27***	.43***	(.71)		

Note. Standardised reliability coefficients appear in parentheses. The number of observations used to calculate reliabilities differs from the number of observations used in later analyses as the standardised reliability coefficients were calculated using only observations with no missing data.

<sup>†</sup>These subscales were reverse coded to derive the Overall Emotional Maturity construct.

<sup>†</sup>  $p < .10$ . \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

## IV. Results

### A. CPSE Cohort Descriptives<sup>2</sup>

#### 1. *Teacher Characteristics*

*Wave 1:* In total, 12 teachers from five different schools completed the online questionnaire for students in their class who had parental consent. On average, the teachers were 37 years old ( $SD^3=10.92$ ) and have been teaching for approximately 11 years. The average duration spent teaching Junior Infants was just over four years. The amount of time spent teaching in the current schools ranged from one year to 31 years, with an average of approximately nine years. In terms of education, just over 58% of the teachers had a postgraduate qualification and one-third had a Primary degree and 8% have a non-degree qualification. All participating teachers were female. Class size information was obtained for 58% ( $n=7$ ) of the teachers. Class sizes ranged from 13 to 16 students, with an average of 14.7 ( $SD=1.30$ ) students per class.

*Wave 2:* In the second wave of data collection, nine teachers from three schools were surveyed. The average age of these teachers was 34 years ( $SD=11.79$ ). On average, teachers have been in their profession for 12 years, they have spent 11 years teaching at their current school, and three years teaching Junior Infants. With respect to education, one-third of teachers have a postgraduate qualification, while 56% have a Primary Degree and 11% have a non-degree qualification. The corresponding class size numbers for these teachers range from 16 to 21, with an average of 18 ( $SD = 1.73$ ) students per class.

#### 2. *Caregiver Characteristics*

*Wave 1:* In total, 94 caregivers completed the CPSE pen and paper questionnaire assessing family socio-demographics, work life and finances, parenting styles and behaviours, and the school readiness of the Junior Infant child. The majority (94%,  $n=87$ ) of caregivers were the child's biological mother. The average age of caregivers was approximately 30 years old

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<sup>2</sup> Tables 1 and 2 reporting the full descriptive statistics (mean, standard deviation, minimum and maximum values, and frequencies of categorical variables) for the variables reported in this section can be found in Appendix B.

<sup>3</sup> SD = standard deviation.

(SD=5.53) and the majority were Irish (88%, n=81), with 9.78% (n=9) being Irish Travellers. This corresponds to the 2006 Census data for the *PFL* catchment area which report that approximately 10% of the population in this area are Travellers. The highest level of education attained by the majority (55%) of caregivers was a Junior Certificate or lower. In terms of employment, 35% of caregivers were looking after the home or family and 39% were in some type of paid employment or training scheme, while 18% indicated they were unemployed.

*Wave 2:* In the second wave of data collection, 129 caregiver surveys were completed. Again, the majority of respondents (91%, n=116) were the biological mothers, their average age was 32 years (SD=6.72) and the majority described their ethnicity as Irish (87%, n=110), while 8% (n=10) are Irish Travellers. The highest level of education achieved by just under half (43%) of caregivers in Wave 2 was a Junior Certificate or lower. Twenty-eight percent of caregivers indicated they were looking after the home or family, 41% were in paid work or a paid training scheme, while 19% of caregivers in Wave 2 indicated they were unemployed.

### ***3. Child Characteristics***

*Wave 1:* The average age of children in the 2008-2009 CPSE cohort was 4.83 (SD = 0.46) years old and 59% (n=55) were male. Children had been in informal childcare (being looked after by grandparents, other relatives, or a nanny) for an average of 21.82 (SD=10.1) months and centre-based care for an average of 18.5 (SD=10.3) months. Eighty-seven percent (n=87) of children in Wave 1 lived in the *PFL* catchment area.

*Wave 2:* The average child's age recorded in Wave 2 was 4.71 years (SD=0.43) and 56% (n=72) were male. Children in Wave 2 had been in informal childcare for an average of 34.75 (SD=19.4) months and centre-based care for an average of 20.63 (SD=10.9) months. Eighty percent (n=106) of children in Wave 2 reside in the *PFL* catchment area.

#### **4. Household Characteristics**

##### **a) Number Children and People in Household**

*Wave 1:* On average, just under five people were living in each household and respondents have just under three biological children, and the Junior Infant child had, on average, just under two siblings living in the household.

*Wave 2:* On average, 3.7 people were living in each household and the respondent has just under three biological children and the Junior Infant child had, on average, 1.61 siblings living in the household.

##### **b) Total Household Weekly Income and Social Welfare Payments**

*Wave 1:* Sixty percent (n=56) of respondents provided information on their household weekly income, which includes income from all sources, social benefits, wages, salaries, dividends and interest, unemployment insurance, the dole, worker's compensation, government pension, child benefit, and child support for every member of the household. Fifty-five percent of the sample earned between €200-500 per week, with the largest category being those that took home between €300-400 per week (20%, n=11). The majority of households (69%) in Wave 1 of data collection were in receipt of social welfare payments.

*Wave 2:* Fifty-four percent (n=70) of respondents provided income information in the second wave of data collection. Sixty-seven percent of these respondents report earning between €200-500 per week; with 20% (n=15) reporting income between €300-400, and another 20% (n=15) in the €400-500 weekly income bracket. The majority of households (64%) in Wave 2 of data collection were in receipt of social welfare payments.

##### **c) Medical Card, GP Visit Card, Health Insurance**

*Wave 1:* Three quarters (75%, n=66) of caregivers were in possession of a medical card, 12% (n=9) were in possession of a GP Visit Card, and 5% (n=4) of respondents had private health insurance.



Wave 2: Seventy percent (n=87) reported having a medical card, 10% (n=12) reported having a GP Visit Card, and 6% (n=7) had private insurance.

## **B. CPSE Cohort Descriptives Comparison of Wave 1 and Wave 2**

Overall, there are few significant differences between the teacher characteristics in Wave 1 and Wave 2. The teachers in Wave 2 have, on average, been teaching Junior Infants for fewer years than teachers in Wave 1 ( $z=2.85, p<.001$ ) and the classrooms in Wave 2 have larger class sizes than the classrooms in Wave 1 ( $z=9.92, p<.001$ ). In terms of caregiver characteristics, there are no significant differences between caregivers in Wave 1 and Wave 2, however, more non-maternal caregivers completed the questionnaire in Wave 2 ( $p<.05$ ). In terms of child characteristics, there were trends to suggest that children in Wave 1 were slightly older than children in Wave 2 ( $z=1.83, p<.10$ ) and children in Wave 2 had been in home-based childcare for longer ( $t=2.02, p<.10$ ). There were no differences between Wave 1 and Wave 2 in terms of household information.

## **C. School Readiness in the CPSE Cohorts**

Figure 1 below reports the average teacher and caregiver reported scores on each of the five S-EDI domains, compared to a Canadian norm, for Wave 1 and 2 of the CPSE survey. Results from tests of significant differences among raters are presented in Table 2.

### ***1. Teacher Reported S-EDI***

Wave 1: Teachers rated children in the 2008-2009 CPSE cohort highest on the *physical health and well-being* and *social competence* domains and lowest on the *language and cognitive development* and *communication and general knowledge* domains. Children's scores on each teacher reported S-EDI domain were generally all statistically significantly different from each other with two exceptions. First, differences between the teacher rated *physical health and well-being* domain and the teacher rated *social competence* domain did not reach significance and second, differences between the teacher rated *language and cognitive development* and *communication and general knowledge* domains did not reach significance.

Wave 2: Similar to the previous year, teachers in the 2009-2010 CPSE cohort rated children highest on the *physical health and well-being* and *social competence* domains and lowest on the *language and cognitive development* and *communication and general knowledge* domains. S-EDI domain scores were generally statistically different from each other. However, similar to Wave 1, no statistically significant differences were found between the *physical health and well-being* and *social competence* domains, or between the *language and cognitive development* and *communication and general knowledge* domains.

## **2. Caregiver Reported S-EDI**

Wave 1: Caregivers rated children highest in the domains of *physical health and well-being* and *communication and general knowledge* and lowest on the *language and cognitive development* domain. Children's scores on each caregiver rated S-EDI domain were significantly different from each other, with the exception that the differences between caregiver rated *physical health and well-being* and *communication and general knowledge* domain did not reach significance.

Wave 2: In the second wave of data collection, caregiver ratings were highest for the *physical health and well-being*, *social competence*, and *communication and general knowledge* domains. Like the previous wave, caregivers rated their children lowest on the *language and cognitive development* domain. In general, the scores for each domain were different from each other. However, differences between the following domains did not reach statistical significance: *physical health and well-being* and *social competence*; *physical health and well-being* and *communication and general knowledge*; *social competence* and *communication and general knowledge*.

## **3. Comparisons of Teacher and Caregiver Reported S-EDI**

Wave 1: Caregivers consistently rated children as displaying higher levels of school readiness compared to teachers. Specifically, caregiver ratings were significantly higher than teacher ratings on the S-EDI domains of *physical health and well-being*, *social competence*, *emotional maturity*, and *communication and general knowledge*. Additionally, trends in the data reveal

potential differences between teacher and caregiver reports of *language and cognitive development*. Note that the teacher and caregiver reports of certain domains of school readiness follow similar patterns. For example, both teachers and caregivers rated children highest on the *physical health and well-being* domain. In contrast, caregivers rated children high on the *communication and general knowledge* domain, a domain that was rated low by teachers.

*Wave 2*: Similar to the first wave of data collection, caregiver ratings of children’s school readiness in *Wave 2* were higher than teacher ratings on the *physical health and well-being*, *social competence*, *emotional maturity*, and *communication and general knowledge* domains. Differences between teacher and caregiver ratings of the *language and cognitive development* domain did not reach significance.

#### 4. Comparisons of CPSE S-EDI and Canadian Norms

Teacher and caregiver ratings on each domain of the S-EDI were also compared to the ratings of the youngest subset of pupils from the teacher reported Canadian norm sample which includes children ranging in age from 4 years and 11 months to 5 years and 1 month. The mean ratings of the Canadian norm are presented in the middle green bar in Figure 1.<sup>4</sup>

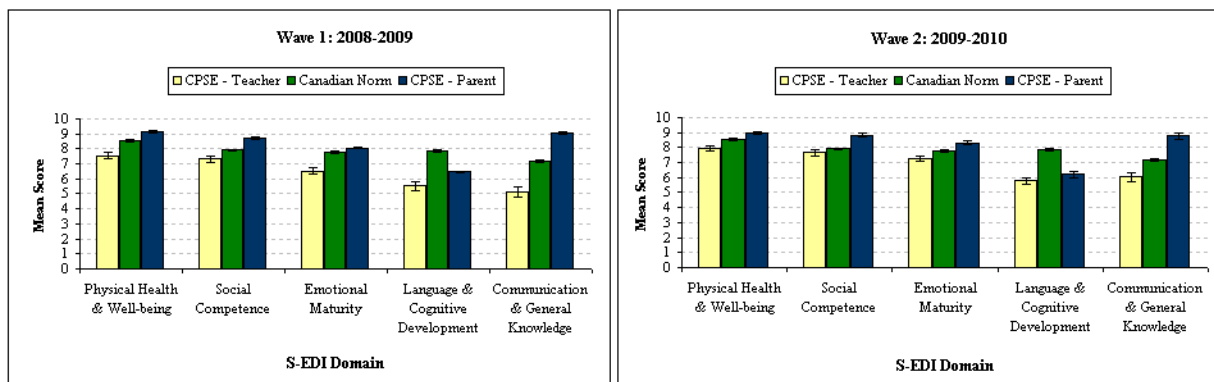


Figure 1. CPSE teacher, caregiver and youngest subset of Canadian norm means for each S-EDI domain.

<sup>4</sup> Note that the error bars on each bar represent the amount of error in that measurement. Error bars can be used to visually evaluate differences between two values. Specifically, if the error bars for two values do not overlap, it is a good indication that these two values are statistically different from each other.

*Wave 1:* As illustrated in Figure 1 and Table 2, teacher rated school readiness of the CPSE cohort was consistently and significantly below both the Canadian norm on all domains of school readiness, while caregiver rated school readiness was significantly higher than the Canadian norms on the S-EDI domains of *physical health and well-being, social competence, and communication and general knowledge*. Conversely, caregivers rated *language and cognitive development* significantly lower than the Canadian norm. Differences between caregiver rated *emotional maturity* and the Canadian norms did not reach significance.

*Wave 2:* Figure 1 and Table 2 show that, similar to the first wave of data collection, teacher ratings were lower than the Canadian norm across most domains of school readiness. Specifically, teachers rated children significantly below the Canadian norm on the *physical health and well-being, emotional maturity, language and cognitive development, and communication and general knowledge* domains, while caregiver ratings were significantly higher than the Canadian norm on the domains of *physical health and well-being, social competence, emotional maturity, and communication and general knowledge*. Additionally, and similar to Wave 1, caregivers rated children below the Canadian norm on the *language and cognitive development* domain. Differences between teacher ratings and the Canadian norm on the *social competence* domain did not reach significance.

### **5. Comparisons of CPSE Wave 1 and Wave 2**

Several similarities in the patterns of mean scores were present across both waves of data collection. Specifically, in both waves, teacher ratings were highest for the *physical health and well-being, and social competence* domains and lowest for the *language and cognitive development and communication and general knowledge* domains. In addition, caregiver ratings were similar across waves with caregivers rating children highest in the *physical health and well-being and communication and general knowledge* domains and lowest in the *language and cognitive development* domain. Different from Wave 1 however, caregivers in Wave 2 of data collection also rated children highest in the *social competence* domain in addition to the domains of physical health and well-being and communication and general knowledge.

As displayed in Table 2, the level of school readiness of children in Wave 1 did not differ from children in Wave 2 according to caregiver reports. However, differences emerged in teacher reports of children's school readiness. Specifically, children in Wave 2 were rated higher than children in Wave 1 on the *emotional maturity* and *communication and general knowledge* domains. A number of potential explanations for this finding are discussed in the conclusions. As such differences exist between responses in the first and second wave of data collection, we control for this in the permutation tests that follow by including a Wave dummy variable in all analyses. This makes it possible to separate the effect of a different sample group (i.e., Wave 1 vs. Wave 2) from the effect of the variable being tested.

As the *PFL* catchment area expanded in 2009, one additional school, which is located in the expanded catchment area, was included in the Wave 2 data collection. All Junior Infant children from this school were invited to participate. Therefore, the eligibility criteria differ from Wave 1 where specific children living in the *PFL* area, but attending additional schools were included. Because of the different eligibility criteria across waves, it is important to determine if the addition of this school influences the comparison of Wave 1 and Wave 2 data. For example, the characteristics of this additional school may differ from the characteristics of the original schools (e.g., higher achieving students). To examine this, tests of teacher and caregiver reports of school readiness were conducted to determine if differences in school readiness scores between Wave 1 and Wave 2 were present when only the schools located in the original *PFL* catchment area were included (i.e., the additional school was excluded) and when only children living in the catchment area were included in the analyses. The tests show that the results in the restricted sample are consistent with the results found when all children are included in the sample. Specifically, children in Wave 2 have higher teacher-rated scores on *emotional maturity* and *communication and general knowledge* when the analysis is restricted to children residing in the original catchment area or when the new school is excluded from the analysis. There are no differences in caregiver reports. This suggests that the children in the additional school do not differ from those in the original schools and catchment area. Therefore, as both groups are comparable, the full sample was retained for further analyses. Results of these tests are presented in Table 3 of Appendix B.

Table 2

*Wilcoxon Signed-rank and t-test Results for Comparisons of CPSE Teacher Ratings, Caregiver Ratings and Canadian Norm on S-EDI*

Comparison		Physical Health and Well-being		Social Competence		Emotional Maturity		Language and Cognitive Development		Communication and General Knowledge	
		Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2	Wave 1	Wave 2
Caregiver vs. Teacher	Z	6.06	5.30	5.42	4.47	6.18	4.70	1.76	1.31	7.49	7.39
	p	<.001	<.001	<.001	<.001	<.001	<.001	<.10	ns	<.001	<.001
Teacher vs. Canadian Norm	t	-6.11	-4.19	-2.77	-1.36	-7.41	-3.37	-9.41	-9.50	-6.82	-4.02
	df	881	903	883	905	875	899	866	891	883	905
	p	<.001	<.001	<.01	ns	<.001	<.001	<.001	<.001	<.001	<.001
Caregiver vs. Canadian Norm	t	4.01	3.24	3.97	5.18	1.64	3.75	-5.87	-7.55	6.59	6.28
	df	874	906	874	904	868	900	864	891	876	910
	p	<.01	<.01	<.001	<.001	ns	<.001	<.001	<.001	<.001	<.001
Wave 2 vs. Wave 1 (teacher)	Z	1.17		1.44		2.80		0.44		2.05	
	p	ns		ns		<.01		ns		<.05	
Wave 2 vs. Wave 1 (caregiver)	Z	-0.21		0.11		1.48		-0.63		-1.03	
	p	ns		ns		ns		ns		ns	

Note. ns = non significant.

#### D. Importance of School Readiness Domains

A question regarding the relative importance of the five domains of school readiness was added to Wave 2 to gain insight into the aspects of school readiness that teachers and caregivers viewed as being most important. Useable data on this question were available for 89% of teachers and 31% of caregivers. As illustrated in Table 3, the importance ratings vary among and between teachers and caregivers. Half of teachers rated the *emotional maturity* domain as being most important for school readiness, with a further 25% rating this domain as being second most important. Half of the teachers rated the *social competence* domain as second most important. The same proportion of teachers rated the *physical health and well-being* domain as most important and least important for school readiness. Lower importance ratings, however, were given to the language and cognitive development and communication and general knowledge domains. Specifically, the majority of teachers rated the *language and cognitive development* domain as being low on importance and no teacher indicated that *communication and general knowledge* was most important for school readiness with, 50% rating this domain as one of the lowest in importance.

Caregiver ratings showed a distinctly different pattern. The majority of caregivers rated the *communication and general knowledge* domain as most important. Half of caregivers rating *physical health and well-being* as either most important or second most important for school readiness. The majority of caregivers rated the *social competence* domain as either second most important or of middling of importance, with few caregivers rating this as the most important domain for a child’s school readiness. Similarly, few caregivers rated the *emotional maturity* domain as important for school readiness, with the majority rating this domain in the middle or lower of all five domains. The largest percentage of caregivers rated the *language and cognitive development* domain as least important for school readiness.

Although it is difficult to make a strong conclusion from these data given the relatively small sample sizes, an interesting pattern emerges. Specifically, teachers highlighted the importance of non-cognitive skills such as *social competence* and *emotional maturity* for a child’s school readiness, while caregivers highlighted the importance of the cognitive domain of *communication and general knowledge* for a child’s school readiness. The results should become more conclusive when additional responses are collected in future waves of data collection.

Table 3  
*Teacher and Caregiver Importance Rankings of School Readiness Domains*

Importance Ranking	Teacher Ratings (%)					Caregiver Ratings (%)				
	Physical Health & Well-being	Social Competence	Emotional Maturity	Language & Cognitive Development	Communication & General Knowledge	Physical Health & Well-being	Social Competence	Emotional Maturity	Language & Cognitive Development	Communication & General Knowledge
1 = Most Important	37.5	00.0	50.0	12.5	00.0	27.5	15.0	10.0	12.5	35.0
2	12.5	50.0	25.0	0.0	12.5	22.5	25.0	12.5	15.0	25.0
3	12.5	37.5	0.0	12.5	37.5	10.0	27.5	27.5	22.5	12.5
4	00.0	12.5	12.5	37.5	37.5	20.0	10.0	30.0	22.5	17.5
5 = Least Important	37.5	00.0	12.5	37.5	12.5	20.0	22.5	20.0	27.5	10.0

### **E. Use of Teacher Reported School Readiness<sup>5</sup>**

Although both teacher and caregiver reports of school readiness were obtained, the remaining results discussed in the report are based on teacher reported school readiness using the combined sample of children from both Wave 1 and Wave 2. We rely on teacher reports for four main reasons:

1. Teachers have long been thought to be accurate assessors of a child's abilities (Heaviside & Farris, 1993) and by focusing on teacher reported school readiness, the results of this study can be readily integrated into the current literature as the majority of studies use teacher reported levels of school readiness (Rimm-Kaufman, Pianta, & Cox, 2000).
2. Teacher reported school readiness scores are used to help overcome problems of shared method variance that arise when you have the same person rating both the independent and dependent variables in analyses.
3. Teacher and caregiver ratings significantly differ across the majority of S-EDI domains. In particular, the CPSE children are rated significantly higher than the Canadian norms based on parent report. As the normed data are based on a representative sample of Canadian children, which includes children from all social backgrounds, one would expect, on average, the Canadian norms to be higher than the CPSE scores (as demonstrated in the CPSE teachers ratings) which are based on children from a designated disadvantaged community.
4. As illustrated in Table 1, teacher rated school readiness demonstrated greater reliabilities in this sample than caregiver rated school readiness. However, teacher rated subdomains of physical readiness for the school day, physical independence, and advanced literacy skills were excluded from further analysis due to their low reliability, compared to 10 caregiver-rated domains or subdomains (physical health and well-being, physical readiness for the school day, physical independence, gross and fine motor skills, overall social competence with peers, approaches to learning, anxious and fearful behaviour, basic literacy skills,

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<sup>5</sup> Analyses based on caregiver reported school readiness are available upon request.



interest in literacy, numeracy, and memory, and basic numeracy) that did not meet our reliability criteria of .65 or above.

## **F. Vulnerability**

Table 3 reports the percentage of children in the CPSE Wave 1 and Wave 2 cohorts who were rated below and above the Canadian norm on all five S-EDI domains and Table 4 shows the percentage of children who were rated in the lowest 10% of the Irish sample on multiple domains of school readiness.

### ***1. Percentage Scoring Above and Below the Canadian Norm***

*Wave 1:* Although the average teacher reported level of school readiness in the CPSE cohort was significantly below the Canadian norm, a number of CPSE children are performing at levels above this norm in some domains. Specifically, teachers rated just under half (49.5%) of the CPSE Wave 1 cohort above the Canadian norm on the *physical health and well-being* and *social competence* domains. However, around 70% of children were rated below the Canadian norm on the *emotional maturity, language and cognitive development* and *communication and general knowledge* domains, demonstrating specific areas of weakness for a large portion of the CPSE Wave 1 cohort.

*Wave 2:* Similarly, Table 3 shows that a number of CPSE children in the Wave 2 cohort are performing at levels above the Canadian norm in some domains. Specifically, teachers rated just under half (45.53%) of the children in Wave 2 above the Canadian norm on the *physical health and well-being* domain and more than half (58.54%) of children in Wave 2 were rated above the Canadian norm on the *social competence* domain. Teachers rated approximately 56% of children below the Canadian norm on the *emotional maturity* domain, a marked improvement from Wave 1. Additionally, teachers rated approximately 74% and 59% of children in Wave 2 below the Canadian norm on the *language and cognitive development* and *communication and general knowledge* domains, respectively.

Table 4

*Percentage of Teacher Rated CPSE Cohort Below and Above Canadian Norm on S-EDI Domains*

S-EDI Domain	Wave 1		Wave 2	
	% Below Canadian Norm	% Above Canadian Norm	% Below Canadian Norm	% Above Canadian Norm
Physical Health and Well-being	50.50	49.50	54.47	45.53
Social Competence	50.50	49.50	41.46	58.54
Emotional Maturity	69.70	30.30	56.10	43.90
Language and Cognitive Development	69.57	30.43	74.36	25.64
Communication and General Knowledge	71.29	28.71	59.35	40.65

## **2. Index of Vulnerability**

A child is considered vulnerable in a particular domain of school readiness if he/she falls within the lowest 10% of all children in the CPSE sample (i.e., Wave 1 and Wave 2 combined) for that domain.

*Wave 1:* As demonstrated in Table 5, just over 63% (n=64) of children did not score in the lowest 10% of the entire CPSE cohort on any of the five S-EDI domains, according to teacher ratings. However, close to one-fifth (18%, n=18) of the children scored low on one of the five domains, with a further 10% (n=10) scoring low on two domains. Seven percent (n=7) of the cohort scored low on three out of five domains, while 1% (n=1) scored low on four of the five S-EDI domains and 1% (n=1) was vulnerable on all five domains of school readiness.

*Wave 2:* Table 5 also shows that, overall, the children scored better in Wave 2 than in Wave 1. Seventy-eight percent (n=96) of children were not vulnerable on any domain of school readiness, while 11% (n=14) scored low on one domain, 4% (n=5) on two domains, 4% (n=5) on three domains, just under 1% (n=1) on four domains, and almost 2% (n=2) scored low on all five domains.

Table 5  
*Number of S-EDI Scales on which CPSE Cohort are Vulnerable*

# Domains Vulnerable	Wave 1		Wave 2	
	N	%	N	%
None	64	63.37	96	78.05
One	18	17.82	14	11.38
Two	10	9.90	5	4.07
Three	7	6.93	5	4.07
Four	1	0.99	1	0.81
Five	1	0.99	2	1.63

### 3. Comparisons of Wave 1 and Wave 2

Overall, these results are consistent with findings from the overall test of differences in the levels of school readiness for Waves 1 and 2. In terms of children scoring above and below the Canadian norm, there is not much change for the *physical health and well-being* domain. However, a higher percentage of children are scoring above the Canadian norm in the *social competence, emotional maturity, and communication and general knowledge* domains in Wave 2 compared to Wave 1. This is in line with the significant differences found in the mean ratings of the *emotional maturity and communication and general knowledge domains*. Furthermore, it appears that fewer children in Wave 2 are vulnerable in multiple domains of school readiness as evidenced by the higher number of children not scoring in the lowest 10% on any domain of school readiness.

### G. Subjective School Readiness

To facilitate comparisons with a study conducted in the *PFL* catchment area in 2004 by Kiernan et al. (2008), teachers were asked to indicate if they felt that the child was ready for school when he/she arrived in September of that school year. Results from the CPSE cohort are limited to those attending school in the original *PFL* catchment area.<sup>6</sup> Table 6 shows that the ratings for the 2009-2010 CPSE cohort were similar to the ratings of the 2004-2005 academic year, with about 48% being rated as definitely ready for school and a further 52% being rated as not ready. This

<sup>6</sup> Although these results illustrate teacher ratings for children attending schools in the original *PFL* catchment area, comparisons including the entire CPSE cohort did not differ and are available on request.

suggests that there have been few improvements in children’s school readiness, as reported by teachers, in the *PFL* communities over a 5 year period.

Table 6  
*Subjective Ratings of School Readiness*

Rating	2004 (Kiernan et al., 2008)		2009 (CPSE Wave 2)	
	N	%	N	%
Definitely Ready	42	47.72	45	47.87
Somewhat Ready	35	39.77	37	39.36
Definitely Not Ready	11	12.50	12	12.77

### H. Socio-demographics and School Readiness<sup>7</sup>

For the remaining analyses, both Wave 1 and Wave 2 data were combined, therefore, the wave of data collection was controlled for in all analyses. Any significant or trend level (i.e.,  $p < .10$ )<sup>8</sup> findings for the main five S-EDI domains and subdomains are discussed below. Throughout this section, effect sizes<sup>9</sup> are reported in parentheses next to any significant results discussed.

<sup>7</sup> Results of the statistical analyses of significant or trend level (i.e.,  $p < .10$ ) results described in this section are reported in Tables 1-10 of Appendix C.

<sup>8</sup> The p-values represent the probability that the result obtained is due to chance rather than a true relationship between variables. Consistent with the literature, p-values below 0.05 (5%) are considered to be statistically significant in the present report. A p-value of less than 0.05 (5%), 0.01 (1%), 0.001 (0.01%) conveys that the probability that the difference between the two groups is due to chance is less than 5%, 1% and 0.01% respectively. Trend level results were reported if the p value was equal to or less than .10.

<sup>9</sup> The following rule can be applied to interpreting effect sizes (Gravetter & Wallnau, 2004). A Cohen’s *d* ranging from 0.0 to 0.2 is deemed a small effect (mean difference is less than .2 standard deviation), values ranging from 0.2 to 0.8 are considered to represent a medium effect (mean difference around .5 standard deviation), and values greater than 0.8 illustrate a large effect (mean difference greater than .8 standard deviation).

## 1. Child Age

The average age of all children in the CPSE sample is 4.77 (SD=.44) years. Table 7 reports the Spearman rank correlations between child age and school readiness.

Table 7  
Spearman Rank Correlations Representing the Relationship between Teacher Rated School Readiness and Child Age

Domain	$r_s$
<i>Physical Health &amp; Well-being</i>	0.15*
Gross and Fine Motor Skills	0.23**
<i>Social Competence</i>	0.17*
Overall Social Competence with Peers	0.15*
Responsibility and Respect	0.11
Approaches to Learning	0.17**
Readiness to Explore New Things	0.11
<i>Emotional Maturity</i>	0.09
Prosocial and Helping Behaviour	0.18*
Aggressive Behaviour	-0.05
Anxious and Fearful Behaviour	-0.03
Hyperactivity and Inattention	-0.00
<i>Language and Cognitive Development</i>	0.19**
Basic Literacy Skills	0.23***
Interest in Literacy/Numeracy/Memory	0.02
Basic Numeracy Skills	0.16*
<i>Communication &amp; General Knowledge</i>	0.03

†  $p < .10$ . \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$

Child age is positively correlated with several domains and subdomains of school readiness, such that older children display greater school readiness skills. Specifically, positive relationships were found between child age and *physical health and well-being* and the *gross and fine motor skills* subdomain. Additionally, there was a significant positive relationship between child age and the *social competence* domain, with the *overall social competence with peers* and *approaches to learning* subdomains showing significance. Child age also was significantly and positively associated with *language and cognitive development*, a finding driven by the significant relationships with the *basic literacy skills* and *basic numeracy skills* subdomains. Finally, although the overall *emotional maturity* domain was not significant, the *prosocial and helping behaviour* subdomain showed a positive association with child age. Collectively, these results suggest that older children display higher levels of school readiness.

## 2. Gender

Fifty-seven percent (n=127) of all children in the CPSE cohort are male. Figure 2 represents the mean teacher ratings for each domain of school readiness for males and females in the CPSE cohort.

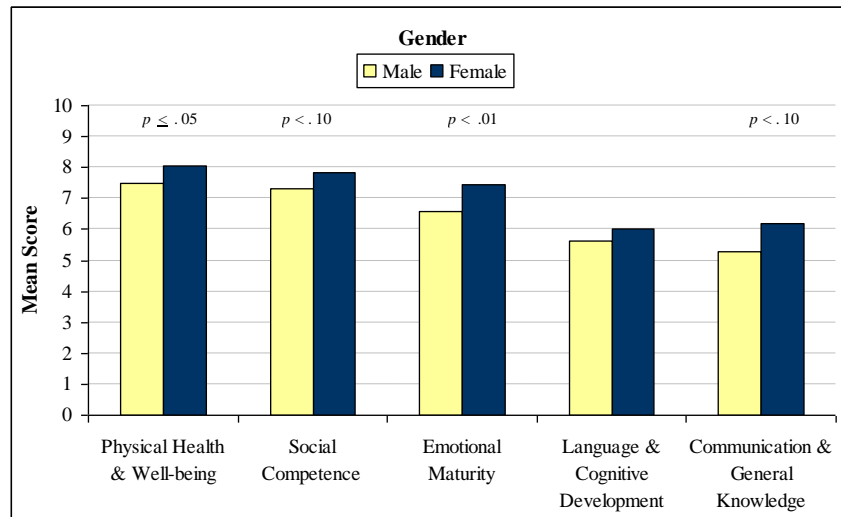


Figure 2. Differences in teacher reported S-EDI domains based on child gender.

Significant gender differences emerged for the S-EDI constructs of *physical health and well-being* ( $d=.27$ ) and *emotional maturity* ( $d=.44$ ), such that boys are rated as displaying lower levels of these domains than girls. In terms of subdomains, gender differences in *gross and fine motor skills* ( $d=.40$ ) and *prosocial and helping behaviour* ( $d=.43$ ), *aggressive behaviour* ( $d=.28$ ), and *anxious and fearful behaviour* ( $d=.34$ ) all reached significance with girls displaying higher levels of school readiness than boys. Trends also revealed differences in the *social competence* domain ( $d=.25$ ), which may be driven by a significant difference in the *approaches to learning* subdomain ( $d=.27$ ), and the *communication and general knowledge* domain ( $d=.26$ ). Although differences in the overall *language and cognitive development* domain did not reach significance, significant gender differences were present in the *interest in literacy, numeracy, and memory* subdomain ( $d=.44$ ), with girls displaying greater interest than boys. Collectively, the results show moderate effect sizes with girls displaying higher levels of school readiness than boys.

### 3. Siblings

Forty-three children (19%) do not have any siblings living in the same household, with the majority of children (81%) having one or more siblings (range = 1-7) living in the same household. Figure 3 represents the mean teacher ratings for each domain of school readiness for children who have siblings living in the home and those who do not.

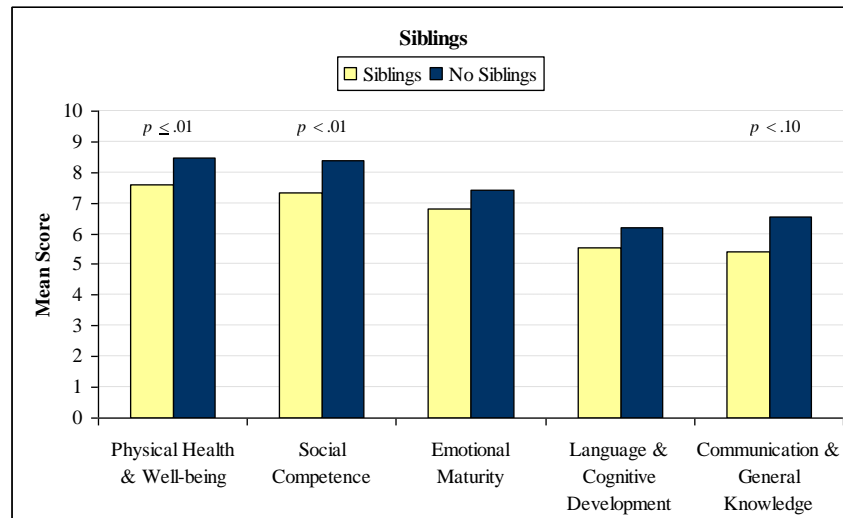


Figure 3. Differences in teacher reported S-EDI domains based on presence of siblings in household.

Children with no siblings in the household were rated as displaying significantly higher levels of *physical health and well-being* ( $d=.43$ ) and *social competence* ( $d=.50$ ) compared to children with siblings living in the household. Specifically, pupils without siblings display significantly more advanced *gross and fine motor skills* ( $d=.37$ ), *overall social competence with peers* ( $d=.43$ ), *responsibility and respect* ( $d=.49$ ), and *approaches to learning* ( $d=.44$ ). Additionally, there was a trend to suggest that children with no siblings living in the household display higher levels of *communication and general knowledge* ( $d=.32$ ). Although differences in the *emotional maturity* and *language and cognitive development* domains did not reach significance, children without siblings were reported to display less *anxious and fearful behaviour* ( $d=.36$ ) and greater *interest in literacy, numeracy, and memory* ( $d=.37$ ) than pupils who have at least one sibling living in the same household. Thus, children with no siblings living in the household appear to have greater school readiness skills than those with siblings, with moderate effect sizes.

#### 4. Caregiver Relationship Status

In regards to caregiver relationship status, just over one-third ( $n=77$ , 36%) of caregivers reported they are single, 31% ( $n=66$ ) are married, and 20% ( $n=42$ ) are living with their partner. Fifteen participants (7%) have a partner they are not living with and just over 6% ( $n=12$ ) are separated or widowed.

In order to determine if child school readiness differs depending on caregiver relationship status two categories were derived: ‘single’ comprises respondents who indicate they are single, legally separated, or widowed; and ‘being in a relationship’ represents those who are married, cohabitating, or have a partner with whom they are not living. In the sample, 36% are classified as being single. Figure 4 represents the mean teacher ratings for each domain of school readiness for children of caregivers who are single and those who are in a relationship.

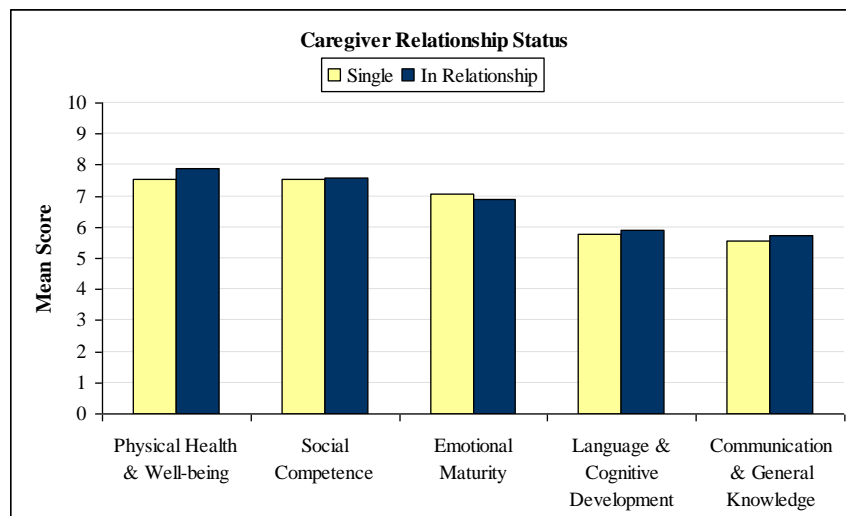


Figure 4. Differences in teacher reported S-EDI domains based on caregiver relationship status.

Although the association between the S-EDI domains and relationship status of the caregiver did not reach statistical significance for any domain, trends in the data show that children of caregivers who are not in a relationship may display higher levels of *hyperactivity and inattention* ( $d=.19$ ), a subdomain of the *emotional maturity* construct. Therefore, relationship status of the caregiver is not highly associated with child’s school readiness.



## 5. Caregiver Age

The mean age of caregivers is approximately 31 years old (SD = 6.26), with ages ranging from 21 to 54 years.

Analyses were conducted to examine whether the children of young caregivers differ in terms of school readiness compared to children of older caregivers. To achieve this, caregivers were divided into two groups based on their age when the CPSE child was born. The first group consisted of those who were 20 years old or younger when the child was born and the second group consisted of those who were older than 20 years when the child was born. In the sample, 16% (n=33) are classified as being a young parent. Figure 5 represents the mean teacher ratings for each domain of school readiness for children of caregivers who were 20 years old or younger when the child was born and children of caregivers who were older than 20 years old when the child was born.

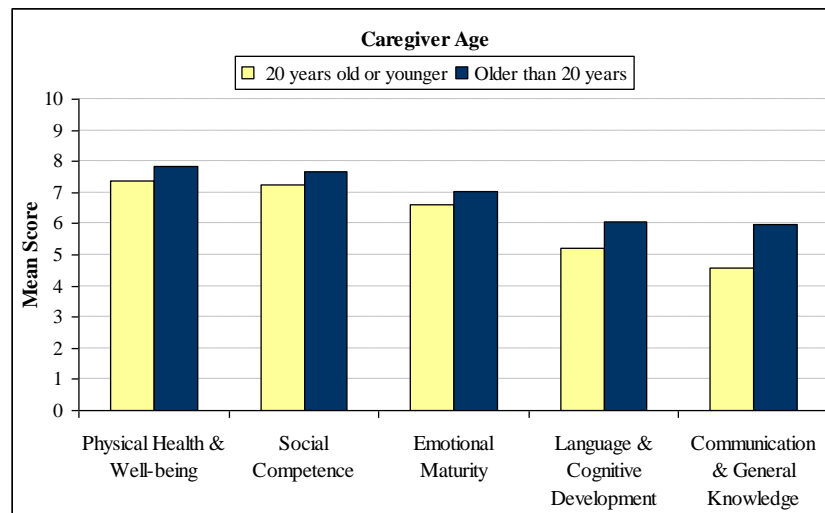


Figure 5. Differences in teacher reported S-EDI domains based on caregiver age.

Few differences emerged based on the categorization by caregiver age. The only significant difference to emerge was on the *emotional maturity* subdomain of *prosocial and helping behaviour* ( $d=.40$ ). Additionally, a trend revealed an effect for *basic literacy skills* ( $d=.42$ ). Both findings illustrate that children of older caregivers display higher levels of school readiness in

these areas. However, in general, the age of the caregiver at the child's birth is not strongly associated with the child's school readiness.

### ***6. Caregiver Education***

The highest level of education attained by 26% (n=56) of the CPSE caregivers is the Junior/Group/Inter Certificate and the average school leaving age is 16 years old. Just 9% (n=20) of respondents' highest level of education attained is Primary Education, while 13% (n=27) have completed Lower Secondary. Seventeen percent (n=37) have Upper Secondary education, 15% (n=33) have the Leaving Certificate, 13% (n=28) have some form of non-degree qualification and finally, less than half a percent (n=1) of respondents have a postgraduate qualification.

The educational categories were combined to enable a comparison between children of low and high educated caregivers. The low education group consists of caregivers who did not attend school, had primary education, or lower secondary education. Note that the respondents represented in the low education group did not have a Junior Certificate. The low education categorisation comprises approximately 22% (n=47) of the sample. For purposes of these analyses, the 'high' education categorisation was derived to include all caregivers who have reached their Junior Certification or higher. The 'high' education category in this sample represents approximately 78% (n=162) of the total cohort. Figure 6 represents the mean teacher ratings for each domain of school readiness for children of caregivers with low education and children of caregivers with high education.

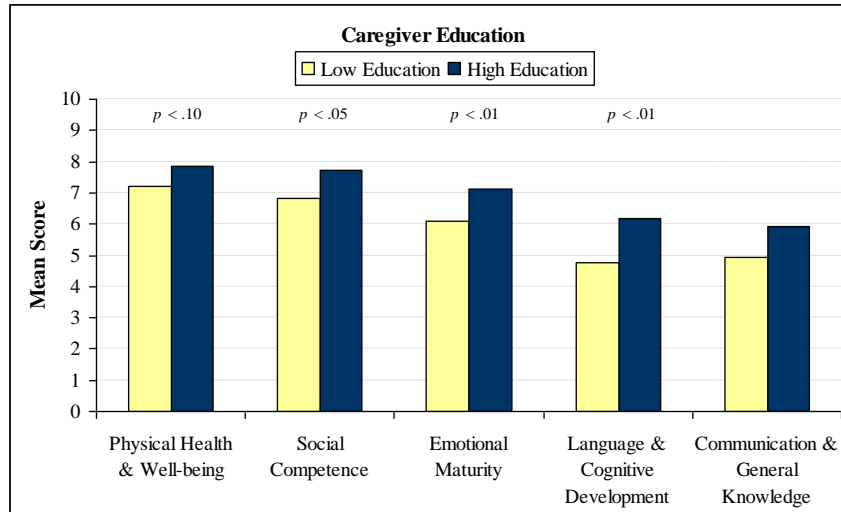


Figure 6. Differences in teacher reported S-EDI domains based on caregiver education.

Figure 6 shows that children of caregivers in the low education group were rated by teachers as displaying lower levels of school readiness in some domains. Specifically, children of low educated caregivers were significantly less *socially competent* ( $d=.43$ ) in regards to their interactions with peers ( $d=.53$ ) and trends showed they were rated lower in terms of *approaches to learning* ( $d=.29$ ) and *readiness to explore new things* ( $d=.26$ ). Additionally, children of caregivers with low education display significantly less *emotional maturity* ( $d=.52$ ), particularly in terms of higher levels of *aggression* ( $d=.57$ ) and *anxious and fearful behaviour* ( $d=.51$ ), and there was a trend illustrating lower *prosociality* ( $d=.27$ ) compared to children of parents who have reached the Junior Certification. The data also suggest that children of caregivers with low education display lower levels of *language and cognitive development* ( $d=.52$ ), in particular, *basic literacy skills* ( $d=.34$ ) and *basic numeracy skills* ( $d=.47$ ). Finally, there is a trend in the data to indicate that children of with low educated caregivers receive lower ratings on the S-EDI domain of *physical health and well-being* ( $d=.31$ ). Differences in *communication and general knowledge* did not reach significance. Collectively, these results suggest that children of caregivers with higher levels of education display better levels of school readiness, with moderate effect sizes identified.

## 7. Caregiver Employment Status<sup>10</sup>

The largest number of caregivers (32%, n=66) in the cohort are looking after their home or family, 31% (n=64) are in paid work, 3% (n=7) are on leave from paid work, 20% (n=42) are unemployed, 11% (n=23) are in paid FAS training, and 1% (n=2) are in unpaid FAS training, 1% (n=3) indicated that they are a student, and 1% (n=2) are not able to work due to permanent disability. Of the caregivers who are currently in paid work, 90% (n=85) provided information on the number of hours worked. The average number of hours worked per week was 25.9.

Employment status was divided into two categories for further analyses based on those in paid work, at least part time (including paid training courses), and those not in paid work. Approximately 45% of the sample is employed. Figure 7 represents the mean teacher ratings for each domain of school readiness for children of employed caregivers and children of unemployed caregivers in the CPSE cohort.

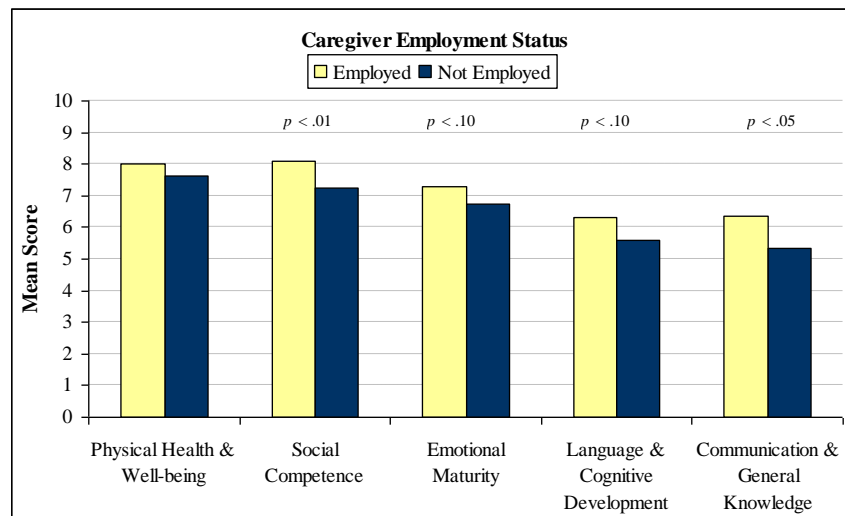


Figure 7. Differences in teacher reported S-EDI domains based on caregiver employment status.

Figure 7 shows that children of employed caregivers were rated as showing significantly higher levels of *social competence* ( $d=.40$ ) than children of unemployed caregivers. Specifically, children of employed caregivers display higher *overall social competence with peers* ( $d=.43$ ), *responsibility and respect* ( $d=.30$ ), *readiness to explore new things* ( $d=.29$ ), and there was a trend

<sup>10</sup> Note that the majority (92%) of respondents were biological mothers of the children, thus these figures largely represent the employment status of mothers.

to suggest similar differences in the *approaches to learning* subdomain ( $d=.27$ ). Additionally, children of employed caregivers display higher levels of *communication and general knowledge* ( $d=.29$ ). Trends in the data suggest that children of employed caregivers display higher levels of *emotional maturity* ( $d=.25$ ) and *language and cognitive development* ( $d=.28$ ), a finding that is most likely driven by greater *interest in literacy, numeracy, and memory* ( $d=.35$ ). Differences in *physical health and well-being* domain did not reach significance. Therefore, children of employed caregivers appear better ready for school, with, again, moderate effect sizes.

### 8. Social Welfare Dependency

Almost three-fourths of the sample (72%,  $n=134$ ) are receiving social welfare payments such as job seekers benefit, social welfare payments, rent allowance, disability allowance, or job seekers allowance. Social welfare is a good proxy for socio-economic status (SES) as there is often a high correlation between welfare dependency and SES indicators of low education, income and social class. Figure 8 represents the mean teacher ratings for each domain of school readiness for children in families who are in receipt of social welfare payments and children of families who are not in receipt of social welfare payments.

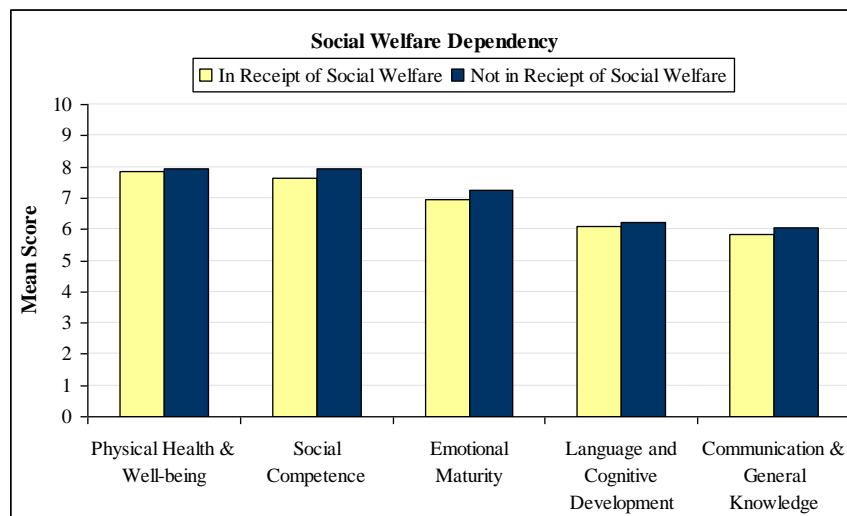


Figure 8. Differences in teacher reported S-EDI domains based on household social welfare dependency.

Few differences in school readiness were found between children living in families receiving social welfare payments and those in families not receiving social welfare payments. Specifically, the only significant difference found was on the *emotional maturity* subdomain of *aggressive behaviour* ( $d=.30$ ). Results show the children living in households dependent on social welfare are more aggressive than children living in households not dependent on social welfare payments. Differences in all other domains and subdomains did not reach significance. Therefore, social welfare status of the family does not appear to be associated with school readiness.

### **9. Caregiver Mental Well-being**

On average, caregivers rated their mental well-being as 14.31 (SD=6.45) on a possible scale of zero to 25. This compares to a mean of 16.96 (SD=4.94) in a representative sample of Irish respondents (Delaney, Doyle, McKenzie, & Wall, 2009). Therefore, the CPSE cohort rate their mental well-being significantly below a representative Irish sample ( $t(2358)=5.50, p<.001$ ), indicating the relatively poor mental health status of this cohort.

According to the developers of the WHO-5 scale, scores below 13 are indicative of poor well-being. Therefore, scores on the WHO-5 were dichotomised to represent low mental well being (score < 13) or high mental well being (score  $\geq$  13). Fifty-nine percent of caregivers demonstrated high well-being and 41% received a categorisation of poor well-being according to this criteria. Figure 9 represents the mean teacher ratings for each domain of school readiness for children of caregivers with high and low mental well-being in the CPSE cohort.

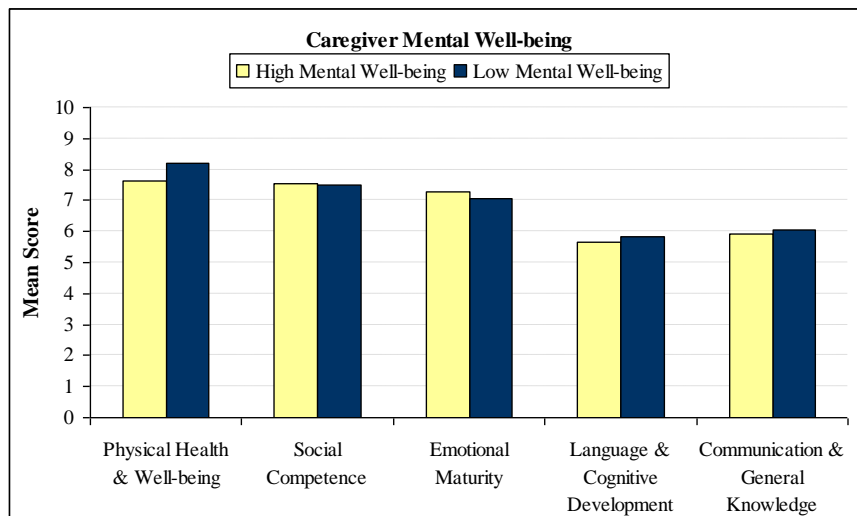


Figure 9. Differences in teacher reported S-EDI domains based on caregiver mental well-being.

While there were no statistical differences on the main S-EDI domains in regards to respondent mental well-being, there is one significant difference in the *emotional maturity* subdomain of *aggressive behaviour* ( $d=.45$ ). It demonstrates that children of caregivers with low well-being displayed more aggressive behaviours than children of caregivers with higher mental well-being. Differences in all other domains and subdomains did not reach significance. In sum, mental well-being of the caregiver is not associated with child school readiness.

### 10. Caregiver Self-rated Health

Another addition to Wave 2 of CPSE data collection was caregivers' self-rated health. Thirty-eight (30%) respondents indicated that their overall health was excellent, 59 (47%) stated that their health was very good, 24 (19%) indicated that it was good, and 5 (4%) stated that their overall health was poor. For purposes of this analysis, self-rated health was dichotomised to represent those who believed their health was excellent or very good and those who felt that their health was good or fair. Approximately 77% of the cohort indicated that they were in excellent or very good health. Figure 10 represents the mean teacher ratings for each domain of school readiness for children of caregivers who report excellent health and children of caregivers who report good or fair health.

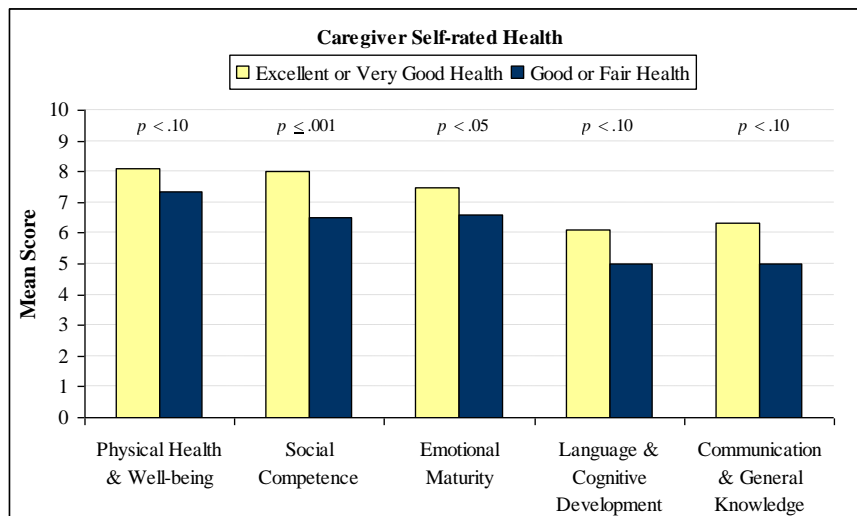


Figure 10. Differences in teacher reported S-EDI domains based on respondent self-reported health.

Children of caregivers who reported their health to be excellent or very good appear better ready for school than children of respondents who reported having good or fair health. Specifically, children of caregivers who indicated excellent or very good health were rated higher in terms of *social competence* ( $d=.73$ ) which may be driven by higher ratings of *overall social competence with peers* ( $d=.55$ ), *responsibility and respect* ( $d=.72$ ), and *approaches to learning* ( $d=.79$ ). Additionally, these children are more *emotionally mature* ( $d=.45$ ), with a trend to suggest they display lower levels of *aggressive behaviour* ( $d=.36$ ) and significant differences in terms of *anxious and fearful behaviour* ( $d=.52$ ). Furthermore, trends at the domain level reveal that children of caregivers who report better health are rated higher in terms of *physical health and well-being* ( $d=.39$ ), a finding that may be driven by more developed *gross and fine motor skills* ( $d=.55$ ). A second trend illustrated that children of caregivers who indicated greater health display higher levels of *language and cognitive development* ( $d=.42$ ), with a trend for *basic literacy skills* ( $d=.43$ ) and significant differences for *basic numeracy skills* ( $d=.45$ ). Finally, trends in the data suggest that these children also display higher levels of *communication and general knowledge* ( $d=.38$ ) compared to children of caregivers reporting good or fair health. Collectively, children of caregivers with higher self-reported health display higher levels of school readiness, with moderate effect sizes.



## 11. Centre-based Childcare

Caregivers provided information on whether their children had received any form of childcare prior to entering school, including being looked after by grandparents, relatives, other friends, a nanny, or attending crèche, nursery, preschool or Montessori. The survey shows that 79% of children (n=187) experienced some form of childcare prior to starting school, with 77% (n=181) attending centre-based care. The children who received informal childcare in a home setting (either being looked after by grandparents, other relatives, or nannies) were in this type of care for, on average, 29.5 months (SD=17.28). Children who received centre-based childcare either in a nursery or Montessori school spent 19.7 months (SD=10.70), on average, in this type of childcare. Figure 11 represents the mean teacher ratings for each domain of school readiness for children in the CPSE cohort who did and did not attend centre-based childcare.

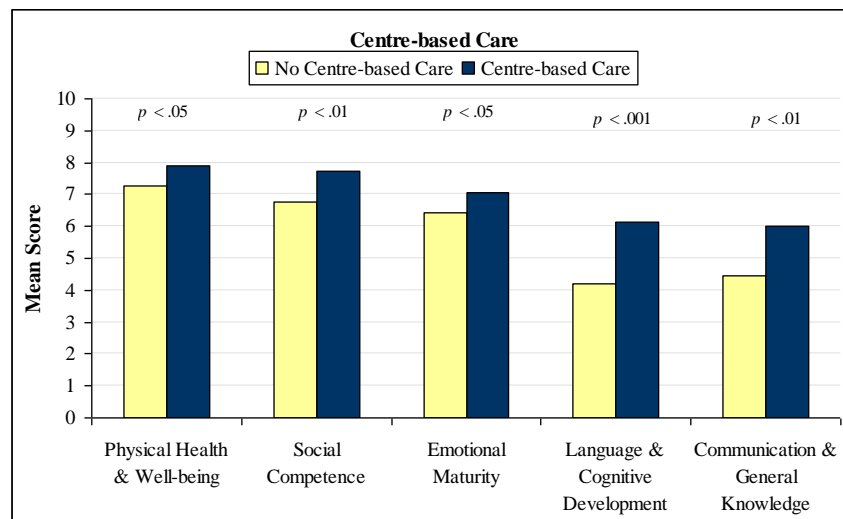


Figure 11. Differences in teacher reported S-EDI domains based on participation in centre-based childcare.

Several differences in school readiness emerged depending on whether or not a child participated in centre-based childcare. The differences emerged on all five domains of the S-EDI, in addition to multiple subdomains. Children who attended any form of centre-based care, for any period prior to entering primary school, are rated as displaying significantly higher levels of *physical health and well-being* ( $d=.32$ ), *gross and fine motor skills* ( $d=.44$ ), *social competence* ( $d=.47$ ), trend for *overall social competence with peers* ( $d=.28$ ), *approaches to learning* ( $d=.45$ ), *readiness to explore new things* ( $d=.64$ ), *emotional maturity* ( $d=.32$ ), and *prosocial behaviour* ( $d=.39$ ). They also are rated significantly higher than children who did not attend centre-based

care in terms of levels of *language and cognitive development* ( $d=.72$ ), *basic literacy* ( $d=.60$ ), *interest in literacy, numeracy, and memory* ( $d=.69$ ), *basic numeracy skills* ( $d=.50$ ), as well as higher levels of *communication and general knowledge* ( $d=.45$ ). Therefore, children who participated in centre-based childcare prior to school entry display higher levels of school readiness, with moderate effect sizes.

### I. Parenting and School Readiness

As demonstrated in Table 8, reports from the Parenting Styles and Dimensions Questionnaire show that caregivers report using a significantly higher level of authoritative parenting behaviours than authoritarian and permissive parenting behaviours, while they use a significantly higher level of permissive behaviours than authoritarian behaviours. The authoritative parenting style is characterised by warmth and support, while the authoritarian style is characterised by low responsiveness and high control. The permissive parenting style, although characterised by warmth, is one in which parents exert little control over children.

Table 8  
Wilcoxon Signed-rank Results for Comparisons of Parenting Behaviours

Comparisons	Z	p
Authoritative vs. Authoritarian	12.797	< .001
Authoritative vs. Permissive	12.427	< .001
Permissive vs. Authoritarian	8.990	< .001

Few significant relationships emerged between parenting behaviours and teacher reports of school readiness. Specifically, five discernable relationships emerged among these variables. First, authoritative parenting behaviours are positively associated with teacher reports of *readiness to explore new things*. Second, authoritarian parenting behaviours are negatively associated with *overall social competence with peers* and positively associated with *aggressive behaviour*. Finally, permissive parenting is negatively associated with *approaches to learning*

and there is a trend to suggest a negative relationship between permissive parenting and *physical health and well-being* and a positive relationship between permissive parenting and *anxious and fearful behaviour*.

Table 9

*Spearman Rank Correlations Representing the Relationship between Teacher-rated School Readiness and Parenting Behaviours*

<b>Domain</b>	<b>Authoritative</b>	<b>Authoritarian</b>	<b>Permissive</b>
<i>Physical Health &amp; Well-being</i>	0.04	-0.06	-0.13 <sup>†</sup>
Gross and Fine Motor Skills	0.04	0.01	-0.09
<i>Social Competence</i>	0.08	-0.11	-0.09
Overall Social Competence with Peers	0.01	-0.15*	-0.04
Responsibility and Respect	-0.01	-0.09	-0.06
Approaches to Learning	0.07	-0.03	-0.14*
Readiness to Explore New Things	0.17*	-0.03	-0.00
<i>Emotional Maturity</i>	0.02	-0.11	-0.08
Prosocial and Helping Behaviour	0.09	-0.04	-0.09
Aggressive Behaviour	0.02	0.19**	0.11
Anxious and Fearful Behaviour	-0.04	0.10	0.13 <sup>†</sup>
Hyperactivity and Inattention	0.01	0.04	0.04
<i>Language and Cognitive Development</i>	0.04	-0.07	-0.07
Basic Literacy Skills	0.06	-0.03	-0.10
Interest in Literacy/Numeracy/Memory	0.10	-0.10	-0.03
Basic Numeracy Skills	0.04	-0.06	-0.05
<i>Communication &amp; General Knowledge</i>	0.08	-0.08	-0.02

<sup>†</sup>  $p < .10$ . \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

## **J. Multivariate Analysis of School Readiness and Socio-demographic Factors**

While it was not possible to conduct multiple regression analysis using the data in Wave 1 of the CPSE report due to sample size restrictions, the sample size derived from combining Waves 1 and 2 is sufficient to enable a multivariate analysis of the factors associated with children's school readiness. Based on the results reported in the previous section, factors that were significantly related to children's S-EDI scores in the permutation tests were included in the OLS regression analysis. As the significant factors vary for each domain, the covariates differ in each regression.

To facilitate comparisons of the relative impact of each factor on school readiness, the S-EDI scores were standardized to have a mean of 100 and a standard deviation of 15. The results, reported in Table 10, show that while some factors were significantly related to school readiness

in a bivariate analysis, they are no longer significant in a multivariate context. However, there are some significant relationships which are consistent across domains.

For three of the five school readiness domains, children whose parents have low levels of education are significantly less ready for school. Specifically, low education is associated with a third of a standard deviation decrease in *social competence*, 44% of a standard deviation decrease in *emotional maturity* scores, and *language and cognitive development* scores. For all three, the effect was significant at the 5% level.

With respect to childcare, attending centre-based care appears to have a positive impact on school readiness. The regression results show that attending centre-based care is associated with an increase in *physical health and well-being*, *social competence*, *language and cognitive development*, and *communication and general knowledge* by around half a standard deviation. All of the effects were statistically significant.

Having siblings appears to have a negative effect on certain aspects of a child's school readiness. Specifically, children with siblings were rated around half a standard deviation lower on the *physical health and well-being* domain and the effect was significant at the 1% level. Children's *social competence* was rated around one third of a standard deviation lower if they had siblings, and this was precisely determined at the 5% level. A negative trend was also found for the *communication and general knowledge* domain; having siblings reduces a child's ratings by around a third of a standard deviation.

The effect of a caregiver being employed also has some effects. It is associated with a third of a standard deviation increase in *social competence* scores, significant at the 5% level. The other effects of employment were not precisely determined, however a trend indicates a 27% of a standard deviation increase in the *emotional maturity* domain for children of employed caregivers

A gender effect only emerged for the *emotional maturity* domain, with teachers rating girls around 40% of a standard deviation higher than boys.

Table 10  
*OLS Regression Results Estimating the Determinants of School Readiness*

Dependent Variable	Physical Health & Well-Being $\beta$ (SE)	Social Competence $\beta$ (SE)	Emotional Maturity $\beta$ (SE)	Language & Cognitive Development $\beta$ (SE)	Communication & General Knowledge $\beta$ (SE)
Low Education	-2.36 (2.58)	-5.02* (2.51)	-6.55* (2.54)	-6.62* (2.70)	-2.50 (2.62)
Child Gender	2.13 (2.18)	1.86 (2.12)	5.88** (2.16)	--	1.85 (2.20)
Has Siblings	-7.68** (2.72)	-5.74* (2.72)	--	--	-5.57 <sup>†</sup> (2.83)
Employed	--	4.97* (2.14)	3.93 <sup>†</sup> (2.12)	2.70 (2.21)	3.47 (2.22)
Centre-based Care	8.27** (2.95)	7.15* (3.00)	4.86 (3.06)	7.09* (3.08)	6.50* (3.13)
Wave	2.73 (2.12)	1.20 (2.08)	5.45* (2.12)	-0.64 (2.21)	2.62 (2.17)

*Note.* S-EDI scores were standardized to have a mean of 100 and a standard deviation of 15 for this analysis to facilitate comparisons across dimensions of school readiness.

<sup>†</sup>  $p < .10$ . \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .

## V. Summary & Conclusion

School readiness is a multifaceted concept, encompassing several domains of development. As different areas of school readiness may have different relationships with child and family characteristics, it is important to measure each domain of school readiness separately. By doing this, one can gain a more complete reflection of school readiness and the factors that influence a child's abilities at school entry.

The 2008-2010 CPSE report examines this holistic view of school readiness among a sample of children living in a disadvantaged urban community of Ireland. For the purpose of this study, assessments of school readiness were obtained via teacher and caregiver reports using the short form of the Early Development Instrument. The Short Early Development Instrument (S-EDI; Janus et al., 2005) enabled the teacher and caregiver ratings of school readiness to be compared to a normative sample of Canadian children. Although arguments regarding cultural, social and economic differences between Canada and Ireland can be made, there are no available representative or comprehensive data on the school readiness of Irish children. However, as we

are conducting this research over a four year period, it is feasible to generate an Irish norm for low SES Irish children.

Research has highlighted the stability of EDI ratings across different groups of children (Guhn, Gaderman, & Zumbo, 2007) and the S-EDI has been used in Canada, America, Australia and several other countries illustrating its cross cultural utility and validity (e.g., Brinkman et al., 2007). By using the S-EDI, the levels of school readiness in the CPSE cohort can be compared to a representative sample, albeit a Canadian one, facilitating conclusions regarding the school readiness of children in this cohort. In addition, by using the same S-EDI measure in multiple data collection waves, we can determine changes in school readiness within the *PFL* communities over time.

Results of this report support the concept that school readiness is multidimensional in nature, encompassing several domains of development. It is important to note that several differences emerged for multiple domains of school readiness, further providing evidence for parents, schools, practitioners, and researchers to take a more holistic approach to the definition of school readiness. Additionally, these findings demonstrate the importance of many domains of development in preparing a child for success in school. Therefore, multiple domains of school readiness should be targeted when designing programmes to promote school readiness of young children.

#### **A. School Readiness in the 2008-2009 CPSE Cohort**

Several statistical differences emerged between teacher and caregiver rated school readiness and the Canadian norms in the first wave of CPSE data collection. The general pattern shows that teachers rated children in the CPSE cohort as displaying significantly lower levels of school readiness than the Canadian norm, while caregivers rated children in the cohort as displaying significantly higher levels of school readiness than the Canadian norm. The results show that caregivers rated children as displaying higher levels of *physical health and well-being, social competence, emotional maturity, and communication and general knowledge* than teachers. Although the difference between teacher and caregiver rated *language and cognitive*

*development* was not significant, there is a trend to suggest that caregivers also rate their children higher in this domain. While, on average, children in the CPSE sample scored below the norms across all domains based on the teacher reports, approximately half the sample are performing above the norm in regards *physical health and well-being* and *social competence* and one-third of the sample are scoring above the norm in the other three domains.

### **B. School Readiness in the 2009-2010 CPSE Cohort**

In the second round of data collection, many statistical differences also were recorded between teacher rated school readiness, caregiver rated school readiness, and the Canadian norms. The overall pattern was very similar to Wave 1, as teachers in Wave 2 rated children as performing below the Canadian norm, while caregiver-rated scores were above the Canadian norm. In regards caregiver and teacher ratings, there was a statistically significant distinction on all school readiness domains apart from *language and cognitive development*. Therefore, caregivers rate children higher on most S-EDI domains. However based on the teacher reports, almost 60% of children performed above the norm on the *social competence* domain and approximately 40% score above the norm on the *physical health and well-being*, *emotional maturity*, and *communication and general knowledge* domains. Yet only 26% of children scored above the norm on the *language and cognitive development* domain.

### **C. Comparison of School Readiness in Wave 1 and Wave 2**

Overall, the pattern of results are very similar for the two waves of data collection. In both surveys, the average caregiver rating of school readiness was higher than the average teacher rating across all school readiness domains. The difference was significant for all domains apart from *language and cognitive development*. There were no significant differences between the average caregiver scores in Wave 1 and those in Wave 2. However, the teacher rated scores were significantly higher in Wave 2 on the *emotional maturity* and *communication and general knowledge* domains compared to Wave 1. In both waves, the Canadian norm fell between the average teachers and caregiver ratings for all domains apart from *language and cognitive development* as this is the only domain on which parents rated their children below the Canadian norm, and this was the case for both waves of the survey. There was some variation between

waves in terms of the percentage of children who scored above the Canadian norm. A higher percentage of children in Wave 2 scored above the norm on the *social competence*, *emotional maturity*, and *communication and general knowledge* domains. However, a lower percentage of the Wave 2 cohort scored above the norm on the *physical health and well-being*, and *language and cognitive development*. This makes it difficult to ascertain whether children are performing better from one wave to the next. However, there is a clear decrease in the percentage of children scoring in the lowest 10% on any one domain, from Wave 1 to Wave 2, which suggests that the children in Wave 2 are receiving better teacher ratings of school readiness than the children in Wave 1.

There are several possible explanations for this finding. First, as different teachers participated in Wave 2 of data collection than in Wave 1, it is possible that the teachers may have a different frame of reference on which to base their assessments. Second, this could be a cohort effect such that the children in Wave 2 have more emotional maturity, communication skills, and general knowledge than children in Wave 1. The *PFL* programme may be generating positive externalities as it is possible that some of the Junior Infant children may have younger siblings, family members, or neighbours participating in the *PFL* programme. As only five families in the entire CPSE cohort are participating in the *PFL* programme, it is unlikely that positive externalities are transmitted at the family level. However, the positive knock-on effects from relatives, friends and neighbours cannot be ruled out.

#### **D. Differences in Teacher and Caregiver Reported School Readiness**

An important observation of this report in both Wave 1 and Wave 2 is that several differences emerged between teacher and caregiver reports on the S-EDI. Such discrepancies across informants have been documented elsewhere and are a common finding in the literature (e.g., Gagnon, Vitaro, & Tremblay, 1992; Shaw, Hammer, & Leland, 1991; Tasse & Lecavalier, 2000). Teachers and parents often have different definitions of school readiness, with parents focusing more often on academic skills, and teachers on nonacademic skills (Knudsen-Lindauer & Harris, 1989; West, Hausken, & Collins, 1993). The discrepancy between teacher and caregiver reported school readiness may be explained by caregivers perceiving the same child



behaviours differently than teachers or alternatively, children may behave differently in a school context than in a family context. To examine possible reasons why these discrepancies may exist, discrepancies in the CPSE Wave 1 cohort were examined as a function of child's gender, teacher experience and parental education. In this analysis, differences in teacher and caregiver reported S-EDI school readiness domains remained (Doyle, Finnegan, & McNamara, 2010), suggesting that these factors cannot explain the differences in teacher and caregiver reports.

Although the lack of concordance between teacher and caregiver ratings of children's school readiness may be viewed simply as a methodological problem, it may represent a more interesting finding. One potential explanation is that parents in disadvantaged areas may view their children as thriving in the environment and therefore they may not recognise any weaknesses in their children's school readiness, and subsequently they may not recognise the need for early intervention. Furthermore, these results cannot definitively show whether these discrepancies in teacher and caregiver reports of child's school readiness are simply due to a response bias in terms of the teachers or caregivers, or whether the difference is due to context specific behaviour on the part of the children.

These divergences in teachers' and caregivers' values may represent differential capabilities that are focused on in the home and in school environments. Being exposed to diverging messages about the skills important for school success may lead to lower levels of school readiness for young children.

### **E. Subjective Ratings and Importance of School Readiness Domains**

Teachers in the 2009-2010 CPSE cohort indicated that almost 50% of children were *definitely ready* for school when they started in September, 2009, the same percentage were reported as being *definitely ready* for school in September, 2004. This suggests that there have been few improvements in children's school readiness, as reported by teachers, in the *PFL* communities over a 5 year period.

A clear pattern is emerging from the importance ratings in that teachers place more importance on non-cognitive skills, while caregivers seem to place a greater emphasis on cognitive skills.

This is in line with research indicating teacher definitions of school readiness focus more on non-academic skills compared to parent ratings of school readiness which focus more on academic skills (Knudsen-Lindauer & Harris, 1989; West, Hausken, & Collins, 1993). For example, parents rate knowledge of the alphabet and ability to count as essential components of school readiness, however both items are rated as very low in importance by teachers (Lewit & Schuurman Baker, 1995). Additionally, teachers are more likely to rate physical health, including nourishment and well-restedness and the child's ability not to disrupt a class (Harradine & Clifford, 1996) high on importance for school readiness.

One possible explanation for the importance placed by teachers on non-cognitive skills is that teachers may have a holistic impression of readiness through their experience in the classroom. This is supported in part by research findings by Cuskelly and Detering (2003) who demonstrate that experienced teachers and student teachers place different values on aspects of readiness. Although both student teachers and experienced teachers tend to view academic skills as relatively unimportant, experienced teachers rate social skills, language competence and self-regulation as more important than student teachers. Both experienced teachers and student teachers rate their experiences with children as most important in informing their understanding of school readiness, with a lack of emphasis placed on textbooks and academic material in both groups (Cuskelly & Detering, 2003), which may elucidate differences in the level of importance that teachers and caregivers place on various domains of school readiness in the CPSE cohort.

#### **F. Socio-demographic Differences in School Readiness**

In addition to measuring the level of school readiness in the *PFL* catchment area, the report also investigates how school readiness differs by demographic and socioeconomic factors. The report replicates several of the findings from the 2004 school readiness survey conducted in the catchment area (Kiernan et al., 2008). All significant differences were identified with moderate effects sizes. Older children were reported as being more ready for school. In addition, girls were more physically ready for school, more socially competent, more emotionally mature and displayed higher levels communication and general knowledge than boys, however only differences in the *emotional maturity* domain remained significant when relevant socio-

demographic factors were held constant. Several group differences in school readiness also were identified between high and low resource families, with children from high resource families typically performing above those from low resource families. Specifically, children of parents with less than a Junior Certificate qualification were not as ready for school as their classmates, a finding supported in the literature (Janus & Duku, 2007). It is important to note that a lack of resources may play a direct role in school readiness. For example, parents of children who are less ready for school may not possess the necessary financial, material, and social resources to help prepare their children for school.

Another interesting finding emerged in the relationship between the presence of siblings and child school readiness. Children with no siblings were rated as being more physically healthy, more socially competent, and displaying higher levels of communication and general knowledge. In addition, all findings remained significant when relevant socio-demographic factors were controlled for. There are several plausible explanations for this unexpected finding. First, children may be modelling their behaviour after their parents, rather than siblings, and parents may be exhibiting more socially competent and emotionally mature behaviours than children. Second, parents of lone children may have more time to spend with their children and this time may be more interactive, thus further providing the opportunity for children to learn these skills through these vertical interactions with parents. Third, children are often influenced by the behaviours of children or siblings they regularly interact with. It is possible that children with siblings are exposed to more negative behaviours, therefore are more likely to engage in these behaviours.

The significant relationships observed between parenting behaviours and certain dimensions of school readiness are generally in accordance with the literature. Previous research has shown that authoritative parents encourage children's independence, respect their autonomy and recognise their interests (Baumrind, 1966; 1967; Maccoby & Martin, 1983), all aspects of readiness to explore new things. As authoritative parenting is characterised by warmth and responsiveness, this type of parenting may serve to reinforce children's curiosity, exploration, and their feelings of safety and security in doing so. In terms of authoritarian parenting, these types of behaviours were associated with lower levels of school readiness, which is consistent with literature

evidencing associations between authoritarian parenting and children's problematic peer interactions, lower peer acceptance and greater incidence of externalising behaviour problems (Baumrind, 1967; Brenner & Fox, 1998; Kahen, Katz, & Gottman, 1994; Stormshak, Beirman, McMahon, & Lengua, 2000). Finally, permissive parenting was negatively associated with school readiness, which replicates findings by Querido, Warner, and Eyberg (2002) and Williams et al. (2009). A surprising trend pointed to a negative association between permissive parenting and child physical health and well being. This may be associated with parental laxness in monitoring or managing the eating habits and physical activities of their children (Birch & Fisher, 1998; Davison & Birch, 2001).

### **G. Caregiver Health & School Readiness**

Two additions to the second wave of CPSE data collection addressed the mental well-being and self-reported health of caregivers. Overall, the caregivers in the *PFL* communities report quite positive general health, but poor mental health. While 77% of caregivers report having excellent or very good general health, only 59% report their mental well-being as being above the threshold for being classified as having poor mental health. Relationships between the S-EDI domains and mental well-being did not reach significance. This finding is surprising as many studies report that children of mothers who are suffering from depression or poor mental health often score lower on tests of school readiness (Barry, Dunlap, Cotton, Lochman, & Wells, 2005; Linver, Brooks-Gunn, & Kohen, 2002; Lesesne, Visser, & White, 2003). However, several strong effects were present in the relationship between subjective well-being of the caregiver and the school readiness of the child. There were statistically significant relationships, at least at the trend level, between subjective health and all five domains of school readiness revealing that children of caregivers who report better health are more ready for school. This result is in line with other studies which report strong relationships between maternal health and child development (Janus & Duku, 2007; Johnson, Swank, Baldwin & McCormick, 1999; Kahn, Zuckerman, Bauchner, Homer, & Wise, 2002). This is an important finding, especially in disadvantaged areas where individuals may be at increased risk for poor health.

## H. Childcare & School Readiness

As formal childcare has been identified as one of the key promoters of early school readiness, the CPSE survey collected information about the children's childcare experiences prior to school entry in terms of childcare type, duration and starting age. A significant finding of this report is that the majority of children in the sample had experienced some form of centre-based childcare prior to starting school. The results also indicate that children experienced informal childcare (e.g., care by grandparents, other relatives or nannies) for an average of 29.5 months and formal childcare (care in nursery or Montessori school) for 19.7 months. Studies typically find that children from disadvantaged areas are more likely to avail of informal, rather than formal, childcare (Côté, Doyle, & Petitclerc, 2009), however, this result is not borne out in the CPSE sample.

Several significant relationships were identified between participation in centre-based childcare and school readiness. Children who participated in centre-based care were rated higher than children who did not attend centre-based childcare on all domains of school readiness, of which four domains remained significant when relevant socio-demographic factors were held constant. These findings are consistent with the literature which suggests that centre-based childcare is beneficial for children's development. There is also evidence that the benefits of childcare may be greatest for those from disadvantaged backgrounds as childcare can play a protective role for children from low resource families. As demonstrated in this report, these effects can impact on all areas of development including cognitive ability (Geoffroy et al., 2006; Caughy, DiPietro, & Strobino, 1994), physical aggression (Borge, Rutter, Côté, & Tremblay, 2004) and emotional maturity (Côté, Borge, Geoffroy, Rutter, & Tremblay, 2008).

Studies consistently show that the quality of childcare matters (Burchinal et al., 2000), particularly in terms of the qualification of childcare staff, the stability of staff, and the structure and content of daily activities. However, this study does not control for the quality of the childcare settings which the CPSE cohort attended. Síolta, the National Quality Framework for Early Childhood Education, which provides the first nationally agreed set of standards for early childhood care and education in Ireland, is currently being implemented by the local pre-schools, schools, and childcare settings in the CPSE catchment area as part of the *Preparing for Life*

programme. This framework aims to raise the standards of the childcare settings within the CPSE community, therefore future CPSE surveys may be able to incorporate these measures to analyse the effects on school readiness over time.

### **I. Multivariate Analysis of School Readiness and Socio-demographic Factors**

Due to the addition of Wave 2 survey responses, the dataset was large enough to perform multivariate analysis which allows us to better investigate the factors associated with school readiness. Any factor which was found to be significant in the permutation test was included in a regression model so that the effect of each factor could be considered when the other factors are held constant. The results from the multivariate analysis echo the results obtained from the permutation tests. Specifically, children of low educated parents display lower levels of social competence, emotional maturity, and language and cognitive development when other socio-demographic factors such as caregiver employment status and participation in centre-based childcare are held constant. Childcare was found to have a consistently positive effect on school readiness, the effect being precisely determined for four of the five domains. Conversely, children with siblings were found to perform lower on the physical health and well-being, social competence, and communication and general knowledge domains. Children who had an employed caregiver had better social competence and emotional maturity. However, employment status had no effect on the other school readiness domains. Finally, a gender effect was only found on the emotional maturity domain, with girls performing significantly better than boys in this regard. This differs from the permutation test which found gender differences on four S-EDI domains.

Overall, it is evident that demographic characteristics do affect children's school readiness, however the environmental factors appear to have the largest effects, with participation in centre-based childcare being associated with almost a half a standard deviation increase in school readiness scores across each domain. The results vary for each domain but the most precisely determined effects can be seen on the non-cognitive skills such as physical health and well-being, social competence, and emotional maturity.

## **J. Strengths and Limitations of the Study**

The present study has several strengths. First, the reliability of the scales used in the analyses was acceptable, with the reliability of several scales falling above the .80 level. Additionally, the response rates of teachers of caregivers is high for a study of this type. Another clear strength of the study is that non-standard statistical methods were employed specifically tailored to accommodate the small sample size used in the analyses. Another benefit of the study is the holistic approach to school readiness through which this survey was designed. Lastly, although the results reported here focused on teacher reported school readiness, data also were obtained for primary caregiver reports of school readiness. By obtaining both teacher and caregiver reports of school readiness, important differences in these ratings were elucidated which has several implications for future work in this area.

There also are several limitations to the study that should be noted. Firstly, all the analyses conducted to test for differences in school readiness across the range of socio-demographic factors represent correlations or associations in the data. They are indicative of underlying relationships that may exist between two factors, however they are not necessarily causal relationships, nor should they be interpreted as such. Secondly, this is one study conducted in a disadvantaged area of Ireland and therefore cannot be generalised to the larger population.

## **K. Conclusion**

This report serves as an update for an ongoing assessment of the school readiness of children living in the *PFL* catchment area. Several relationships emerged in the data. Interestingly, many significant relationships emerged between child characteristics such as age and gender, and environmental characteristics such as participation in centre-based childcare and school readiness. Familial factors showed mixed results, for example, social welfare dependency was not associated with any domain of school readiness, but presence of siblings was. Caregiver characteristics such as relationship status, age, employment status, mental well-being, and parenting behaviour displayed few significant relationships with child school readiness while caregiver education and self-rated health were significantly associated with child school readiness. Collectively, the results of this study illustrate the complexity of school readiness.

### **L. The Need for the *PFL* Intervention**

The CPSE was conducted as part of an overall evaluation of the *PFL* early childhood intervention programme. It is clear, based on teacher assessments of school readiness, that children in the *PFL* catchment areas are not performing to the level of other children at school entry, a finding that provides quantitative evidence for the need of the *PFL* intervention. Additionally, the vast differences between teacher and caregiver assessments of school readiness provide solid evidence that any intervention aiming to improve levels of school readiness in this area must integrate several contexts of development rather than simply focusing on one context.

### **M. Future CPSE Surveys**

The current report provides a comprehensive analysis of the levels of school readiness of Junior Infant children in a disadvantaged urban community in Ireland. The survey will be replicated and conducted annually until 2012. One of the aims of this study is to measure the general level of school readiness in the area for the cohort of children who are not receiving the *PFL* programme. By comparing the year-on-year changes in school readiness, this study will indicate if the *PFL* programme is generating positive externalities. It will determine whether providing an intensive school readiness intervention to the community's younger cohort will have knock-on effects for the older children in the community starting school between 2008 and 2012. The current report elucidates several interesting relationships in the data in terms of factors influencing school readiness. Continuing to combine the samples of future CPSE surveys over time will provide much larger data which will deepen the richness of the analysis and allow us to fully investigate the determinants and antecedents to school readiness.



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## VII. Appendix A: Instruments: Example Items

Table 1  
Domains, Subdomains, and Sample Items for the S-EDI

Domain	Number of Items	Example Items
<b>Physical Health &amp; Well-being</b>		
<i>Physical Readiness for the School Day</i>	3	Over/underdressed for school related activities; too tired/sick to do schoolwork
<i>Physical Independence</i>	3	Independent in washroom habits most of the time; well coordinated
<i>Gross and Fine Motor Skills</i>	3	Ability to manipulate objects; overall physical development
<b>Social Competence</b>		
<i>Respect and Responsibility</i>	3	Respects the property of others; accepts responsibility for actions
<i>Approaches to Learning</i>	3	Works independently; able to follow class routines without reminders
<i>Readiness to Explore New Things</i>	3	Eager to play with a new toy; eager to play with/read a new book
<i>Overall Social Competence with Peers</i>	3	Ability to get along with peers; plays and works cooperatively with peers at age appropriate level
<b>Emotional Maturity</b>		
<i>Prosocial and Helping Behaviour</i>	3	Will try to help someone who has been hurt; comforts a child who is crying or upset
<i>Aggressive Behaviour</i>	3	Gets into physical fights; bullies or is mean to others
<i>Anxious and Fearful Behaviour</i>	3	Appears fearful or anxious; appears worried
<i>Hyperactive and Inattentive Behaviour</i>	3	Can't sit still; is restless or fidgets
<b>Language and Cognitive Development</b>		
<i>Basic Literacy Skills</i>	3	Is able to attach sounds to letters; is able to identify at least 10 letter of the alphabet
<i>Advanced Literacy Skills</i>	3	Is able to read simple words; is able to read simple sentences
<i>Basic Numeracy Skills</i>	3	Is able to count to 20; is able to say which is the bigger of the two
<i>Interest in Literacy/Numeracy and Memory</i>	3	Is interested in reading; is interested in games involving numbers
<b>Communication &amp; General Knowledge</b>		
<i>Communication &amp; General Knowledge</i>	3	Is able to tell a story; is able to communicate in an understanding way

Table 2

*Domains, Subdomains, and Sample Items for the Parenting Styles and Dimensions Questionnaire*

Domain	Number of Items	Example Items
<b>Authoritative Parenting</b>		
<i>Connection</i>	5	Encourages child to talk about the child's troubles; gives praise when child is good
<i>Regulation</i>	5	Explains the consequences of the child's behaviour; emphasizes the reasons for rules
<i>Autonomy</i>	5	Shows respect for child's opinions by encouraging child to express them; allows child to give input to family rules
<b>Authoritarian Parenting</b>		
<i>Physical Coercion</i>	4	Spanks child when disobedient; uses physical punishment as a way of disciplining child
<i>Verbal Hostility</i>	4	Explodes in anger toward child; scolds and criticises to make child improve
<i>Non-Reasoning/Punitive Behaviours</i>	4	Punishes by taking privileges away from child with little if any explanations; uses threats as punishment with little or no justification
<b>Permissive Parenting</b>		
<i>Permissive</i>	5	States punishments to child and does not actually do them; spoils child

## VIII. Appendix B: Descriptive Statistics

Table 1  
Descriptive Statistics for Continuous Variables

	Wave 1				Wave 2				<i>t</i> / <i>Z</i>
	N	Mean (SD)	Min	Max	N	Mean (SD)	Min	Max	
<b>Teacher Information</b>									
Age <sup>2</sup>	12	37.25 (10.9)	24	55	9	34.11 (11.8)	24	59	0.63
Years Teaching <sup>1</sup>	12	10.83 (9.72)	2	31	9	11.78 (12.6)	3	39	0.08
Years Teaching Junior Infants <sup>1</sup>	12	4.25 (3.82)	1	15	9	3.33 (3.77)	0	12	2.85***
Years Teaching at School <sup>1</sup>	12	9.42 (8.17)	1	31	9	10.67 (12.8)	3	38	1.34
Number of Students in Class <sup>1</sup>	7	14.57 (1.40)	13	16	9	18.33 (1.93)	16	21	-9.92***
<b>Caregiver Information</b>									
Age <sup>1</sup>	92	30.48 (5.53)	22	45	126	31.76 (6.72)	21	54	- 1.23
Mental Well-being					114	14.31 (6.45)	1	25	--
Self Reported Health					126	1.97 (0.81)	1	4	--
<b>Child Information</b>									
Age <sup>1</sup>	91	4.83 (0.46)	3.93	7.10	127	4.72 (0.42)	4.08	7.13	1.83 <sup>†</sup>
# Months in Home-based Care <sup>2</sup>	11	21.82 (10.1)	12	36	16	34.75 (19.4)	6	60	- 2.02 <sup>†</sup>
# Months in Centre-based Care <sup>1</sup>	70	18.5 (10.3)	12	72	94	20.63 (10.9)	6	58	- 1.25
<b>Household Information</b>									
# Household Members <sup>1</sup>	91	4.69 (1.44)	2	9	127	4.67 (1.59)	2	14	0.27
# Biological Children <sup>1</sup>	92	2.88 (1.61)	1	10	128	2.78 (1.45)	1	8	0.33
# Siblings in Household <sup>1</sup>	94	1.81 (1.53)	0	7	129	1.61 (1.30)	0	6	0.96

Note. <sup>1</sup>Mann-Whitney test used. <sup>2</sup>t-test used. 92% of caregivers are the child's mother.

<sup>†</sup>  $p < .10$ . \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .



Table 2  
*Descriptive Statistics for Categorical Variables*

		Wave 1		Wave 2		Fisher's $p/\chi^2$
		N	%	N	%	
<b><i>Teacher Information</i></b>						
Highest Level of Education <sup>1</sup>	Non-degree Qual.	1	8.33	1	11.11	0.70
	Primary Degree	4	33.33	5	55.56	
	Postgraduate Qual.	6	50.00	2	22.22	
	Other	1	8.33	1	11.11	
<b><i>Caregiver Information</i></b>						
Relationship to child <sup>1</sup>	Biological Mother	87	93.55	116	90.63	0.02*
	Foster Mother	1	1.08	1	0.78	
	Biological Father	1	1.08	8	6.25	
	Adoptive Father	4	4.30	0	0.00	
	Grandmother	0	0.00	1	0.78	
	Grandfather	0	0.00	1	0.78	
	Other Family Member	0	0.00	1	0.78	
Ethnicity <sup>1</sup>	Irish	81	88.04	110	87.30	0.59
	Irish Traveller	9	9.78	10	7.94	
	British	1	1.09	1	0.79	
	Other White	1	1.09	0	0.00	
	Asian	0	0.00	1	0.79	
	African	0	0.00	1	0.79	
	Other	0	0.00	3	2.38	
Highest Level of Education <sup>1</sup>	Primary	10	11.24	10	7.94	0.95
	Lower Secondary	14	15.73	13	10.32	
	Junior Certificate	25	28.09	31	24.60	
	Upper Secondary	13	14.61	24	19.05	
	Applied Leaving Cert.	4	4.49	8	6.35	
	Leaving Cert.	8	8.99	13	10.32	
	Non-degree Qual.	12	13.48	16	12.70	
	Primary Degree	2	2.25	3	2.38	
	Postgraduate Qual.	0	0.00	1	0.79	
Other	1	1.12	1	0.79		
Work Status <sup>1</sup>	Paid job, but on leave	4	4.60	2	1.57	0.53
	In paid Work	21	24.14	39	30.71	
	Unemployed	16	18.39	24	18.90	
	Student	0	0.00	2	1.57	
	Looking after home/fam.	30	34.48	36	28.35	
	Not able to work	1	1.15	1	0.79	
	FAS training (paid)	9	10.34	11	8.66	
	FAS training (unpaid)	2	2.30	0	0.00	
	Other	4	4.60	7	5.51	
Self-rated Health	Excellent			38	30.16	--
	Very Good			59	46.83	
	Good			24	19.05	
	Fair			5	3.97	

Mental Well-being	No Risk			55	47.41	--
	At Risk			61	52.59	
<b>Child Information</b>						
Childcare	Any Childcare <sup>2</sup>	80	77.67	107	80.45	0.27
	Centre Based Childcare <sup>2</sup>	78	75.73	103	77.44	0.10
	Home Based Childcare <sup>2</sup>	15	14.56	24	18.05	0.51
Living in Catchment Area	Yes	87	87.00	106	80.30	1.82
	No	13	13.00	26	19.70	
<b>Household Information</b>						
Income bracket €250 - €500 <sup>2</sup>	Yes	26	46.43	40	57.14	1.43
	No	30	53.57	30	42.86	
Receiving Social Welfare <sup>2</sup>	Yes	55	68.75	79	63.71	0.21
	No	25	31.25	31	25.00	
Medical Card <sup>2</sup>	Yes	66	75.00	87	70.16	0.09
	No	22	25.00	32	25.81	
GP Visit Card <sup>2</sup>	Yes	9	11.84	12	10.34	0.02
	No	67	88.16	96	82.76	
Private Health Insurance <sup>1</sup>	Yes	4	4.55	7	5.88	0.76
	No	84	95.45	106	89.08	

Note. <sup>1</sup>Fisher exact test used. <sup>2</sup>Pearson chi-square test used.

<sup>†</sup> $p < .10$ . \* $p < .05$ . \*\* $p < .01$ . \*\*\* $p < .001$ .

Table 3

*Wilcoxon Signed-rank and Results for Comparisons of Wave 1 and Wave 2 Ratings on S-EDI*

<b>Comparison</b>		<b>Physical Health and Well-being</b>	<b>Social Competence</b>	<b>Emotional Maturity</b>	<b>Language and Cognitive Development</b>	<b>Communication and General Knowledge</b>
Original Catchment Area Schools (teacher): Wave 1 vs. Wave 2	Z p	0.95 ns	1.69 < .10	3.76 < .01	1.11 ns	2.04 <.05
Original Catchment Area Schools (caregiver): Wave 1 vs. Wave 2	Z p	-0.07 ns	-0.17 ns	1.09 ns	-0.60 ns	-1.32 ns
Reside in <i>PFL</i> Catchment Area (teacher): Wave 1 vs. Wave 2	Z p	0.80 ns	1.49 ns	2.78 < .01	0.57 ns	2.20 <.05
Reside in <i>PFL</i> Catchment Area (caregiver): Wave 1 vs. Wave 2	Z p	0.00 ns	0.14 ns	1.25 ns	-1.46 ns	-0.41 ns

*Note.* ns = non significant.

## IX. Appendix C: Results<sup>11,12</sup>

Table 1  
*Monte Carlo Permutation Test Results for Differences in Teacher Reported School Readiness Based on Child Gender*

Domain	Male		Female		<i>p</i>	<i>d</i>
	<i>n</i>	Mean (SD)	<i>n</i>	Mean (SD)		
<i>Physical Health &amp; Well-being</i>	120	7.49 (2.21)	91	8.06 (1.87)	≤ .05	.27
Gross and Fine Motor Skills	111	6.03 (3.42)	85	7.27 (2.59)	< .01	.40
<i>Social Competence</i>	120	7.32 (2.33)	91	7.85 (1.78)	< .10	.25
Overall Social Competence with Peers	120	6.08 (3.05)	91	6.63 (2.78)	ns	.19
Responsibility and Respect	120	7.76 (2.72)	91	8.10 (2.38)	ns	.13
Approaches to Learning	120	7.18 (2.97)	91	8.08 (2.53)	< .05	.32
Readiness to Explore New Things	115	8.22 (2.45)	88	8.58 (1.81)	ns	.17
<i>Emotional Maturity</i>	118	6.57 (2.10)	91	7.43 (1.81)	< .01	.44
Prosocial and Helping Behaviour	100	4.80 (3.26)	84	6.11 (2.84)	< .01	.43
Aggressive Behaviour	114	1.63 (2.63)	88	0.97 (1.94)	≤ .05	.28
Anxious and Fearful Behaviour	120	4.49 (3.70)	91	3.30 (3.29)	< .05	.34
Hyperactivity and Inattention	120	2.65 (2.76)	91	2.11 (2.59)	ns	.20
<i>Language and Cognitive Development</i>	115	5.64 (2.85)	82	6.02 (2.55)	ns	.14
Basic Literacy Skills	117	6.88 (3.44)	89	6.65 (3.63)	ns	.07
Interest in Literacy/Numeracy/Memory	118	8.04 (3.31)	89	9.29 (2.10)	< .01	.44
Basic Numeracy Skills	118	2.77 (2.96)	89	3.18 (2.86)	ns	.14
<i>Communication &amp; General Knowledge</i>	120	5.28 (3.74)	91	6.17 (3.13)	< .10	.26

Note. ns = non significant.

<sup>11</sup> Note: The p-values represent the probability that the result obtained is due to chance rather than a true relationship between variables. Consistent with the literature, p-values below 0.05 (5%) are considered to be statistically significant in the present report. A p-value of less than 0.05 (5%), 0.01 (1%), 0.001 (0.01%) conveys that the probability that the difference between the two groups is due to chance is less than 5%, 1% and 0.01% respectively. Trend level results were reported if the p value was equal to or less than .10.

<sup>12</sup> The following rule can be applied to interpreting effect sizes (Gravetter & Wallnau, 2004). A Cohen's *d* ranging from 0.0 to 0.2 is deemed a small effect (mean difference is less than .2 standard deviation), values ranging from 0.2 to 0.8 are considered to represent a medium effect (mean difference around .5 standard deviation), and values greater than 0.8 illustrate a large effect (mean difference greater than .8 standard deviation).

Table 2

*Monte Carlo Permutation Test Results for Differences in Teacher Reported School Readiness Based on Presence of Siblings Living in the House*

Domain	Siblings		No Siblings		<i>p</i>	<i>d</i>
	<i>n</i>	Mean (SD)	<i>n</i>	Mean (SD)		
<i>Physical Health &amp; Well-being</i>	184	7.61 (2.07)	40	8.48 (1.80)	≤ .01	.43
Gross and Fine Motor Skills	170	6.35 (3.07)	38	7.50 (3.01)	< .05	.37
<i>Social Competence</i>	184	7.32 (2.18)	40	8.37 (1.53)	< .01	.50
Overall Social Competence with Peers	184	6.08 (3.05)	40	7.33 (2.23)	< .05	.43
Responsibility and Respect	184	7.62 (2.67)	40	8.88 (1.90)	< .01	.49
Approaches to Learning	184	7.33 (2.85)	40	8.54 (2.21)	≤ .01	.44
Readiness to Explore New Things	176	8.21 (2.20)	39	8.72 (2.04)	ns	.23
<i>Emotional Maturity</i>	184	6.83 (2.08)	38	7.41 (1.39)	ns	.29
Prosocial and Helping Behaviour	159	5.23 (3.21)	36	5.81 (2.65)	ns	.19
Aggressive Behaviour	177	1.47 (2.43)	38	0.99 (2.01)	ns	.20
Anxious and Fearful Behaviour	184	4.32 (3.64)	40	3.04 (3.16)	< .05	.36
Hyperactivity and Inattention	184	2.24 (2.74)	40	2.63 (2.35)	ns	.14
<i>Language and Cognitive Development</i>	170	5.54 (2.82)	39	6.19 (2.58)	ns	.23
Basic Literacy Skills	178	6.61 (3.62)	40	6.75 (3.50)	ns	.04
Interest in Literacy/Numeracy/Memory	180	8.19 (3.28)	40	9.33 (2.03)	< .05	.37
Basic Numeracy Skills	180	2.69 (2.81)	40	3.42 (3.22)	ns	.25
<i>Communication &amp; General Knowledge</i>	184	5.43 (3.41)	40	6.54 (3.61)	< .10	.32

*Note.* ns = non significant.

Table 3

*Monte Carlo Permutation Test Results for Differences in Teacher Reported School Readiness Based on Caregiver Relationship Status*

Domain	Single		In Relationship		<i>p</i>	<i>d</i>
	<i>n</i>	Mean (SD)	<i>n</i>	Mean (SD)		
<i>Physical Health &amp; Well-being</i>	87	7.54 (2.29)	116	7.90 (1.89)	ns	.18
Gross and Fine Motor Skills	85	6.31 (3.24)	105	6.75 (3.05)	ns	.14
<i>Social Competence</i>	87	7.56 (2.02)	116	7.60 (2.11)	ns	.02
Overall Social Competence with Peers	87	6.46 (2.84)	116	6.26 (2.97)	ns	.07
Responsibility and Respect	87	8.06 (2.34)	116	7.93 (2.57)	ns	.05
Approaches to Learning	87	7.43 (2.84)	116	7.70 (2.74)	ns	.10
Readiness to Explore New Things	84	8.27 (2.25)	112	8.45 (2.15)	ns	.08
<i>Emotional Maturity</i>	86	7.07 (1.91)	115	6.91 (1.98)	ns	.08
Prosocial and Helping Behaviour	73	5.39 (3.23)	104	5.40 (3.05)	ns	.00
Aggressive Behaviour	85	1.10 (1.96)	111	1.39 (2.42)	ns	.13
Anxious and Fearful Behaviour	87	3.58 (3.48)	116	4.20 (3.56)	ns	.17
Hyperactivity and Inattention	87	2.74 (2.93)	116	2.23 (2.51)	≤ .10	.19
<i>Language and Cognitive Development</i>	79	5.77 (2.84)	110	5.89 (2.62)	ns	.05
Basic Literacy Skills	84	6.45 (3.56)	114	7.12 (3.44)	ns	.19
Interest in Literacy/Numeracy/Memory	84	8.73 (2.83)	115	8.57 (2.88)	ns	.06
Basic Numeracy Skills	84	3.00 (3.06)	115	3.00 (2.87)	ns	.00
<i>Communication &amp; General Knowledge</i>	87	5.56 (3.37)	116	5.72 (3.57)	ns	.05

*Note.* ns = non significant.

Table 4

*Monte Carlo Permutation Test Results for Differences in Teacher Reported School Readiness Based on Caregiver Age at Child's Birth*

Domain	20 Years Old or Younger		Older than 20 Years		<i>p</i>	<i>d</i>
	<i>n</i>	Mean (SD)	<i>n</i>	Mean (SD)		
<i>Physical Health &amp; Well-being</i>	32	7.36 (2.30)	162	7.83 (2.08)	ns	.22
Gross and Fine Motor Skills	30	6.11 (3.42)	150	6.65 (3.07)	ns	.17
<i>Social Competence</i>	32	7.26 (2.18)	162	7.65 (2.12)	ns	.18
Overall Social Competence with Peers	32	5.83 (3.14)	162	6.51 (2.89)	ns	.23
Responsibility and Respect	32	7.66 (2.90)	162	7.93 (2.55)	ns	.10
Approaches to Learning	32	7.34 (2.99)	162	7.66 (2.78)	ns	.11
Readiness to Explore New Things	32	8.23 (2.11)	155	8.46 (2.16)	ns	.11
<i>Emotional Maturity</i>	30	6.59 (2.19)	162	7.03 (1.99)	ns	.22
Prosocial and Helping Behaviour	29	4.31 (3.13)	138	5.57 (3.11)	< .05	.40
Aggressive Behaviour	29	1.44 (2.46)	156	1.29 (2.34)	ns	.06
Anxious and Fearful Behaviour	32	4.22 (3.74)	162	3.92 (3.53)	ns	.08
Hyperactivity and Inattention	32	2.81 (2.79)	162	2.30 (2.69)	ns	.19
<i>Language and Cognitive Development</i>	27	5.23 (3.04)	153	6.05 (2.65)	ns	.30
Basic Literacy Skills	28	5.71 (3.94)	161	7.14 (3.35)	< .10	.42
Interest in Literacy/Numeracy/Memory	31	8.82 (2.52)	160	8.59 (2.96)	ns	.08
Basic Numeracy Skills	31	2.47 (3.22)	159	3.14 (2.89)	ns	.23
<i>Communication &amp; General Knowledge</i>	32	4.58 (3.33)	162	5.98 (3.52)	ns	.40

*Note.* ns = non significant.

Table 5  
*Monte Carlo Permutation Test Results for Differences in Teacher Reported School Readiness Based on Caregiver Education*

Domain	Low Education		High Education		<i>p</i>	<i>d</i>
	<i>n</i>	Mean (SD)	<i>n</i>	Mean (SD)		
<i>Physical Health &amp; Well-being</i>	44	7.22 (2.01)	154	7.87 (2.11)	< .10	.31
Gross and Fine Motor Skills	37	5.92 (3.23)	146	6.68 (3.13)	ns	.24
<i>Social Competence</i>	44	6.82 (2.18)	154	7.72 (2.09)	< .05	.43
Overall Social Competence with Peers	44	5.08 (2.94)	154	6.62 (2.90)	< .01	.53
Responsibility and Respect	44	7.39 (2.91)	154	8.00 (2.49)	ns	.24
Approaches to Learning	44	6.89 (2.63)	154	7.72 (2.86)	< .10	.29
Readiness to Explore New Things	44	7.92 (2.52)	148	8.49 (2.11)	< .10	.26
<i>Emotional Maturity</i>	44	6.11 (2.31)	153	7.14 (1.88)	< .01	.52
Prosocial and Helping Behaviour	42	4.72 (3.01)	133	5.58 (3.18)	< .10	.27
Aggressive Behaviour	40	2.38 (3.33)	149	1.04 (1.99)	< .01	.57
Anxious and Fearful Behaviour	44	5.38 (3.75)	154	3.61 (3.41)	< .01	.51
Hyperactivity and Inattention	44	2.27 (2.54)	154	2.47 (2.75)	ns	.07
<i>Language and Cognitive Development</i>	39	4.75 (2.26)	145	6.16 (2.82)	< .01	.52
Basic Literacy Skills	42	5.95 (3.23)	151	7.13 (3.53)	< .05	.34
Interest in Literacy/Numeracy/Memory	42	7.94 (3.45)	152	8.72 (2.78)	ns	.27
Basic Numeracy Skills	43	1.94 (1.82)	151	3.29 (3.13)	≤ .01	.47
<i>Communication &amp; General Knowledge</i>	44	4.92 (3.17)	154	5.94 (3.53)	ns	.29

*Note.* ns = non significant.



Table 6

*Monte Carlo Permutation Test Results for Differences in Teacher Reported School Readiness Based on Caregiver Employment Status*

Domain	Employed		Not Employed		<i>p</i>	<i>d</i>
	<i>n</i>	Mean (SD)	<i>n</i>	Mean (SD)		
<i>Physical Health &amp; Well-being</i>	86	7.99 (1.91)	111	7.61 (2.13)	ns	.19
Gross and Fine Motor Skills	81	6.76 (3.05)	102	6.51 (3.15)	ns	.08
<i>Social Competence</i>	86	8.08 (1.72)	111	7.25 (2.28)	< .01	.40
Overall Social Competence with Peers	86	7.07 (2.66)	111	5.83 (3.06)	< .01	.43
Responsibility and Respect	86	8.39 (2.10)	111	7.64 (2.85)	<.05	.30
Approaches to Learning	86	8.06 (2.49)	111	7.31 (2.97)	<.10	.27
Readiness to Explore New Things	84	8.77 (1.99)	106	8.16 (2.17)	< .05	.29
<i>Emotional Maturity</i>	85	7.27 (1.68)	111	6.76 (2.25)	< .10	.25
Prosocial and Helping Behaviour	76	5.88 (2.84)	98	5.18 (3.33)	ns	.22
Aggressive Behaviour	82	1.07 (1.94)	107	1.53 (2.70)	ns	.19
Anxious and Fearful Behaviour	86	3.45 (3.22)	111	4.26 (3.73)	ns	.23
Hyperactivity and Inattention	86	2.48 (2.59)	111	2.33 (2.78)	ns	.06
<i>Language and Cognitive Development</i>	80	6.32 (2.47)	104	5.59 (2.81)	< .10	.28
Basic Literacy Skills	85	7.16 (3.32)	108	6.65 (3.53)	ns	.15
Interest in Literacy/Numeracy/Memory	85	9.22 (2.28)	108	8.23 (3.15)	< .05	.35
Basic Numeracy Skills	83	3.39 (2.90)	110	2.80 (2.92)	ns	.20
<i>Communication &amp; General Knowledge</i>	86	6.34 (3.30)	111	5.33 (3.62)	< .05	.29

*Note.* ns = non significant.

Table 7

*Monte Carlo Permutation Test Results for Differences in Teacher Reported School Readiness Based on Social Welfare Dependency*

Domain	In Receipt of Social Welfare Payments		Not in Receipt of Social Welfare Payments		<i>p</i>	<i>d</i>
	<i>n</i>	Mean (SD)	<i>n</i>	Mean (SD)		
<i>Physical Health &amp; Well-being</i>	128	7.86 (1.83)	53	7.95 (2.07)	ns	.05
Gross and Fine Motor Skills	118	6.84 (2.96)	49	6.77 (3.03)	ns	.02
<i>Social Competence</i>	128	7.64 (2.02)	53	7.93 (1.96)	ns	.14
Overall Social Competence with Peers	128	6.51 (2.95)	53	6.38 (2.90)	ns	.04
Responsibility and Respect	128	7.88 (2.61)	53	8.49 (2.34)	ns	.24
Approaches to Learning	128	7.66 (2.71)	53	8.08 (2.50)	ns	.16
Readiness to Explore New Things	122	8.48 (1.99)	52	8.75 (2.00)	ns	.13
<i>Emotional Maturity</i>	127	6.96 (2.15)	53	7.27 (1.59)	ns	.16
Prosocial and Helping Behaviour	112	5.56 (3.22)	50	5.70 (2.83)	ns	.05
Aggressive Behaviour	121	1.51 (2.64)	52	0.79 (1.58)	< .05	.30
Anxious and Fearful Behaviour	128	3.96 (3.56)	53	3.49 (3.37)	ns	.13
Hyperactivity and Inattention	128	2.32 (2.70)	53	2.45 (2.61)	ns	.05
<i>Language and Cognitive Development</i>	120	6.09 (2.53)	48	6.24 (2.51)	ns	.06
Basic Literacy Skills	124	7.08 (3.21)	53	7.39 (3.33)	ns	.09
Interest in Literacy/Numeracy/Memory	125	8.95 (2.50)	52	9.04 (2.41)	ns	.04
Basic Numeracy Skills	125	3.04 (2.89)	52	3.37 (3.03)	ns	.11
<i>Communication &amp; General Knowledge</i>	128	5.83 (3.40)	53	6.04 (3.67)	ns	.06

*Note.* ns = non significant.

Table 8

*Monte Carlo Permutation Test Results for Differences in Teacher Reported School Readiness Based on Caregiver Mental Well-being*

Domain	Low Mental Well-being		High Mental Well-being		<i>p</i>	<i>d</i>
	<i>n</i>	Mean (SD)	<i>n</i>	Mean (SD)		
<i>Physical Health &amp; Well-being</i>	45	8.18 (1.90)	61	7.65 (2.02)	ns	.27
Gross and Fine Motor Skills	45	6.80 (2.96)	61	6.31 (3.07)	ns	.16
<i>Social Competence</i>	45	7.48 (2.15)	61	7.55 (2.24)	ns	.03
Overall Social Competence with Peers	45	6.63 (3.03)	61	6.53 (2.64)	ns	.04
Responsibility and Respect	45	7.61 (2.69)	61	8.33 (2.47)	ns	.28
Approaches to Learning	45	7.33 (2.85)	61	7.40 (3.18)	ns	.02
Readiness to Explore New Things	41	8.25 (1.90)	58	7.84 (2.67)	ns	.17
<i>Emotional Maturity</i>	45	7.06 (2.02)	61	7.27 (1.86)	ns	.11
Prosocial and Helping Behaviour	43	5.39 (3.22)	59	4.92 (3.09)	ns	.15
Aggressive Behaviour	45	1.59 (2.71)	61	0.66 (1.50)	< .05	.45
Anxious and Fearful Behaviour	45	3.96 (3.54)	61	3.06 (3.29)	ns	.27
Hyperactivity and Inattention	45	1.67 (2.36)	61	2.38 (2.75)	ns	.27
<i>Language and Cognitive Development</i>	42	5.83 (2.63)	59	5.66 (2.64)	ns	.06
Basic Literacy Skills	43	6.51 (3.56)	61	6.45 (3.54)	ns	.02
Interest in Literacy/Numeracy/Memory	45	8.74 (3.12)	60	8.81 (2.55)	ns	.02
Basic Numeracy Skills	45	2.93 (2.64)	60	3.14 (2.86)	ns	.08
<i>Communication &amp; General Knowledge</i>	45	6.07 (3.56)	61	5.93 (3.44)	ns	.04

Note. ns = non significant.

Table 9  
*Monte Carlo Permutation Test Results for Differences in Teacher Reported School Readiness Based on Caregiver Subjective Well-being*

Domain	Good or Fair Health		Excellent or Very Good Health		<i>p</i>	<i>d</i>
	<i>n</i>	Mean (SD)	<i>n</i>	Mean (SD)		
<i>Physical Health &amp; Well-being</i>	28	7.34 (2.38)	88	8.09 (1.78)	< .10	.39
Gross and Fine Motor Skills	28	5.42 (3.38)	88	7.05 (2.79)	≤ .01	.55
<i>Social Competence</i>	28	6.49 (2.56)	88	8.02 (1.92)	≤ .001	.73
Overall Social Competence with Peers	28	5.60 (3.28)	88	7.08 (2.53)	≤ .01	.55
Responsibility and Respect	28	6.82 (3.08)	88	8.58 (2.21)	≤ .001	.72
Approaches to Learning	28	5.83 (3.59)	88	8.09 (2.60)	< .001	.79
Readiness to Explore New Things	25	7.53 (1.93)	85	8.29 (2.41)	ns	.33
<i>Emotional Maturity</i>	28	6.61 (2.40)	88	7.46 (1.70)	< .05	.45
Prosocial and Helping Behaviour	26	4.42 (3.26)	86	5.31 (3.12)	ns	.28
Aggressive Behaviour	28	1.49 (2.66)	88	0.79 (1.66)	< .10	.36
Anxious and Fearful Behaviour	28	4.58 (3.84)	88	2.84 (3.20)	< .05	.52
Hyperactivity and Inattention	28	2.26 (2.41)	88	2.05 (2.68)	.ns	.08
<i>Language and Cognitive Development</i>	26	4.99 (3.06)	84	6.10 (2.46)	< .10	.42
Basic Literacy Skills	26	5.51 (4.10)	87	7.01 (3.30)	< .10	.43
Interest in Literacy/Numeracy/Memory	28	8.10 (3.56)	87	8.95 (2.43)	ns	.31
Basic Numeracy Skills	28	2.20 (2.80)	87	3.43 (2.67)	< .05	.45
<i>Communication &amp; General Knowledge</i>	28	5.00 (3.77)	88	6.31 (3.32)	< .10	.38

Note. ns = non significant.

Table 10

*Monte Carlo Permutation Test Results for Differences in Teacher Reported School Readiness Based on Participation in Centre-based Childcare*

Domain	Centre Based Care		No Centre Based Care		<i>p</i>	<i>d</i>
	<i>n</i>	Mean (SD)	<i>n</i>	Mean (SD)		
<i>Physical Health &amp; Well-being</i>	172	7.92 (2.03)	52	7.27 (2.05)	< .05	.32
Gross and Fine Motor Skills	159	6.88 (3.08)	49	5.54 (2.89)	< .01	.44
<i>Social Competence</i>	172	7.74 (1.98)	52	6.76 (2.38)	< .01	.47
Overall Social Competence with Peers	172	6.49 (2.98)	52	5.67 (2.81)	< .10	.28
Responsibility and Respect	172	8.00 (2.50)	52	7.34 (2.84)	ns	.26
Approaches to Learning	172	7.83 (2.63)	52	6.60 (3.08)	< .01	.45
Readiness to Explore New Things	167	8.60 (1.96)	48	7.26 (2.56)	< .001	.64
<i>Emotional Maturity</i>	170	7.08 (1.93)	52	6.43 (2.12)	< .05	.32
Prosocial and Helping Behaviour	151	5.60 (3.07)	44	4.41 (3.12)	< .05	.39
Aggressive Behaviour	165	1.32 (2.36)	50	1.58 (2.39)	ns	.11
Anxious and Fearful Behaviour	172	3.90 (3.57)	52	4.74 (3.62)	ns	.24
Hyperactivity and Inattention	172	2.26 (2.55)	52	2.47 (3.09)	ns	.08
<i>Language and Cognitive Development</i>	159	6.12 (2.59)	50	4.21 (2.88)	< .001	.72
Basic Literacy Skills	167	7.13 (3.33)	51	5.03 (3.96)	< .001	.60
Interest in Literacy/Numeracy/Memory	170	8.87 (2.65)	50	6.80 (3.98)	< .001	.69
Basic Numeracy Skills	169	3.15 (2.92)	51	1.73 (2.56)	< .01	.50
<i>Communication &amp; General Knowledge</i>	172	5.99 (3.47)	52	4.46 (3.21)	< .01	.45

*Note.* ns = non significant.

## X. Appendix D: Additional Results from Wave 1

### A. Background

In addition to the core measure of school readiness (i.e., S-EDI), 18 additional items were included in the teacher questionnaire to assess several further components of school readiness. These additional items measured school readiness as characterised by the following five behavioural domains: *aggressive behaviour*, *oppositional/defiant behaviour*, *hyperactivity/inattention*, *anxiety*, and *prosocial behaviour*. These questions were asked to teachers and caregivers in Wave 1 of CPSE data collection. Sample items are presented in Table 1.

Table 1  
*Sample Items of the Additional Behavioural Items Analysed in Wave 1*

Domain	Number of Items	Example Items
<i>Aggressive Behaviour</i>	3	Physically attacks people; kicks, hits or bites other children
<i>Oppositional/Defiant Behaviour</i>	3	Refuses to comply with rules or requests; punishment doesn't seem to change his/her behaviour
<i>Hyperactivity/Inattention</i>	6	Has difficulty waiting his/her turn in games; is inattentive; unable to concentrate or pay attention for long
<i>Anxiety</i>	3	Too fearful or anxious; worries
<i>Prosocial Behaviour</i>	3	Tries to help someone who has been hurt; helps other children who are feeling sick

These items were included as they are present in the 5-year old follow-up of the Irish *Lifeways Cross-Generation Cohort Study* which was conducted in 2007.<sup>13</sup> As there were no comparable data on the S-EDI available in Ireland, including these additional items enables a comparison

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<sup>13</sup> *The Lifeways Cross Generational Cohort Study* is a cross-generation cohort study comprising three generations of the same family. Its goal is to identify opportunities for development, change and improvement in the healthcare and well-being of the Irish population. The aim of this cohort study is a) to record physical and psychological health status and socio-economic circumstances in individuals at birth, during childhood, early childhood and early middle age in Ireland, b) to follow such individuals prospectively in order to measure their changing health status, c) and assess the extent to which that relates to their social circumstances. Between October 2001 and Jan 2003, 1124 pregnant women were recruited in the ante-natal clinics of the Coombe Hospital Dublin and University College Hospital, Galway. 1088 babies were born to 1076 mothers. Fathers (n=331), maternal grandparents and paternal grandparents (n=1231) were subsequently recruited. The study is now comprised of 520 three-generation families. Data includes; baseline lifestyle information on mothers, fathers and grandparents; electronic mother and child ante-natal/birth hospital records; grandparent examination and biological data; patient-held records for a sub-sample of children; general practice follow-up data and immunisation records of all infants/children. This cohort has been followed for five years to date.

between the CPSE cohort and a representative sample of Irish children on several dimensions related to school readiness.

## **B. Behavioural Item Comparisons**

By including the additional behavioural questions, comparisons on behavioural domains were made to a representative Irish sample, which is beneficial given potential social, economic, and cultural differences between not only Ireland and Canada, but also disadvantaged and non disadvantaged populations. The results of this analysis are summarised below. Statistical results of these comparisons are presented in Table 2.

### **1. CPSE Teacher Reported Additional Behavioural Domains**

CPSE teachers rated the prosocial behaviour domain highest, with hyperactive/inattentive behaviour receiving the second highest rating. Teacher reports of anxious and oppositional/defiant behaviours were rated slightly lower. Finally, teacher ratings were lowest in terms of aggression.

### **2. CPSE Parent Reported Additional Behavioural Domains**

Similar to the teacher reports, prosocial behaviour received the highest score in terms of parent ratings. Parent rated oppositional/defiant and hyperactive/inattentive domains were rated similarly with the second highest scores. Finally, parent ratings show that children display few anxious and aggressive behaviours.

### **3. Teacher and Parent Reported Additional Behavioural Domains**

Significant differences emerged between teacher and parent ratings of oppositional/defiant behaviour, hyperactive/inattentive behaviour, anxious behaviour, and prosocial behaviour, such that parents rated children in the 2008-2009 CPSE cohort as displaying more oppositional and defiant behaviours as well as more prosociality compared to teachers. Teachers, on the other hand, rated children as displaying more hyperactivity/inattention and anxiety. No significant differences were observed between the parent and teacher ratings of aggression.

### **4. CPSE Teacher and *Lifeways* School Reported Behaviours**

As part of the *Lifeways Cross Generational Cohort Study* parents were asked to rate the frequency of their child's behaviours as they occur separately in the home setting and the school setting. This section compares parent reports of children's behaviours in school using the *Lifeways* data and teacher ratings of the CPSE cohort.

Similar to the teachers in the CPSE cohort, parents from the *Lifeways* study rated their children highest on the prosocial domain and lowest on displaying aggressive behaviour. On the remaining domains, the *Lifeways* parents rated their children relatively low compared to the teacher ratings of the children in the CPSE cohort. Group differences between children in the *Lifeways* study and children in the CPSE cohort were significant across all additional

behavioural domains. Children in the *Lifeways* study were rated as being less aggressive, less oppositional/defiant, less hyperactive/inattentive, less anxious, and more prosocial in a school setting than teacher ratings of children in the CPSE cohort.

## 5. CPSE Parent & Matched Education *Lifeways* Home Reported Behaviours

To facilitate comparisons with a similar Irish demographic, a subset of the *Lifeways* cohort was compared to a subset of the CPSE cohort. These subsets were created based on the respondent's highest level of education obtained. Observations were included if the respondent's highest level of education was less than a Junior Certificate qualification. Therefore, the comparisons are among those with the lowest education in both samples. Using this categorisation, parent rated behavioural domains of the CPSE cohort were compared to the parent ratings of the *Lifeways* cohort at home. Significant differences emerged on several of the domains. Specifically, parents rated children in the CPSE cohort as less aggressive and anxious, however there was a trend for parents in the CPSE cohort to rate children as more hyperactive/inattentive and prosocial than children in the *Lifeways* cohort.

Table 2

*Wilcoxon signed-rank results for comparisons between ratings on additional behavioural domains*

Domain	n	Mean	SD	n	Mean	SD	z	p
<b>CPSE Parent vs. CPSE Teacher</b>		<b>Parent</b>		<b>Teacher</b>				
Oppositional/Defiant Behaviour	94	3.16	2.38	101	2.24	3.16	3.27	**
Hyperactive/Inattentive Behaviour	92	3.29	2.32	101	4.82	3.34	-3.56	***
Anxious Behaviour	92	1.10	1.78	101	2.64	2.76	-5.07	***
Prosocial Behaviour	91	8.05	2.20	78	5.22	2.74	5.39	***
<b>Lifeways School vs. CPSE teacher</b>		<b>Lifeways</b>		<b>CPSE</b>				
Aggressive Behaviour	544	0.56	1.26	89	1.46	2.41	3.54	***
Oppositional/Defiant Behaviour	534	0.87	1.72	101	2.24	3.16	3.65	***
Hyperactive/Inattentive Behaviour	533	1.54	2.02	101	4.82	3.34	6.47	***
Anxious Behaviour	537	1.68	2.14	101	2.64	2.76	2.78	**
Prosocial Behaviour	530	6.62	2.85	78	5.22	2.74	-3.53	***
<b>Lifeways Home vs. CPSE Parent (low education subset)</b>		<b>Lifeways</b>		<b>CPSE</b>				
Aggressive Behaviour	83	2.87	2.36	67	1.27	1.90	-3.76	***
Hyperactive/Inattentive Behaviour	85	2.44	2.16	66	3.28	2.29	1.69	†
Anxious Behaviour	85	2.20	2.09	67	1.04	1.66	-3.46	***
Prosocial Behaviour	81	7.08	2.94	67	7.85	2.33	1.79	†

†  $p < .10$ ; \*  $p < .05$ ; \*\*  $p < .01$ ; \*\*\*  $p < .001$



## C. Monte Carlo Permutation Tests Results

**Child Age:** Interestingly, in terms of the additional behavioural items, child age was negatively associated with the prosocial behaviour domain ( $r=-.032$ ,  $p<.01$ ), suggesting that the younger children exhibit higher levels of prosociality than older children.

*Note that significant results are presented in Table 3.*

**Child Gender:** In terms of the additional behavioural items, teachers rated boys as displaying significantly more aggression and less prosocial behaviour compared to girls. Gender differences in oppositional/defiant behaviour, hyperactive/inattentive behaviour, and the anxious behaviour domains did not reach significance.

**Presence of Siblings:** In terms of the additional behavioural items, children with no siblings are rated as displaying significantly less oppositional/defiant behaviour and trends reveal that these children also display fewer hyperactive/inattentive behaviours. Differences in the aggressive behaviour, anxious behaviour, and prosocial behaviour did not reach significance.

**Relationship Status:** Differences in the additional behaviour domains of aggressive behaviour, oppositional defiant behaviour, hyperactive/inattentive behaviour, anxious behaviour, and prosocial behaviour did not reach significance.

**Respondent Age:** Differences in the additional behavioural domains based on parent's age did not reach significance.

**Respondent Education:** In terms of the additional behavioural items, children of parents in the low education group are significantly more aggressive, oppositional/defiant, and hyperactive/inattentive than children of parents in the higher education group. Differences in anxious and prosocial behaviour did not reach significance.

**Employment Status:** In terms of the additional behavioural items, children of employed mothers were rated as displaying fewer oppositional/defiant behaviours and there was a trend to suggest that these children display lower levels of hyperactivity/inattention than children of non employed mothers. Differences in aggressive behaviour, anxious behaviour, and prosocial behaviour did not reach significance.

**Social Welfare Dependency:** Similarly, significant differences emerged in relation to the additional behavioural items, showing that children in welfare dependent households are displaying more problematic behaviour in school than children from families not in receipt of social welfare payments. Specifically, children of families in receipt of social welfare payments display more oppositional/defiant behaviour and hyperactive/inattentive behaviour. Additionally, trends in the data show that such children display more aggression than their classmates not in receipt of social welfare, which is in line with findings from the S-EDI. Differences in anxious and prosocial behaviour did not reach significance.

**Centre-based Childcare:** Although fewer differences emerged in terms of the additional behavioural items, children who attended centre-based care were rated by teachers as displaying fewer opposition/defiant and hyperactive/inattentive behaviours. Differences in aggressive behaviour, anxious behaviour, and prosocial behaviour did not reach significance.

Table 3  
Monte Carlo Permutation test results for group differences in school readiness

Domain	n	Mean	SD	n	Mean	SD	Significance Level
<b>Gender</b>		<b>Male</b>		<b>Female</b>			
Aggressive Behaviour	52	1.91	2.74	37	0.83	1.71	*
Prosocial Behaviour	42	4.54	2.82	36	6.02	2.46	*
<b>Presence of Siblings</b>		<b>No Siblings</b>		<b>Siblings</b>			
Oppositional/Defiant Behaviour	16	0.52	2.08	74	2.08	3.16	*
Hyperactive/Inattentive Behaviour	16	3.37	3.67	74	4.94	3.24	†
<b>Parental Education</b>		<b>Low Education</b>		<b>High Education</b>			
Aggressive Behaviour	19	3.07	3.43	57	1.01	1.92	**
Oppositional/Defiant Behaviour	25	3.43	3.47	62	1.84	2.88	*
Hyperactive/Inattentive Behaviour	25	6.37	2.79	62	4.06	3.28	**
<b>Maternal Employment Status</b>		<b>Employed</b>		<b>Not Employed</b>			
Oppositional/Defiant Behaviour	35	1.36	2.48	49	2.77	3.37	*
Hyperactive/Inattentive Behaviour	35	3.71	3.19	49	5.10	3.35	†
<b>Social Welfare Dependency</b>		<b>In Receipt of Social Welfare</b>		<b>Not in Receipt of Social Welfare</b>			
Aggressive Behaviour	45	1.94	2.95	24	0.76	1.63	†
Oppositional/Defiant Behaviour	54	2.64	3.31	25	1.00	2.04	*
Hyperactive/Inattentive Behaviour	54	5.09	3.32	25	3.30	3.05	*
<b>Centre-Based Childcare</b>							
Oppositional/Defiant Behaviour	67	1.89	2.86	16	3.65	3.73	*
Hyperactive/Inattentive Behaviour	76	4.31	3.27	16	6.20	3.29	*

†  $p < .10$ . \*  $p < .05$ . \*\*  $p < .01$ . \*\*\*  $p < .001$ .