Report on Children's Profile at School Entry
2008-2012

EVALUATION OF THE

'PREPARING FOR LIFE'

EARLY CHILDHOOD

INTERVENTION PROGRAMME

By

UCD GEARY INSTITUTE

March 2012

The full version of the reports for Waves 1 to 3 are available upon request or may be downloaded from http://geary.ucd.ie/preparingforlife/.

UCD Geary Institute,
University College Dublin,
Belfield, Dublin 4, Ireland

T +353 1 716 4637
F +353 1 716 1108
E-mail: geary@ucd.ie

Preparing for Life
Bell Building
Darndale/Belcamp Village Centre,
Dublin 17

T +353 1 877 1509
F +353 1 877 1596
E-mail: info@preparingforlife.ie

Table of Contents

List of Tables

List of Figures

List of Appendix Tables

Appendix A: Instruments: Example Items

Appendix B: Descriptive Statistics

Appendix C: Results

Acknowledgements

The *Preparing for Life* Team and the UCD Geary Institute would like to thank all those who participated in and supported this research.

This research could not happen without the co-operation of the parents/families who agreed to participate and the junior infant teachers who acted as the link with the families. We would like to acknowledge the principals and boards of management of the three schools Our Lady Immaculate, Darndale, St. Francis, Priorswood and St. Joseph's, Bonnybrook for supporting the project. We also sincerely thank the parents and junior infant teachers for the time they took to complete the survey questionnaires.

Preparing for Life would particularly like to thank the UCD Geary Institute Team (Ailbhe Booth, Maria Cosgrave, Edel McGlanaghy, Eylin Palamaro Munsell, Keith O'Hara and John Regan) under the direction of Dr. Orla Doyle, for their work in analysing the data gathered and writing up this report. We also thank Vicky Monkhouse for her role in liaising between the schools and the research team. Dr. Orla Doyle also would like to thank the Offord Centre for Child Studies, McMaster University for providing their assistance in coding the data obtained.

We also again thank our funders The Atlantic Philanthropies and the Department of Children and Youth Affairs for their on-going support of Preparing for Life and acknowledge the advice and guidance given by staff of both organisations. We thank the Northside Partnership and Preparing for Life boards for their on-going support. We also thank our Expert Advisory Committee for their technical support and guidance.

Finally we are most grateful to the St. Stephen's Green Trust for provided the funding to publish this report.

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 several designated disadvantaged communities 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 1) indicate the general level of school readiness of children attending schools in the *PFL* catchment area, 2) indicate whether the *PFL* programme is generating positive externalities, and 3) serve as a baseline measure of school readiness for the *PFL* cohort.

CPSE Methodology

The CPSE is conducted between October and December of each year starting in 2008 and continuing through 2013. Four 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), 98% and 78% (Wave 2), 100% and 81% (Wave 3), and 100% and 81% (Wave 4), respectively, resulting in a total CPSE cohort of 448 children. Thus, the response rates are high and have been improving over time.

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* domain by teachers and were rated lowest on the *language and cognitive development* domain by caregivers.

- Approximately 50% of children in the CPSE Wave 1 cohort were performing *above* the Canadian norm in terms of *physical health and well-being* and *social competence*. Approximately 70% of children were rated *below* the 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 fewer than 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 Wave 2 of the CPSE cohort were performing *above* the norm in terms of *social competence*. Approximately 55% to 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, demonstrating specific areas of weakness for a large portion of the CPSE Wave 2 cohort.

- About 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, and less than 7% scored low on three or more domains.

School Readiness in the Wave 3 (2010-2011) CPSE Cohort

- Teachers rated children in the CPSE Wave 3 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 on the *physical health and well-being, social competence,* and *communication and general knowledge* domains. However, caregivers rated children significantly *lower* than the Canadian norm on the domains of *emotional maturity* and *language and cognitive development*, representing a change from previous years.

- Children were rated highest on the *physical health and well-being* domain by both teachers and caregivers, while they were rated lowest on the *communication and general knowledge* domain by teachers and were rated lowest on the *language and cognitive development* domain by caregivers.

- Fifty percent of children in the CPSE Wave 3 cohort were performing *above* the Canadian norm in terms of *social competence,* approximately 40% of children were rated *above* the norm on the *physical health and well-being* and *emotional maturity* domains, while 70% were rated *below* the Canadian norm on the *language and cognitive development* and *communication and general knowledge* domains. Together with the results from Waves 1 and 2, these findings identified certain areas of weakness for a large number of children attending schools in the *PFL* catchment area.

- Approximately 15% of children scored in the lowest 10% of the entire CPSE cohort on one of the five S-EDI domains and a further 4% scored low on two domains, with 5% scoring low on three or more domains of school readiness.

School Readiness in the Wave 4 (2011-2012) CPSE Cohort

- Teachers rated children in the CPSE Wave 4 cohort as displaying significantly *lower* levels of school readiness than a Canadian norm on the *physical health and well-being, emotional maturity, language and cognitive development* and *communication and general knowledge* domains, while caregivers rated children as displaying significantly *higher* levels of school readiness than a Canadian norm on the *physical health and well-being, social competence, emotional maturity* and *communication and general knowledge* domains. However, similar to Wave 3, caregivers rated children significantly *lower* than the Canadian norm on the *language and cognitive development* domain.

- Children were rated highest on the *social competence* domain by teachers and on the *physical health and well-being* domain by caregivers, while they were rated lowest on the *language and cognitive development* domain by both teachers and caregivers.

- Sixty percent of children in the CPSE Wave 4 cohort were performing *above* the Canadian norm in terms of *social competence*, approximately 43-46% of children were rated *above* the norm on the *physical health and well-being*, *emotional maturity* and *communication and general knowledge* domains, while 70% were rated *below* the Canadian norm on the *language and cognitive development* domain. Together with the results from Waves 1, 2 and 3 these findings identified certain areas of weakness for a large number of children attending schools in the *PFL* catchment area.

- Approximately 12% of children scored in the lowest 10% of the entire CPSE cohort on one of the five S-EDI domains and a further 11% scored low on two domains, with 6% scoring low on three or more domains of school readiness.

Differences in School Readiness between the Cohorts

Figures 1 and 2 illustrate no clear similarities in the patterns of mean scores across the four waves of data collection. According to teacher reports, children in Waves 2 and 3 were rated as displaying significantly higher levels of *emotional maturity* than children in Wave 1. However, according to caregiver reports, children in Waves 1, 2 and 4 were rated as displaying significantly more *emotional maturity* than children in Wave 3. Caregivers rated children in Wave 1 significantly higher in the *language and cognitive development* domain than children in Wave 3. Teachers rated children significantly higher in the *social competence* domain in Wave 4 than children in Waves 1 and 3. While this suggests some differences in school readiness skills between the cohorts, we cannot conclude that this is a result of externalities from the *PFL* programme as it also may be driven by differences in teacher and caregiver reporting or cohort effects.

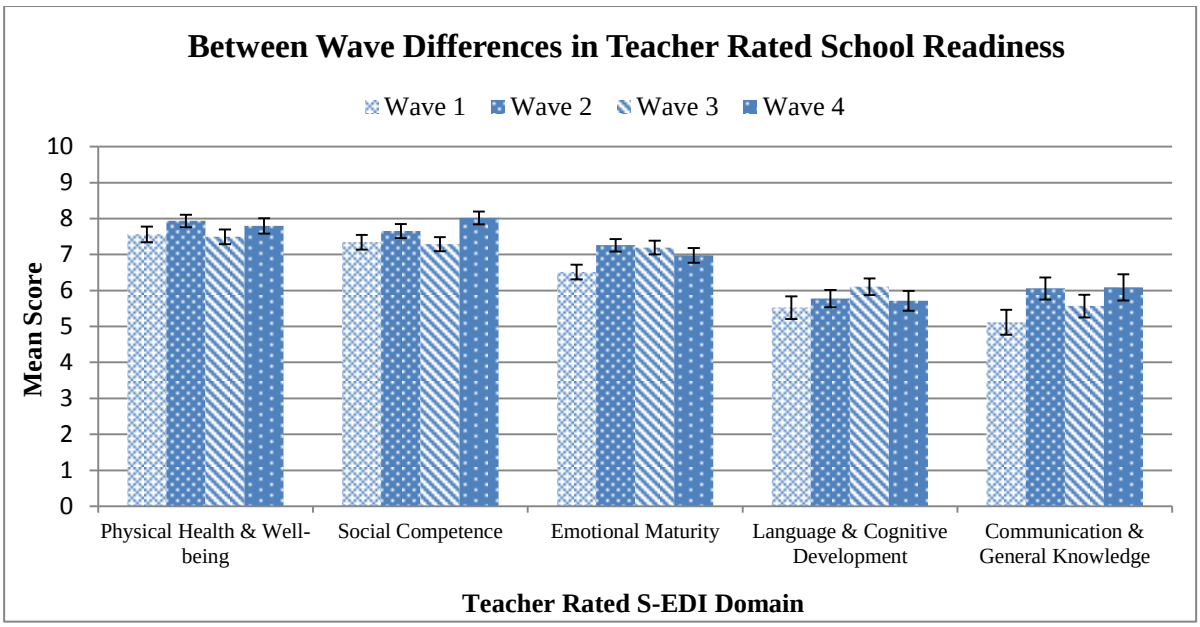

Figure 1. Between wave differences on teacher rated S-EDI school readiness domains.
Error bars represent the standard error of the mean and can be used to visually evaluate differences between two means. Specifically, if the error bars for two means do not overlap, it is a good indication that these two means are statistically different from each other.

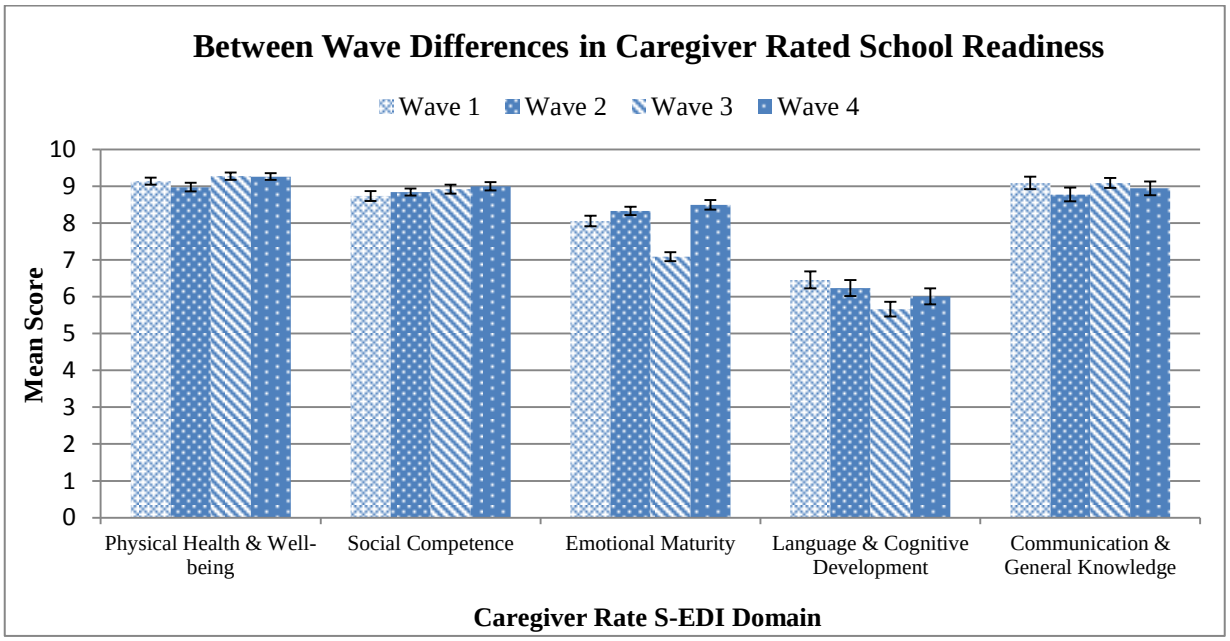

Figure 2. Between wave differences on caregiver rated S-EDI school readiness domains. Error bars represent the standard error of the mean and can be used to visually evaluate differences between two means. Specifically, if the error bars for two means do not overlap, it is a good indication that these two means are statistically different from each other.

Importance of School Readiness Domains

Examining the importance placed on the five school readiness domains revealed differences in teacher and caregiver perceptions. Specifically, the largest percentage of teachers (34%) indicated that emotional maturity was the *most important* domain and 37% of teachers indicated that *physical health and well-being* was the *least important* domain for a child's school readiness. Caregiver ratings, on the other hand, showed a distinctly different pattern. The largest percentage of caregivers (39%) rated the *physical health and well-being* domain as *most important* for a child's school readiness and 30% of caregivers rated the *language and cognitive development* domain to be the *least important* developmental area. This divergence in teacher and caregiver values may represent differential capabilities that are focused on in the home and in the school environment. Exposure to diverging messages about the skills which are important for school success may adversely affect children's school readiness.

Subjective School Readiness

Teachers in Waves 2, 3 and 4 of the CPSE cohort indicated that approximately 50% of children were *definitely ready* for school when they started in September. This is consistent with teacher ratings in the 2004-2005 cohort (Kiernan et al., 2008), suggesting that there have been few improvements in children's school readiness, as reported by teachers, in the *PFL* communities over a six year period.

Group Differences in School Readiness

The report also investigated differences in school readiness scores across a range of socio-demographic, health, and environmental factors. For these analyses, data from Wave 1, Wave 2, Wave 3 and Wave 4 were combined. Teacher rated differences reported here are significant at the 5% level or below.

- Girls were reported to have greater *physical health and well-being*, to be more *socially competent*, more *emotionally mature*, have better *language and cognitive development* and to display higher levels of *communication and general knowledge* than boys.

- Children with no siblings were rated as being more *physically healthy* and *socially competent*, have better *language and cognitive development* and to display higher levels of *communication and*

general knowledge compared to children with at least one sibling. Additionally, the number of siblings was found to be negatively associated with *all five* domains of school readiness.

- Children of caregivers with relatively higher levels of education were rated as being more *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 caregivers in paid work 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 in paid work.

- Children of caregivers not in receipt of social welfare payments were rated as being more *socially competent* and *emotionally mature* than children of caregivers in receipt of social welfare payments.

- Children of caregivers who reported low levels of depressive symptomology displayed higher levels of *emotional maturity* than children of caregivers who reported high levels of depressive symptomology.

- Differences in school readiness scores based on caregivers' relationship status, age, mental well-being and self-rated health did not reach significance.

- The majority of children (82%) in the cohort had experienced some form of centre-based childcare prior to school entry. Children who spent any amount of time in centre-based childcare prior to school entry were rated higher than children who did not experience any centre-based childcare in the domains of *language and cognitive development and communication and general knowledge*. Additionally, longer duration in centre-based childcare was associated with higher ratings in *all five* domains.

Factors Associated with School Readiness

A multivariate analysis was conducted with the combined cohort data from Waves 1 to 4 to assess the impact of multiple factors relevant to school readiness. Only child gender was associated with all domains of school readiness, with male children displaying lower ratings on *all five* domains. Several unique relationships were also identified. Specifically, being an older child was associated with an increase in *social competence* ratings. Children without siblings displayed higher levels of *physical health and well-being* and *communications and general knowledge.* Children of caregivers with higher levels of education showed higher levels of *language and cognitive development*, and children of caregivers in paid work evidenced higher levels of *communication and general knowledge*, while holding all other variables constant. Finally, children of caregivers who are in receipt of social welfare payments displayed lower levels of *social competence* and *emotional maturity*.

Parenting Behaviours and School Readiness

Several significant relationships between authoritative, authoritarian and permissive parenting behaviours and teacher reported school readiness were present in the CPSE cohort. Authoritative parenting was negatively associated with *responsibility and respect* and positively associated with *aggressive behaviour*. Authoritarian parenting was positively associated with *aggressive behaviour* and *anxious and fearful behaviour*, and negatively associated with *overall social competence with peers* and *basic literacy skills*. Permissive parenting was negatively associated with *approaches to learning;* and positively associated with *aggressive behaviour* and *anxious and fearful behaviour.*

Conclusion

Based on teacher assessments of school readiness, the children in the *PFL* catchment area were 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 cohort, with sub-groups of children performing above the Canadian norm. There is some evidence suggesting that the Wave 4 cohort were performing above the Wave 1, 2 and 3 cohorts in terms of teacher rated social competence. There also is evidence signifying that the Wave 2, 3 and 4 cohorts were performing above the Wave 1 cohort in terms of *emotional maturity*, however, overall the same pattern of results emerged between waves. Combining the data from all four waves allowed for better investigation of the factors associated with school readiness. Only one factor was related to all five domains of school readiness - child age. The presence of siblings and being in receipt of social welfare payments had a significant impact on two of the school readiness domains. The report will be amended annually until 2013 to include the results of each consecutive 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 several designated disadvantaged communities 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 this survey, 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 five year school readiness intervention starting in pregnancy and lasting until the children start school. The programme is jointly funded by The Atlantic Philanthropies and the Department of 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 preschool and public health information, as well as the services of a support worker. In addition, 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 start school, and:

1) Indicates the general level of school readiness of children in the *PFL* catchment area.

2) Indicates 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 improved levels of school readiness).
3) Serves as a baseline measure of school readiness for the *PFL* cohort.

B. Overview of Report

This report describes the results from the first four years of the annual CPSE survey. The report will be amended annually until 2013 to include the results of each consecutive data collection wave. In addition to comparing annual changes in levels of school readiness, the report also examines relationships between teacher reported school readiness and socio-demographic, health, and environmental 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, 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. Key factors include child health, family factors, emergent literacy practices, early childhood care and education, school transitional practices, as well as community, neighbourhood, and media effects (Halle, Zaff, Calkins, & Geyelin-Margie, 2000).

C. Importance of School Readiness

School readiness is important across a wide range of developmental areas as 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 a complete review of the definition, determinants, and importance of school readiness please refer to the full report from the first year of the CPSE project (2008-2009) 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 living in the area. Data were collected annually beginning in the 2008-2009 school year.

Wave 1: Data for Wave 1 of the CPSE were collected during October, November, and 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, and December of the 2009-2010 academic year. A few additions were made to the Wave 2 survey. Specifically, questions assessing the caregivers' mental well-being, subjective perceptions of general health, and teacher and caregiver perceptions of the Junior Infant child's school readiness when he/she began school in September of that academic year, were added to the questionnaire.

Wave 3: Data for Wave 3 of the CPSE were collected during October, November, and December of the 2010-2011 academic year. Two additions were made to the Wave 3 survey. Specifically, questions assessing the caregivers' depressive symptoms were added and secondly, teachers and caregivers were asked to identify the area of development they perceived to be most important and the area of development they perceived to be the least important for a child's school readiness.

Wave 4: Data for Wave 4 of the CPSE were collected during October, November, and December of the 2011-2012 academic year. No additional changes were made to the Wave 4 survey.

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

Caregivers were recruited via their child's teacher. The paper and pen questionnaire took approximately 30 minutes for the caregiver to complete. The questionnaire consisted of questions regarding socio-demographic and household information, caregiver health and well-

being, child school readiness, and parenting behaviour. Although the vast majority of respondents (93%) were the biological mother of the CPSE children, one grandmother and six bioloigical fathers also completed the caregiver questionnaire. For these cases, the Junior Infant child resided in the same house as the respondent, therefore it was assumed that the respondent played a primary caregiving role for the child and was knowledgeable about the child's behaviours. Thus, these data were retained.

2. Eligibility

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

Wave 2: All teachers and caregivers of Junior Infant children attending schools in the original and the extended *PFL* catchment area 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 gave 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 did not reside in the area themselves, but were attending schools in the area, also were asked to participate.

Wave 3: All teachers and caregivers of Junior Infant children attending the three primary schools in the original and the extended *PFL* catchment area were eligible for participation in the study. Note that these are the same three schools represented in Wave 2. Primary caregivers gave consent to complete the questionnaire themselves and also for their child's teacher to complete

the questionnaire. As in Waves 1 and 2, caregivers of children who did not reside in the area themselves, but were attending schools in the area, also were asked to participate.

Wave 4: All teachers and caregivers of Junior Infant children attending the three primary schools in the original and the extended *PFL* catchment area were eligible for participation in the study. These are the same three schools represented in Wave 2 and Wave 3. Primary caregivers gave consent to complete the questionnaire themselves and also for their child's teacher to complete the questionnaire. As in previous waves, caregivers of children who did not reside in the area themselves, but were attending schools in the area, also were asked to participate.

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.

Wave 3: There were a total of 131 eligible students across three schools. In total, 106 caregiver questionnaires were returned resulting in a response rate of 81%. In addition, 110 (84%) caregivers gave consent for the teacher to complete the survey regarding their child and 110 of these teacher questionnaires were completed, resulting in a teacher response rate of 100%, capturing teacher data for 84% of eligible children.

Wave 4: There were a total of 130 eligible students across three schools. In total, 105 caregiver questionnaires were returned resulting in a response rate of 81%. Of the 130 eligible students,

106 parents gave consent for the teacher to complete the survey regarding their child and 106 (100%) of these questionnaires were completed.

4. Participation in the PFL Programme

One of the goals of the annual CPSE survey is to indicate whether the *PFL* programme is generating positive externalities, that is, whether the benefits of participating in the *PFL* programme are passed on to older siblings in the family, resulting in improved school readiness. Thus, it is first important to determine whether families participating in the CPSE survey also are participating in the *PFL* programme. Although the number of families participating in both the CPSE survey and the *PFL* programme has increased throughout each wave of data collection, the number remains small. Specifically, two families (2.41%) in Wave 1 were participating in the *PFL* programme, four (3.28%) in Wave 2, eight (8.08%) in Wave 3, and 15 (15.15%) families in Wave 4 were participating in the *PFL* programme at the time of CPSE data collection. It is expected that this number will increase in the coming years as the *PFL* cohort start school. For example, it is anticipated that 61 children enrolled in the *PFL* programme will be eligible to enter Junior Infants in September, 2013, with numbers increasing to 90 in September, 2014, and the final 31 children enrolled in the *PFL* programme eligible to enter Junior Infants in September, 2015.

B. Instruments

1. Teacher Demographics

Teachers were asked a number of demographic questions including their age, professional qualifications, how long they had been teaching in general, how long they had been teaching at their current school, and how long they had 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

Caregiver health has been identified as important for children's school readiness. Thus, two measures of the caregiver health were added to the survey beginning with Wave 2. 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, such as *I have felt cheerful and in good spirits* and *I woke up feeling fresh and rested,* 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 scoring range from zero to 25, with lower scores, particularly those below 13, indicative of poor well-being.

In addition, the Center for Epidemiologic Studies Depression Scale (CES-D; Radloff, 1977) was used, beginning in Wave 3, to measure caregiver self-reported depressive symptomology. The CES-D comprises 20 items assessing various depressive symptoms such as depressed mood, feelings of guilt, feelings of hopelessness, loss of appetite, and sleep disruptions. Caregivers were presented with these items and asked to indicate, on a scale ranging from *rarely or none of the time* to *most or all of the time*, how often they had felt or acted that way in the previous week. Item responses were summed, providing a range of scores from zero to 60, with higher scores, particularly those above 15 indicative of greater depressive symptomology.

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*. Responses to this question range from one to five with higher scores representative of better self-reported health.

4. Parenting

Parenting was assessed using 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 and yields scores related to the traditional Baumrind (1966; 1967; 1971) parenting styles. Caregivers were asked to indicate how often they performed certain behaviours on a five point scale ranging from

never to *always*. This measure provided scores on three domains regarding caregivers' average use of authoritative parenting, authoritarian parenting, and permissive parenting behaviours. The *authoritative* domain is composed of items related to connection, regulation, and autonomy. The *authoritarian* domain comprises items assessing physical coercion, verbal hostility, and non-reasoning/punitive behaviours. Lastly, the *permissive* domain contains items such as *'states punishments to child and does not actually do them*,' and *'spoils child.*' Examples of these items are presented in Table 1 of Appendix A.

5. School Readiness

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 OCCS has established normative data for the EDI which sets a representative benchmark for comparison of data from projects using the instrument. Research comparing the predictive capability of the EDI with direct assessments of school readiness has shown that the EDI predicts school achievement in early childhood as accurately as direct assessments of school readiness (Fantuzzo, Bulotsky-Shearer, Fusco, & McWayne, 2005). The EDI is used regularly across Canada and has been used in many countries including the United States of America, Australia, Chile, Holland, Jamaica, Kosovo, and New Zealand.

Teachers and caregivers in all CPSE waves completed a short form version of the full 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 and retaining the three highest loading items for each of the school readiness subdomains. The S-EDI is composed of 48 core items and provides scores in five domains and 15 subdomains of school readiness. The *physical health and well-being* domain is composed of three subdomains including physical readiness for the school day, physical independence, and gross and fine motor skills. The *social competence* domain comprises four subdomains 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 subdomains including prosocial and helping behaviour, aggressive behaviour, anxious and fearful behaviour, and hyperactive and inattentive behaviour. The *language and cognitive development* domain contains four subdomains 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 assessing the child's ability to tell a story, to use language effectively, and 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 behaviours associated with that specific domain. Sample items from this measure are reported in Table 2 of Appendix A.

In addition, one question assessing subjective teacher and caregiver ratings of school readiness was included in Wave 2, Wave 3 and Wave 4 of 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, [relevant academic year]?*' Teachers and caregivers were asked to indicate whether the child was *definitely ready, somewhat ready,* or *definitely not ready* for school. Including this question allowed 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).

6. Importance of School Readiness Domains

Another addition to Wave 3 and Wave 4 of CPSE data collection was teacher and caregiver perceptions of the most and least important aspects of development for a child's school readiness. Specifically, teachers and caregivers were asked *'Which of the areas [below] do you think is the* ***most important*** *and* ***least important*** *for a child's school readiness?'* Respondents were presented with the options of *physical health and well-being, social competence, emotional maturity, language and cognitive development,* and *communication skills and general knowledge.* This question was included as previous research has found that teachers and caregivers often emphasise different areas of school readiness in rating importance. In addition, the results from Waves 1 and 2 of the CPSE indicated divergences in teacher and caregiver reports of school readiness, indicating the relevance of this question for the present cohort.

C. Internal Consistency of Psychometric Measures, Data Imputation, and Testing Procedures

1. Internal Consistency

Combined cohort specific standardised coefficient reliability estimates (Cronbach, 1951) and intercorrelations for the standardised measures used in the CPSE survey are reported in Table 1. Cronbach alpha coefficients represent the internal consistency or reliability of psychometric assessments, or the degree to which all items that comprise a domain or subdomain are measuring the same latent construct. Higher Cronbach alpha coefficients represent greater reliability or internal consistency of items that compose a domain or subdomain.

As this is a measure of internal consistency, item-level listwise deletion was executed for any observations with missing data for any item that comprised a domain or subdomain. Therefore, the number of observations used to calculate the reliability coefficients varies for each reliability estimate. In effect, the number of observations used to calculate each coefficient varies to maximise the information available and to provide the most reliable estimate of internal consistency. As later analyses examining relationships between socio-demographic, health, and environmental factors were calculated at the domain or subdomain level, and because appropriate missing data techniques were used to achieve these domain or subdomain scores, the sample size used in later analyses is significantly larger.

A Cronbach alpha coefficient of .70 or higher is often used as evidence that the items measure a latent construct (Nunnaly, 1978). Overall, the majority of standardised scales reached an acceptable reliability, with many falling above .80. Both caregiver rated measures of well-being (WHO-5 and CES-D) evidenced high reliabilities in this cohort (α>.90) as did the PSDQ parenting domains (α>.70) and, therefore, these parent rated measures were retained in further analyses. As illustrated in Table 1, teacher ratings on the S-EDI demonstrated higher internal consistency, on average, than did parent reports. As the analyses of this report focus on the use of teacher reported child school readiness, teacher rated S-EDI domains and subdomains that did not reach a reliability of .65 or higher were excluded from further analyses. This resulted in the exclusion of three teacher rated school readiness subdomains: physical readiness for the school

day ($\alpha_{Teacher}$=.58), physical independence ($\alpha_{Teacher}$=.53), and advanced literacy skills ($\alpha_{Teacher}$=.56).

2. Data Imputation

Although the amount of missing data in both the teacher and caregiver CPSE surveys was low (less than 5%), interpolation methods were used to account for missing data in the caregiver reported psychometric scales to maximise the sample size retained for analyses. For the PSDQ, WHO-5, and CES-D, missing data were imputed using responses that caregivers provided on other items within that specific standardised scale. The method involved replacing missing items with the group mean for that item and then adjusting for random noise. As responses on the standardised measures were treated as continuous, it was possible to calculate means. Specifically, the average response to a given item was calculated for each of the four waves of data collection. Missing items were then replaced with the corresponding group mean for that wave of data collection. As replacement using only the group mean may lead to under-estimation of the variance, the missing data for standardised scales were imputed using the mean plus a random residual value. No more than 4% of data were imputed for any psychometric scale.

In cases where data were missing on single item measures, observations with missing data were excluded from that analysis. Missing data on the S-EDI measure were handled in line with recommendations by the OCCS. Specifically, 75% of all items for the *social competence*, *emotional maturity*, and *language and cognitive development* domains must be answered to derive a valid score for that domain. Similarly, 66.7% of items on the *physical health and well-being* and *communication and general knowledge* domains must be valid to derive a score for these areas of school readiness. On average, less than 2% of data were missing at the domain level of the teacher rated S-EDI.

3. Testing Procedures

Data analysis for the present report proceeded in three steps. First, an analysis of the level of school readiness in the *PFL* catchment area was conducted, providing a description of the ratings of teacher and caregiver reported school readiness for each wave of data collection. This was followed by a statistical examination of differences in school readiness ratings based on reporter (teacher vs. caregiver) and wave of data collection. Specifically, changes in school readiness

over the three year period were examined. Second, bivariate relationships examining observed differences in teacher ratings of school readiness were explored. As classical hypothesis tests such as the *t*-test, *F*-test, and chi-square test can be unreliable when the sample size is small, bivariate Monte Carlo permutation tests, based on 20,000 replications, were used to test whether the observed differences in S-EDI scores within the variables of interest (e.g., gender (male/female), education (high/low)) were statistically significant while controlling for wave of data collection. Cohen's *d* effect sizes (Cohen, 1988) were calculated to illustrate the size of the effect in terms of the pooled standard deviation adjusted for the sample sizes of groups (e.g., male/female) tested. Additionally, regression analyses examined relationships between continuous variables and teacher rated school readiness while controlling for wave of data collection. Third, in order to test which socio-demographic, health, and environmental factors were the most relevant in the context of school readiness, the factors that evidenced significant relationships in the bivariate Monte Carlo permutation analyses were included in a Seemingly Unrelated Regression (SUR) analysis. The SUR analysis estimated the unique contribution of each variable on all five S-EDI domains simultaneously. Estimating a set of seemingly unrelated regressions jointly as a system yields more efficient estimates than estimating them separately, especially as the correlation among the errors rises and the correlation among the independent variables falls (Green, 2000). Overall, SUR is more appropriate and no less efficient or convenient than estimating individual OLS equations for each outcome variable (Tomz, Tucker, & Wittenburg, 2002). In order to test for the appropriateness of the SUR, the Breusch-Pagan test was performed. The use of SUR was motivated by the fact that it allows the residuals to be correlated across S-EDI domains. If the residuals were independent, then OLS would be a more appropriate technique. The Breusch-Pagan test of independence was performed for the SUR regression in order to test the null hypothesis of the independence of the residuals across equations. A rejection of the null hypothesis provides an indication that had OLS regressions been estimated, the estimates would be inconsistent, therefore justifying the choice of SUR modelling.

Table 1

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

Domain/Subdomain	Teacher Ratings						Caregiver Ratings					
	N	1	2	3	4	5	*N*	1	2	3	4	5
Caregiver Mental Well-being												
1. WHO-5 (high scores = greater well-being)							313	(0.90)	-.60***			
2. CES-D (high scores = greater symptomology)							179	(0.91)				
Child School Readiness												
1. Physical Health & Well-Being	190	(0.76)					365	(.52)				
Physical Readiness for the School Day	389	(0.58)					410	(0.42)				
Physical Independence	423	(0.53)					390	(0.28)				
Gross and Fine Motor Skills	220	(0.80)					422	(0.55)				
2. Social Competence	401	.59***	(0.90)				374	.34***	(0.81)			
Overall Social Competence with Peers	440		(0.82)				413		(0.66)			
Responsibility and Respect	432		(0.84)				407		(0.63)			
Approaches to Learning	440		(0.85)				389		(0.58)			
Readiness to Explore New Things	409		(0.69)				417		(0.75)			
3. Emotional Maturity	287	.56***	.76***	(0.83)			316	.21***	.50***	(0.73)		
Prosocial and Helping Behaviour	309			(0.83)			372			(0.79)		
Aggressive Behaviour[+]	412			(0.87)			399			(0.72)		
Anxious and Fearful Behaviour[+]	426			(0.84)			399			(0.64)		
Hyperactivity and Inattention[+]	440			(0.90)			388			(0.83)		
4. Overall Language & Cognitive Development	254	.55***	.58***	.489***	(0.87)		218	.17***	.32***	.29***	(0.77)	
Basic Literacy Skills	391				(0.70)		369				(0.57)	
Interest in Literacy/Numeracy/Memory	397				(0.76)		292				(0.31)	
Advanced Literacy Skills	392				(0.56)		366				(0.69)	
Basic Numeracy Skills	299				(0.81)		352				(0.58)	
5. Communication & General Knowledge	448	.60***	.61***	.47***	.54***	(0.89)	429	.19***	.39***	.25***	.23***	(0.75)
Parenting Styles and Dimensions												
1. Authoritative Parenting							357	(0.81)				
2. Authoritarian Parenting							372	-.15**	(0.76)			
3. Permissive Parenting							400	-.18***	.37***	(0.72)		

Note. Cronbach standardised reliability coefficients appear in parentheses. N represents the number of observations used to calculate reliabilities for each domain or subdomain and it differs from the number of observations used in later analyses as the standardised reliability coefficients were calculated using listwise deletion at the item level. This resulted in excluding any observations with missing data in any of the items that comprise each domain or subdomain. This technique provided the most appropriate test of internal consistency as only observations in which every item was answered were retained to assess the internal reliability of that domain or subdomain.

[+]These subscales were reverse coded to derive the Emotional Maturity domain.

**p <.01. ***p <.001.

IV. Results

A. CPSE Cohort Descriptive Statistics[1]

1. Teacher Characteristics

In general, primary schools teachers in the *PFL* catchment area do not teach the Junior Infant class consecutively, thus none of the teachers completing the survey in Waves 1 and 2 were the same. However, seven of the nine Junior Infant teachers who participated in Wave 3 also participated in Wave 1 of the CPSE survey and six of the teachers who participated in Wave 4 also participated in previous waves (one in Wave 3, three in Wave 2 and two in Wave 1).

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 (SD[2]=10.92) years old and had been teaching for approximately 11 years. On average, teachers had just over four years of experience teaching Junior Infants. 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, one-third had a primary degree and 8% had a non-degree qualification. All participating teachers were female. Class size information was obtained for 58% (n[3]=7) of the teachers and ranged from 13 to 16 students, with an average of approximately 15 (SD=1.30) students per class.

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

[1] Tables 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 Tables 1 and 2 of Appendix B.
[2] *SD* signifies standard deviation and represents the typical distance of scores from the mean.
[3] *n* represents the number of observations/respondents who endorsed the response indicated.

Wave 3: In the third wave, nine teachers from three schools participated, with seven of them having participated in Wave 1 of data collection. On average, they were 35 (*SD*=9.68) years old, they had been teaching for eight years, they had spent seven years teaching at their current school, and four years teaching Junior Infants. Two-thirds of participating teachers in Wave 3 had a postgraduate qualification, while the remaining one-third had a primary degree. Class size ranged from 13 to 17, with an average of 15 (*SD*=1.33) students per class.

Wave 4: In the fourth wave, nine teachers from three schools completed the online questionnaire for students in their class who had parental consent. On average, they were 38 (*SD*=11.74) years old, they had spent twelve years teaching at their current school, and four years teaching Junior Infants. In Wave 4, one third of the teachers had a postgraduate qualification, 56% had a primary degree and 11% had a non-degree qualification. All participating teachers were female. Class size ranged from 13 to 17, with an average of 14 (*SD*=1.30) 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 (*SD*=5.53) years old 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 (*SD*=6.72) years, and the majority of caregivers described their ethnicity as Irish (87%, *n*=110), while 8% (*n*=10) were 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, and 19% of caregivers in Wave 2 indicated they were unemployed.

Wave 3: A total of 106 caregiver surveys were completed in Wave 3. The majority of respondents (96%, *n*=102) were the biological mothers, their average age was 31 (*SD*=5.86) years old, and the majority described their ethnicity as Irish (92%, *n*=98), and 5% (*n*=5) were Irish Travellers. The highest level of education achieved by over half of caregivers (58%) in Wave 3 was a Junior Certificate or lower. Thirty-five percent of caregivers indicated they were looking after the home or family, 32% were in paid work or a paid training scheme, and 26% of caregivers in Wave 3 indicated they were unemployed.

Wave 4: In the fourth wave of data collection, a total of 105 caregiver surveys were completed. Similar to previous waves, the majority of respondents (93%, *n*=95) were the biological mothers, their average age was 31 (*SD*=6.64) years old, and the majority described their ethnicity as Irish (86%, *n*=86), and 10% (*n*=10) were Irish Travellers. The majority (54%) of caregivers had left education before completing the Leaving Certificate. In terms of employment status, 25% of caregivers indicated they were looking after the home or family, 38% were in paid work or a paid training scheme, and a further 30% of caregivers in Wave 4 described themselves as unemployed.

3. Child Characteristics

Wave 1: The average age of children in the Wave 1 cohort was 4.83 (*SD*=0.46) years old and 57% (*n*=59) were male. Children had been in informal childcare (i.e., being looked after by grandparents, other relatives, or a nanny) for an average of approximately 22 (*SD*=10.1) months and centre-based care for an average of 19 (*SD*=10.3) months. Eighty-seven percent (*n*=87) of participating children in Wave 1 lived in the *PFL* catchment area.

Wave 2: The average age of children in Wave 2 was 4.71 (*SD*=0.43) years and 56% (*n*=74) were male. Children in Wave 2 had been in informal childcare for an average of 35 (*SD*=19.40) months and centre-based care for an average of approximately 21 (*SD*=10.9) months. Eighty percent (*n*=106) of participating children in Wave 2 resided in the *PFL* catchment area.

Wave 3: On average, children in Wave 3 were 4.67 (*SD*=0.40) years old and 57% (*n*=63) were male. Children in Wave 3 had been in informal childcare for an average of approximately 37 (*SD*=32.38) months and centre-based care for an average of 21 (*SD*=10.39) months. Seventy-four percent (*n*=81) of participating children in Wave 3 lived in the *PFL* catchment area.

Wave 4: The average age of children in Wave 4 were 4.70 (*SD=0.44*) years old and 49% (*n=52*) were male. Children in Wave 4 had been in informal childcare for an average of approximately 26 (*SD*=17.25) months and centre-based care for an average of 20 (*SD*=9.74) months. Seventy-seven percent (*n*=81) of participating children in Wave 4 lived in the *PFL* catchment area.

4. Household Characteristics

a) Number of Children and People in Household

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

Wave 2: Similar to Wave 1, approximately five people were living in each household, the respondent had just under three biological children and the Junior Infant child had, on average, 1.61 siblings living in the household.

Wave 3: On average, 4.6 people were living in each household, the respondent had just under three biological children and the Junior Infant child had, on average, 1.61 siblings living in the household.

Wave 4: On average, 4.8 people were living in each household, the respondent had on average 2.6 children and the Junior Infant had, on average, 1.51 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 cohort earned between €200 and €500 per week, with the largest category being those that took home between €300 and €400 per week (20%, *n*=11). The majority of households (69%) in Wave 1 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 reported earning between €200 and €500 per week; with 21% (*n*=15) reporting income between €300 and €400, and another 21% (*n*=15) in the €400 to €500 weekly income bracket. The majority of households (64%) in Wave 2 were in receipt of social welfare payments.

Wave 3: Sixty percent (*n*=64) of respondents provided income information in the third wave of data collection. Sixty-three percent of these respondents reported earning between €200 and €500 per week; with 22% (*n*=14) reporting income between €300 and €400, and another 19% (*n*=12) in the €400 to €500 weekly income bracket. Similar to Waves 1 and 2, the majority of households (74%) in Wave 3 were in receipt of social welfare payments.

Wave 4: Seventy percent (*n*=72) of respondents provided income information in the fourth wave of data collection. Sixty-seven percent of these respondents reported earning between €200 and €500 per week; with 25% (*n*=19) reporting income between €300 and €400, and another 18% (*n*=13) in the €400 to €500 weekly income bracket. The majority of households (81.7%) in Wave 4 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-three percent (*n*=87) of caregivers reported having a medical card, 11% (*n*=12) reported having a GP Visit Card, and 6% (*n*=7) had private insurance.

Wave 3: Seventy-five percent (*n*=76) of caregivers reported having a medical card, 10% (*n*=9) reported having a GP Visit Card, and 4% (*n*=4) had private insurance.

Wave 4: Eighty percent (*n*=79) of caregivers reported having a medical card, 12% (*n*=9) reported having a GP Visit Card, and 7% (*n*=6) had private insurance.

B. Comparison of CPSE Cohort Descriptive Statistics in Waves 1 to 4

Differences between the teacher characteristics across the four waves of data collection did not reach significance. Specifically, differences regarding teacher age, years teaching, years teaching Junior Infants and years teaching at the current school did not reach significance across all waves of data collection, suggesting that the demographic characteristics of teachers were similar throughout each wave. This may be due to the high proportion of the same teachers across waves.[4]

In terms of caregiver characteristics, fewer caregivers in Wave 3 and 4 were at risk of poor well-being ($p<.001$) according to the WHO-5 than caregivers in Wave 2 (note that the WHO-5 was not asked of caregivers in Wave 1). Differences in household characteristics between each wave of data collection did not reach significance, suggesting that the socio-demographic characteristics of families participating in the CPSE surveys were relatively similar across all four years.

[4] As there was overlap in participating teachers, differences in teacher characteristics were further examined controlling for unique teacher effects using clustering. These results did not differ from the analyses presented here and are available upon request.

C. School Readiness in the CPSE Cohorts

Figure 1 illustrates the average teacher and caregiver reported scores on each of the five S-EDI domains compared to a Canadian norm for Waves 1, 2, 3, and 4 of the CPSE survey. Results displaying tests of significant differences among raters and across waves are presented in Table 2.

1. Comparisons of CPSE S-EDI and Canadian Norms

Teacher and caregiver ratings on each domain of the S-EDI also were compared to the ratings of the youngest subset of pupils from the teacher reported Canadian normative sample which includes 784 children ranging in age from four years and eleven months to five years and one month. The mean ratings and standard error of the mean for the Canadian norm are presented in the middle bar in Figures 1, 2, and 3.[5]

Wave 1: As illustrated in Figure 1 and Table 2, teacher rated school readiness of the Wave 1 CPSE cohort was consistently and significantly below the Canadian norm on all domains, 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.

[5] Means represent the average response. Error bars represent standard error of the mean, or the amount of error in that measurement. Error bars can be used to visually evaluate differences between two means. Specifically, if the error bars for two means do not overlap, it is a good indication that these two means are statistically different from each other. For exact tests of differences, please refer to Table 2.

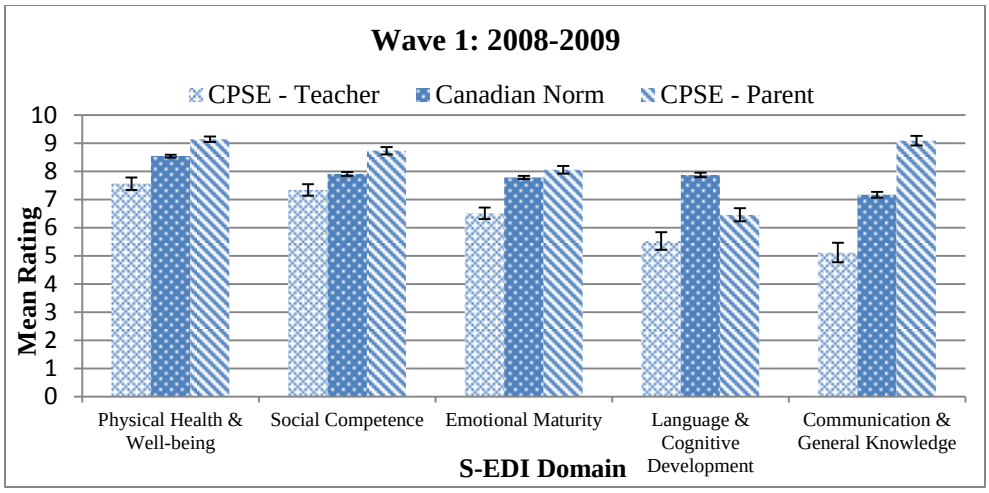

Figure 1. CPSE Wave 1 teacher, youngest subset of Canadian norm, and caregiver means and standard errors for each S-EDI domain.

Wave 2: Figure 2 and Table 2 show that, similar to Wave 1, teacher ratings were lower than the Canadian norm across all domains of school readiness. In terms of significant differences, teachers rated children in Wave 2 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.

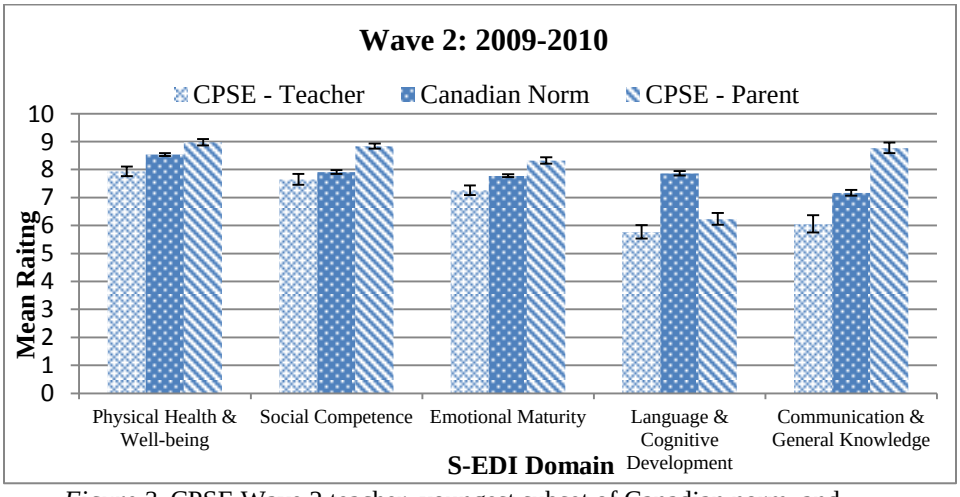

Figure 2. CPSE Wave 2 teacher, youngest subset of Canadian norm, and caregiver means and standard errors for each S-EDI domain.

Wave 3: Figure 3 and Table 2 show that, similar to Waves 1 and 2, teacher ratings were significantly lower than the Canadian norm across all domains of school readiness. Differences between caregiver ratings and the Canadian norm, on the other hand, were mixed as caregivers rated children in Wave 3 significantly higher than the Canadian norm on the domains of *physical health and well-being, social competence,* and *communication and general knowledge*, while they rated children significantly lower than the Canadian norm on the domains of *emotional maturity* and *language and cognitive development.*

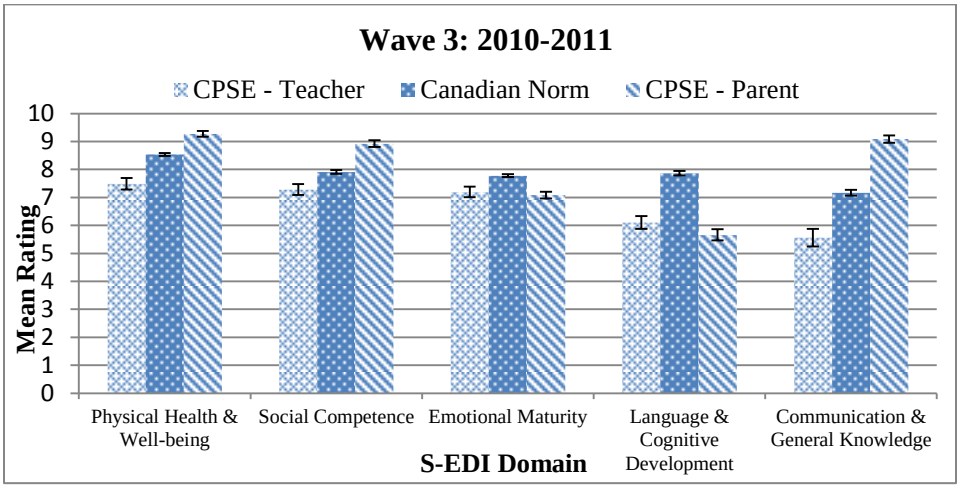

Figure 3. CPSE Wave 3 teacher, youngest subset of Canadian norm, and caregiver means and standard errors for each S-EDI domain.

Wave 4: Figure 4 and Table 2 show that, teacher ratings were significantly lower than the Canadian norm across the domains of *physical health and well-being, emotional maturity, language and cognitive development* and *communication and general knowledge*. However, teacher ratings for the domain of *social competence* was not significantly different than the Canadian norm. Differences between caregiver ratings and the Canadian norm were mixed as caregivers rated children in Wave 4 significantly higher than the Canadian norm on the domains of *physical health and well-being, social competence, emotional maturity* and *communication and general knowledge,* while they rated children significantly lower than the Canadian norm on the domain of *language and cognitive development.*

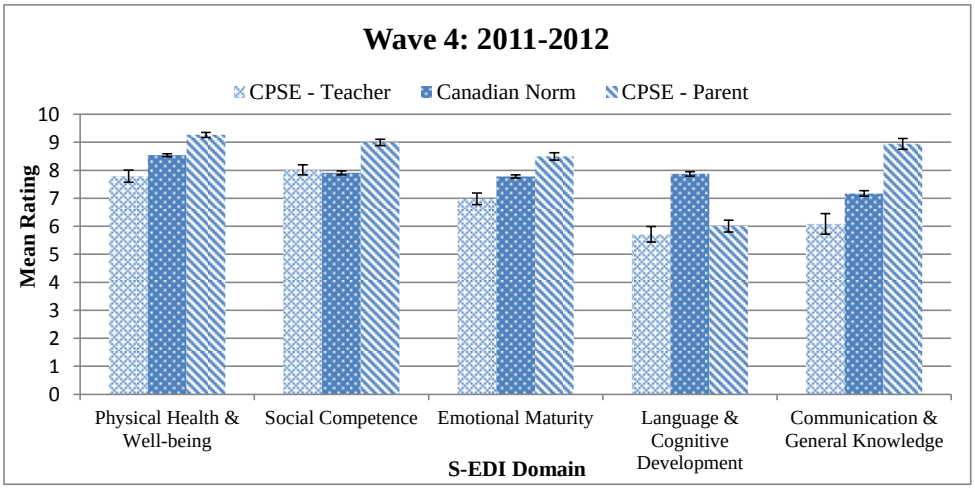

Figure 4. CPSE Wave 4 teacher, youngest subset of Canadian norm, and caregiver means and standard errors for each S-EDI domain.

2. 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 p*hysical 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 present between the p*hysical health and well-being* and *social competence* domains, or between the *language and cognitive development* and *communication and general knowledge* domains.

Wave 3: Teachers in the 2010-2011 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 Waves 1 and 2, no statistically significant differences were identified between the *physical health and well-being* and *social competence* domains. In addition, differences in teacher ratings of *physical health and well-being* and *emotional maturity*, and between *social competence* and *emotional maturity* did not reach significance in Wave 3.

Wave 4: Teachers in the 2011-2012 CPSE cohort rated children highest on the *social competence* and *physical health and well-being* 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 previous waves, no statistically significant differences were identified between the *physical health and well-being* and *social competence* domains. In addition, differences in teacher ratings of *language and cognitive development* and *communication and general knowledge domains* did not reach significance in Wave 4.

3. 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: 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 the 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*.

Wave 3: Caregiver ratings were highest for the *physical health and well-being* and *communication and general knowledge* domains. Like the previous waves, caregivers rated the 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 *physical health and well-being* and *communication and general knowledge* domains did not reach significance.

Wave 4: Caregiver ratings were highest for the *physical health and well-being, social competence* and *communication and general knowledge* domains. Similar to previous waves, caregivers rated the children lowest on the *language and cognitive development* domain. Not all the scores for each domain were different from each other. Differences between the *physical health and well-being, social competence* and *communication and general knowledge* domains did not reach significance.

4. 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 highlighted potential differences between teacher and caregiver reports of *language and cognitive development*. Note that the teacher and caregiver reports of several 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 were significantly 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.

Wave 3: Similar to the first two waves of data collection, caregiver ratings of children's school readiness were higher than teacher ratings on the *physical health and well-being, social competence,* and *communication and general knowledge* domains. Teacher ratings on *language and cognitive development*, however, were higher than parent ratings on this domain. Differences between teacher and caregiver ratings of the *emotional maturity* domain did not reach significance.

Wave 4: Similar to the other waves of data collection, caregiver ratings of children's school readiness 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 ratings and parent ratings on the *language and cognitive development*, domain did not reach significance.

5. Comparisons of CPSE Waves 1 to 4[6]

Figures 5 and 6 illustrate several similarities in the patterns of mean scores across the four waves of data collection.

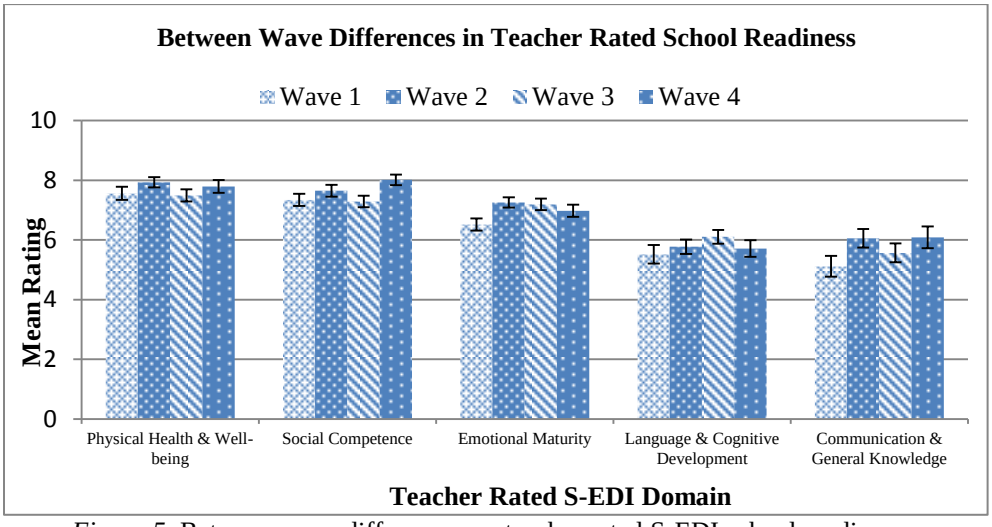

Figure 5. Between wave differences on teacher rated S-EDI school readiness domains.

[6] As the *PFL* catchment area expanded in 2009, one additional school, which is located in the expanded catchment area, was included beginning with Wave 2 data collection. Because of the different eligibility criteria across the first two waves of data collection, it was important to determine if the addition of this school influenced the comparison of Wave 1 and Wave 2 data. This was examined in detail in the CPSE 2008-2010 report and results of this analysis are available upon request and on the *PFL* Evaluation website. This analysis demonstrated that the results in the restricted sample which only included the schools in the original *PFL* catchment area were consistent with the results including data from all schools, suggesting that the children in the additional school did not differ from those in the original schools located in the original *PFL* catchment area. Therefore, as both groups were deemed comparable in Waves 1 and 2, the full sample was retained in the present report.

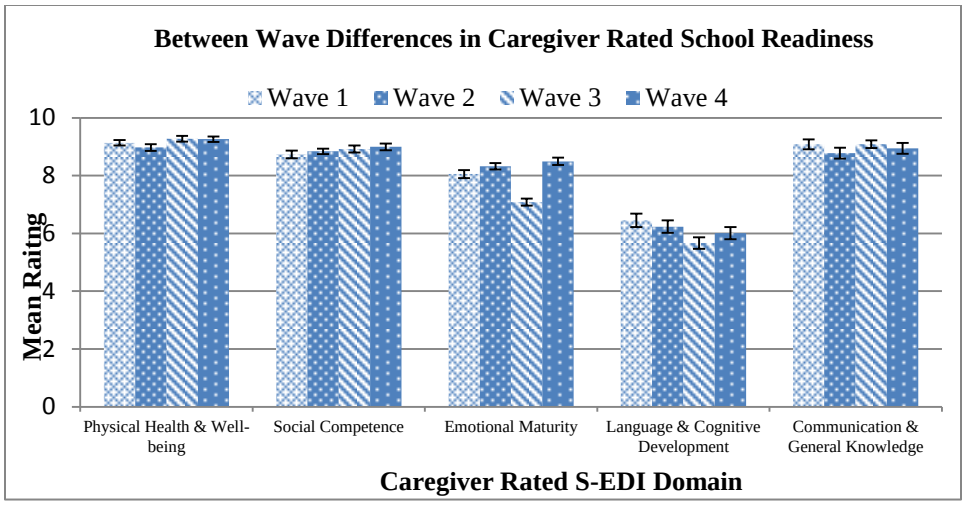

Figure 6. Between wave differences for caregiver rated S-EDI school readiness domains.

a) General Comparison of Mean Scores

Several similarities in the patterns of mean scores were present across all waves of data collection. Specifically, in all 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* domains and lowest in the *language and cognitive development* domain. In addition to the *physical health and well-being* domain, caregivers in Wave 2 and Wave 4 rated children high in the *social competence* domain, while caregivers in Wave 1 and 3 rated children high in the *communication and general knowledge* domain.

b) Statistical Comparisons of Wave Differences[7]

An Analysis of Variance (ANOVA) statistical procedure, using the Tukey correction for multiple group comparisons was used to test for statistical differences in levels of school readiness across the four waves of data collection.[8] As displayed in the bottom two rows of Table 2, there were some differences based on wave of data collection in both teacher and caregiver reports of children's school readiness. In terms of teacher ratings, teachers rated children in Wave 1 lower

[7] In addition to the results presented here, a series of analyses controlling for unique teacher effects were conducted. The joint effects of wave and unique teacher were not significant for any of the school readiness domains.
[8] As all S-EDI domains were non-normally distributed, both ANOVA and Kruskal-Wallis non-parametric tests were used. Results did not differ between the two analyses. Therefore, results of the ANOVA are reported here.

on the *emotional maturity* domain than children in Waves 2, 3 or 4. Teacher ratings on the *communication and knowledge* domain were lower for Wave 1 than Waves 2 and 4. These rating were also lower than Wave 3, however this did not reach significance. In addition, caregivers rated children's school readiness in the *emotional maturity* lower in Wave 3 compared to Waves 1, 2 or 4. Caregivers also rated *language and cognitive development* lower in Wave compared to Waves 1 and 2. Although *language and cognitive development* ratings were also lower in Wave 3 than Wave 4, this did not reach significance. As there were some differences between responses across waves, the year in which data were collected was controlled for in the statistical tests that follow by including a Wave dummy variable, which statistically separated the effect of a different sample group (i.e., Wave) from the effect of the variable being tested (e.g., gender).

Table 2

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

Comparison		Physical Health & Well-being				Social Competence				Emotional Maturity				Language & Cognitive Development				Communication & General Knowledge			
		Wave 1	Wave 2	Wave 3	Wave 4	Wave 1	Wave 2	Wave 3	Wave 4	Wave 1	Wave 2	Wave 3	Wave 4	Wave 1	Wave 2	Wave 3	Wave 4	Wave 1	Wave 2	Wave 3	Wave 4
Caregiver vs. Teacher	*Z*	6.06	5.3	6.95	6.05	5.42	4.47	5.85	4.69	6.18	4.7	-1.2	5.63	1.76	1.31	-2.3	0.49	7.49	7.39	7.42	6.86
	p	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	ns	<.001	<.10	ns	<.05	ns	<.001	<.001	<.001	<.001
Teacher vs Canadian Norm	*t*	-6.11	-4.19	-6.74	-4.76	-2.77	-1.36	-3.12	0.55	-7.41	-3.37	-3.6	-4.82	-9.41	-9.5	-7.66	-9.14	-6.82	-4.02	-5.53	-3.60
	df	881	903	889	886	883	905	892	888	875	899	884	881	866	891	876	876	883	905	891	888
	p	<.001	<.001	<.001	<.001	<.01	ns	<.01	ns	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001
Caregiver vs. Canadian Norm	*t*	4.01	3.24	5.15	5.06	3.97	5.18	5.17	5.47	1.64	3.75	-4.4	4.39	-5.87	-7.55	-9.87	-8.09	6.59	6.28	7.04	6.34
	df	874	906	886	884	874	904	886	883	868	900	881	875	864	891	878	873	876	910	888	886
	p	<.01	<.01	<.001	<.001	<.001	<.001	<.001	<.001	ns	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001	<.001
Comparison of All Waves (teacher report)	*F*	1.07				2.92				2.97				0.81				1.85			
	df	(3,435)				(3,436)				(3,431)				(3,409)				(3,435)			
	p	ns				<.05				<.05				ns				ns			
Comparison of All Waves (caregiver report)	*F*	1.93				0.91				25.30				2.40				0.77			
	df	(3,426)				(3,415)				(3,416)				(3,406)				(3,428)			
	p	ns				ns				<.001				<.10				ns			

Note. *Z* represents a *Z*-score and is the test statistic associated with the Wilcoxon signed-rank statistical test. *t* and *F* represent the test statistics associated with a *t*-test and *F*-test, respectively. *df* illustrates the degrees of freedom, or the number of independent scores, associated with the statistical test and *p* represents the *p*-value, a measure of statistical significance. *ns* denotes that differences did not reach significance.

D. Most Important and Least Important School Readiness Domains

A question regarding teacher and caregiver perceptions of the most and least important domains of a child's school readiness was added to the Wave 3 survey to gain insight into the aspects of school readiness that teachers and caregivers viewed as being important.

Wave 3: For Wave 3 the largest percentage of teachers (35%) indicated *social competence* to be the most important developmental domain for school readiness and *physical health and well-being* was perceived to be the least important domain of development for the largest percentage of teachers (41%). Caregiver ratings, on the other hand, showed a distinctly different pattern. The largest percentage of caregivers (39%) rated the *physical health and well-being* domain to be most important and 35% of caregivers rated the *language and cognitive development* domain to be the least important developmental area for a child's school readiness.

Wave 4: For Wave 4 the largest percentage of teachers (44%) indicated *emotional maturity* to be the most important developmental domain for school readiness and similar to Wave 3, *physical health and well-being* was perceived by teachers to be the least important domain (33%). Consistent with Wave 3 findings, the largest percentage of caregivers (40%) rated the *physical health and well-being* domain to be most important and 35% of caregivers rated the *language and cognitive development* domain to be the least important developmental area for a child's 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, for Wave 3, teachers highlighted the importance of *social competence* and for Wave 4 they cited *emotional maturity*. Both these domains are non-cognitive skills. In contrast, caregivers perceived *physical health and well-being*, a domain rated least important by the largest percentage of teachers, to be most important for a child's school readiness at both Wave 3 and 4.

E. Vulnerability Indicators

Table 3 reports the percentage of children in the CPSE Waves 1, 2, 3, and 4 cohorts who were rated above the Canadian norm on each of the 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, according to teacher reports 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 were performing 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, only about 30% of children were rated above 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 were performing above the Canadian norm in some domains. Specifically, teachers rated just under half (45.5%) of the children in Wave 2 above the Canadian norm on the *physical health and well-being* domain and more than half (58.5%) of children in Wave 2 above the Canadian norm on the *social competence* domain. Additionally, teachers rated greater than 40% of children above the Canadian norm on the domains of *emotional maturity* and *communication and general knowledge*, a marked improvement from Wave 1. However, only 26% of children were rated above the Canadian norm on the *language and cognitive development* domain, demonstrating that this may be a continued area of weakness for children in the CPSE cohort.

Wave 3: In line with teacher rated reports of school readiness for Waves 1 and 2, Table 3 shows that a number of children in the Wave 3 cohort were performing above the Canadian norm in some domains. Specifically, teachers rated half of the children in Wave 3 above the Canadian norm on the *social competence* domain and over 40% of children above the Canadian norm on the *physical health and well-being* and *emotional maturity* domains of school readiness. Additionally, teacher ratings showed that approximately 31% of children were performing above

the normative sample on the *language and cognitive development* domain. Although this does not represent a large percentage of the cohort, it is important to note that this figure demonstrates an improvement on Wave 2 performance and is in line with teacher reports on this domain in Wave 1. Finally, teacher ratings indicated that approximately 32% of children performed above the Canadian norm on the *communication and general knowledge* domain, illustrating that more children in Wave 3 of data collection were experiencing difficulties in this domain compared to Wave 2.

Wave 4:

Table 3 shows that a number of children in the Wave 4 cohort were performing above the Canadian norm in some domains. Specifically, teachers rated 60% of the children in Wave 4 above the Canadian norm on the *social competence* domain and over 46% of children above the Canadian norm on the *communication and general knowledge* domain. This figure demonstrates a significant improvement on Wave 3 performance. Approximately 44% of children in Wave 4 were rated by their teachers above the Canadian norm on the *physical health & well-being* domain. Consistent with previous waves, teachers rated 43% of children above the Canadian norm on the *emotional maturity* domain in Wave 4. Finally, teacher ratings showed that approximately 28% of children were performing above the normative sample on the *language and cognitive development* domain. Although this does not represent a large percentage of the cohort, it is important to note that this figure is consistent with teacher ratings for children in the previous three cohorts.

Table 3
Percentage of Teacher Rated CPSE Cohort above Canadian Norm on S-EDI Domains

S-EDI Domain	Wave 1 % Above Canadian Norm	Wave 2 % Above Canadian Norm	Wave 3 % Above Canadian Norm	Wave 4 % Above Canadian Norm
Physical Health & Well-being	49.5	45.53	41.28	44.34
Social Competence	49.5	58.54	50	60.38
Emotional Maturity	30.3	43.9	42.59	42.86
Language & Cognitive Development	30.43	25.64	31.37	28.43
Communication & General Knowledge	28.71	40.65	32.11	46.23

2. Index of Vulnerability

A child is considered vulnerable in a particular domain of school readiness if he/she is rated within the lowest 10% of all children in the CPSE cohort (i.e., Waves 1, 2, 3, and 4 combined) for that domain.

Wave 1: As demonstrated in Table 4, approximately 62% (*n*=63) of children did not score in the lowest 10% of the combined CPSE cohort on any of the five S-EDI domains, according to teacher ratings. However, close to one-fifth (19%, *n*=19) of the children scored low on one of the five domains, with a further 9% (*n*=9) 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 2% (*n*=2) were vulnerable on all five domains of school readiness.

Wave 2: Table 4 also shows that 77% (*n*=95) of children in Wave 2 were not vulnerable on any domain of school readiness, while 11% (*n*=14) scored low on one domain, 5% (*n*=6) 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.

Wave 3: Table 4 illustrates that 76% (*n*=84) of children in Wave 3 were not vulnerable on any domain of school readiness, while 15% (*n*=17) scored low on one domain, 4% (*n*=4) on two domains, 4% (*n*=4) on three domains, and 1% (*n*=1) scored low on all five domains.

Wave 4: Finally, Table 4 also shows that 71% (*n*=75) of children in Wave 4 were not vulnerable on any domain of school readiness, while 12% (*n*=13) scored low on one domain, 11% (*n*=12) on two domains, 3% (*n*=3) on three domains, and 3% (*n*=3) on four domains. None of the children in Wave 4 were vulnerable on all five domains of school readiness.

Table 4
Number of S-EDI Scales on which CPSE Cohort are Vulernable

# Domains Vulnerable	Wave 1		Wave 2		Wave 3		Wave 4	
	n	%	*n*	%	*n*	%	*n*	%
None	63	62.38	95	77.24	84	76.36	75	70.75
One	19	18.81	14	11.38	17	15.45	13	12.26
Two	9	8.91	6	4.88	4	3.64	12	11.32
Three	7	6.93	5	4.07	4	3.64	3	2.83
Four	1	0.99	1	0.81	0	0	3	2.83
Five	2	1.98	2	1.63	1	0.91	0	0

Note. n represents the number of observations.

3. Comparisons of Waves 1, 2, 3, and 4

Overall, these results are consistent with findings from the overall test of differences in the levels of school readiness for Waves 1, 2, 3, and 4. In terms of children scoring above and below the Canadian norm, the percentage of children who scored above the norm varies considerably between the four waves of the CPSE cohort. The *language and cognitive development* domain is the only one of the five school readiness domains to remain constant between the four waves. There are significant differences in the *social competence, emotional maturity,* and *communication and general knowledge* domains for Wave 1 and Wave 4 of data collection. Differences in Wave 2 and Wave 3 make it difficult to interpret these differences as positive trends over time. Additionally, it is difficult to establish what trend exists in the *physical health and well-being* domain over the four waves of data collection. Finally, fewer children in Waves 2, 3 and 4 were vulnerable in any of the domains of school readiness compared to Wave 1, suggesting overall improvements for those performing at the lower end of the spectrum of abilities in this cohort. However, there are considerably more children vulnerable on two domains in Wave 4 than Waves 2 and 3, suggesting a decline in school readiness for some children over time.

F. Subjective School Readiness

To facilitate comparisons with a study conducted in the *PFL* catchment area in 2004 by Kiernan et al. (2008), teachers in Waves 2, 3 and 4 were asked to indicate if they felt that the child was ready for school when he/she arrived in September of that academic year. Table 5 shows that the ratings for Waves 2, 3 and 4 of the CPSE cohort were similar to the ratings of children surveyed in the 2004-2005 academic year, with about half of the children being rated as definitely ready

for school and a further half of the cohort being rated as not ready, at least to some degree. The percentage of children deemed *definitely ready* by teachers has marginally increased over the three waves since 2009. This suggests that there have been few improvements in children's school readiness, as reported by teachers, in the *PFL* communities over a six year period.

Table 5
Teacher Subjective Ratings of School Readiness

Rating	2004 (Kiernan et al., 2008)		2009 (CPSE Wave 2)		2010 (CPSE Wave 3)		2011 (CPSE Wave 4)		Pearson
	n	%	*n*	%	*n*	%	*n*	%	χ^2
Definitely Ready	42	47.72	45	47.87	57	52.29	58	56.31	
Somewhat Ready	35	39.77	37	39.36	36	33.03	32	31.07	2.12[1]
Definitely Not Ready	11	12.5	12	12.77	16	14.68	13	12.62	

Note. n represents the number of observations.
[1]Pearson chi-square test

G. Use of Teacher Reported School Readiness[9]

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, unless otherwise noted. Teacher reports were used 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 caregiver report. As the normative data are based on a representative sample of

[9] Analyses based on caregiver reported school readiness are available upon request.

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 cohort than caregiver rated school readiness. While three teacher rated subdomains (physical readiness for the school day, physical independence, and advanced literacy skills) were excluded from further analyses due to their low reliability, 11 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, responsibility and respect, approaches to learning, anxious and fearful behaviour, basic literacy skills, interest in literacy, numeracy, and memory, and basic numeracy) did not meet our reliability criteria of .65 or above.

H. Factors Associated with School Readiness[10]

For the remaining analyses, data from all four waves are combined, and the wave of data collection is controlled for in all analyses. Any significant or trend level (i.e., $p < .10$)[11] findings for the main five S-EDI domains and subdomains are discussed below. Throughout this section, effect sizes[12] are reported in parentheses next to any significant results discussed.

1. Child Age

The average age of all children in the CPSE cohort was 4.72 (*SD*=0.44) years. Table 6 reports the regression analysis modelling school readiness as a function of child age.

Table 6
Regression Analyses Representing the Relationship between Teacher Rated School Readiness and Child Age while Holding Wave of Data Collection Constant

Domain	*df*	*F*	β	*SE*
Physical Health & Well-being	(2, 407)	1.08	0.46†	0.26
Gross and Fine Motor Skills	(2, 390)	3.21	1.14**	0.35
Social Competence	(2, 408)	4.76	0.57*	0.28
Overall Social Competence with Peers	(2, 408)	3.71	0.70†	0.39
Responsibility and Respect	(2, 408)	4.22	0.44	0.35
Approaches to Learning	(2, 408)	2.68	0.77*	0.32
Readiness to Explore New Things	(2, 396)	4.48	0.45†	0.22
Emotional Maturity	(2, 404)	2.20	0.22	0.27
Prosocial and Helping Behaviour	(2, 361)	1.11	0.71†	0.41
Aggressive Behaviour	(2, 399)	1.66	- 0.25	0.37
Anxious and Fearful Behaviour	(2, 408)	2.06	- 0.11	0.45
Hyperactivity and Inattention	(2, 404)	3.09	0.08	0.32
Language & Cognitive Development	(2, 385)	1.26	0.61†	0.32
Basic Literacy Skills	(2, 403)	1.72	0.94*	0.39
Interest in Literacy/Numeracy/Memory	(2, 403)	1.27	- 0.12	0.33
Basic Numeracy Skills	(2, 401)	1.36	0.40	0.33
Communication & General Knowledge	(2, 407)	1.14	0.20	0.44

Note. *df* illustrates the degrees of freedom, or the number of independent scores, associated with the statistical test. *F* represents the test statistic associated with the *F*- test, β signifies the beta coefficient, and *SE* represents the standard error of the beta estimate which illustrates the distance between the regression line and the actual data points.
† $p < .10$. *$p < .05$. **$p < .01$ ***$p < .001$

[10] Results of statistically significant relationships at the trend level ($p<.10$) or higher are described in this section. All permutation test results are presented in Tables 1-11 of Appendix C.
[11] 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.
[12] 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).

Child age was positively associated 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 the *social competence* domain, with the *approaches to learning* domain showing significance and the *overall social competence with peers* and *readiness to explore new things* subdomains illustrating a trend. Child age also was associated with a positive trend in the *language and cognitive development* domain, a finding driven by the significant relationships on the *basic literacy skills* subdomain. Furthermore, the *physical health and well-being* domain revealed a trend, likely driven by the significant finding for the *gross and fine motor skills* subdomain. 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 displayed higher levels of school readiness.

2. Child Gender

Fifty-five percent (*n*=242) of all children in the CPSE cohort were male. Figure 7 represents the mean teacher ratings for each domain of school readiness for *males* and *females* in the CPSE cohort.

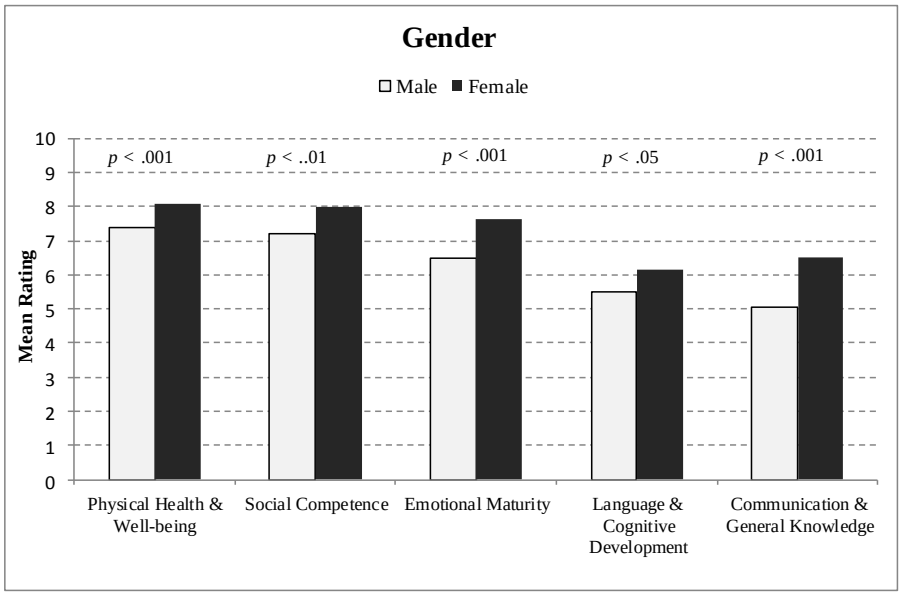

Figure 7. Differences in teacher reported S-EDI domains based on child gender.

Significant gender differences were present for the S-EDI domains of *physical health and well-being* (*d*=.34), *social competence* (*d*=.39), *emotional maturity* (*d*=.59), *language and cognitive development* (*d*=.24), and *communication and general knowledge* (*d*=.42) such that girls were rated as displaying higher levels of these domains than boys. In terms of subdomains, gender differences in *gross and fine motor skills* (*d*=.44*), overall social competence with peers* (*d*=.35), *approaches to learning* (*d*=.43), *readiness to explore new things* (*d*=.26), *prosocial and helping behaviour* (*d*=.67), *aggressive behaviour* (*d*=.36), *anxious and fearful behaviour* (*d*=.38), *hyperactivity and inattention* (*d*=.24), *basic literacy skills* (*d*=.20), *interest in literacy/numeracy/memory* (*d*=.30) and *basic numeracy skills* (*d*=.42) all reached significance, with girls displaying higher levels of school readiness than boys. Differences in the *responsibility and respect* subdomain did not reach significance. Collectively, the results show moderate effect sizes with girls displaying higher levels of school readiness than boys.

3. Presence of Siblings

The number of siblings living in the same household as the Junior Infant child ranged from zero to seven, with an average of 1.65 (*SD*=1.36) siblings living in the same household. Eighty-six children (20%) did not have any siblings living in the same household, while the majority of children (80%) had one or more siblings living in the same household. Figure 8 represents the mean teacher ratings for each domain of school readiness for children who *had siblings* living in the home and those who *did not have siblings*.

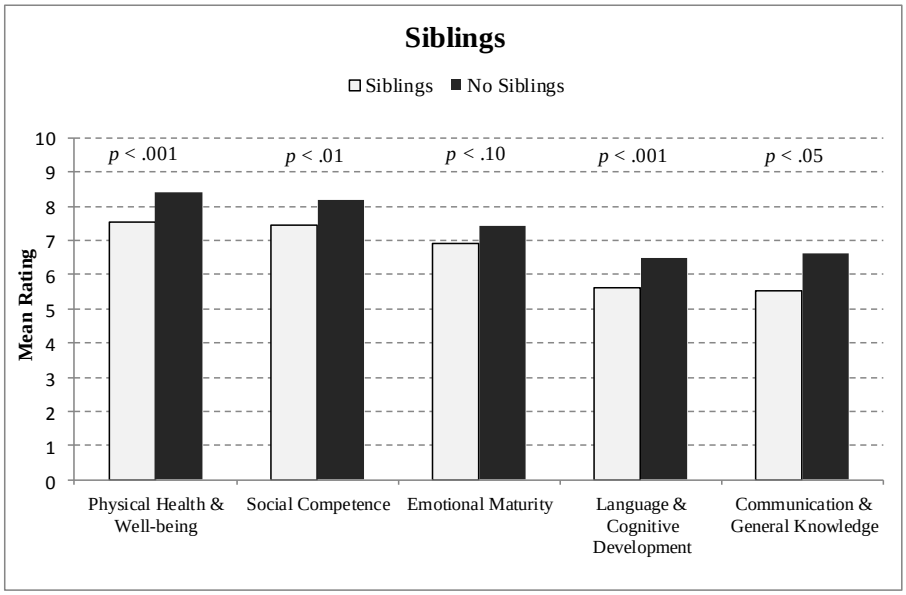

Figure 8. Differences in teacher reported S-EDI domains based on presence of siblings in household.

Children with no siblings in the household were rated as displaying significantly higher levels of *physical health and well-being* (*d*=.41), *social competence* (*d*=.36), *language & cognitive development* (*d*=.32) and *communication and general knowledge* (*d*=.31) compared to children with at least one sibling living in the same household. Specifically, pupils without siblings displayed significantly more advanced *gross and fine motor skills* (*d*=.29), *overall social competence with peers* (*d*=.38), *responsibility and respect* (*d*=.30), *approaches to learning* (*d*=.26), *basic literacy skills* (*d*=.20), *interest in literacy/numeracy/memory* (*d*=.28) and *basic numeracy skills* (*d*=.29). Additionally, trends suggested that children with no siblings living in the same household displayed higher levels of *emotional maturity* (*d*=.27). Thus, children with

no siblings living in the household demonstrated greater school readiness skills than those with siblings, with moderate effect sizes.

In addition to examining the relationships between the binary variable representing if a child had siblings present in the household or not and school readiness, relationships between the total number of siblings living in the same household and school readiness were explored in a regression framework, while holding wave of data collection constant. Results demonstrated that, not only does the presence of siblings matter, but so too does the number of siblings. Specifically, the number of siblings living in the household was negatively associated with all five domains and several subdomains of school readiness, such that children with more siblings living in the home display lower school readiness skills. Specifically, negative relationships were present between number of siblings living in the household and the *physical health and well-being* domain, with the *gross and fine motor skills* subdomain showing significance. Additionally, negative relationships were present for the *social competence* domain, with significant negative relationships existing between number of siblings and the *overall social competence with peers*, *approaches to learning*, and *readiness to explore new things* subdomains. Children with more siblings living in the household displayed lower levels of *emotional maturity*, especially in terms of *prosocial and helping behaviours*. In terms of *language and cognitive development*, negative relationships were present for *all* subdomains. Finally, there was a significant negative relationship demonstrating that children with more siblings were rated by teachers as displaying lower levels of *communication and general knowledge.* Collectively, these results echo the results presented in Figure 8 and suggest that having more siblings was associated with lower levels of school readiness in the CPSE cohort and demonstrate that not only does the presence of siblings in the household matter, but so too does the number of siblings.

Table 7
Regression Analyses Representing the Relationship between Teacher Rated School Readiness and Number of Siblings Living in the Household while Holding Wave of Data Collection Constant

Domain	*df*	*F*	*β*	*SE*
Physical Health & Well-being	(2, 416)	3.54	- 0.24***	0.07
Gross and Fine Motor Skills	(2, 399)	1.66	- 0.28*	0.12
Social Competence	(2, 417)	4.16	- 0.22**	0.07
Overall Social Competence with Peers	(2, 417)	4.8	- 0.37***	0.11
Responsibility and Respect	(2, 417)	2.24	- 0.1	0.09
Approaches to Learning	(2, 417)	1.75	- 0.21*	0.1
Readiness to Explore New Things	(2, 402)	8.09	- 0.19*	0.07
Emotional Maturity	(2, 412)	3.73	- 0.18*	0.07
Prosocial and Helping Behaviour	(2, 365)	3.47	- 0.39**	0.12
Aggressive Behaviour	(2, 406)	2.15	- 0.02	0.09
Anxious and Fearful Behaviour	(2, 418)	4.03	0.23†	0.13
Hyperactivity and Inattention	(2, 413)	3.27	0.11	0.09
Language & Cognitive Development	(2, 392)	2.99	- 0.32***	0.1
Basic Literacy Skills	(2, 412)	1.65	- 0.28*	0.13
Interest in Literacy/Numeracy/Memory	(2, 412)	3.61	- 0.24*	0.1
Basic Numeracy Skills	(2, 411)	5.35	- 0.40***	0.11
Communication & General Knowledge	(2, 416)	4.72	- 0.48***	0.13

Note. *df* illustrates the degrees of freedom, or the number of independent scores, associated with the statistical test. *F* represents the test statistic associated with the *F*- test, β signifies the beta coefficient, and *SE* represents the standard error of the beta estimate which illustrates the distance between the regression line and the actual data points.

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

4. Caregiver Relationship Status

In regards to caregiver relationship status, 38% (*n*=161) of caregivers reported they were single, 29% (*n*=122) were married, and 21% (*n*=89) were living with their partner. Twenty-three participants (5%) had a partner they were not living with and approximately 6% (*n*=25) were separated, divorced, or widowed.

To determine whether child school readiness differed depending on caregiver relationship status two categories were derived. *Single* comprises respondents who indicated they were single, legally separated, divorced, or widowed and being *in a relationship* represents those who were married, cohabitating, or had a partner with whom they were not living at the time of the survey. In the cohort, 44% (*n*=186) were classified as being single. Figure 9 represents the mean teacher ratings for each domain of school readiness for children of caregivers who were single and those who were in a relationship.

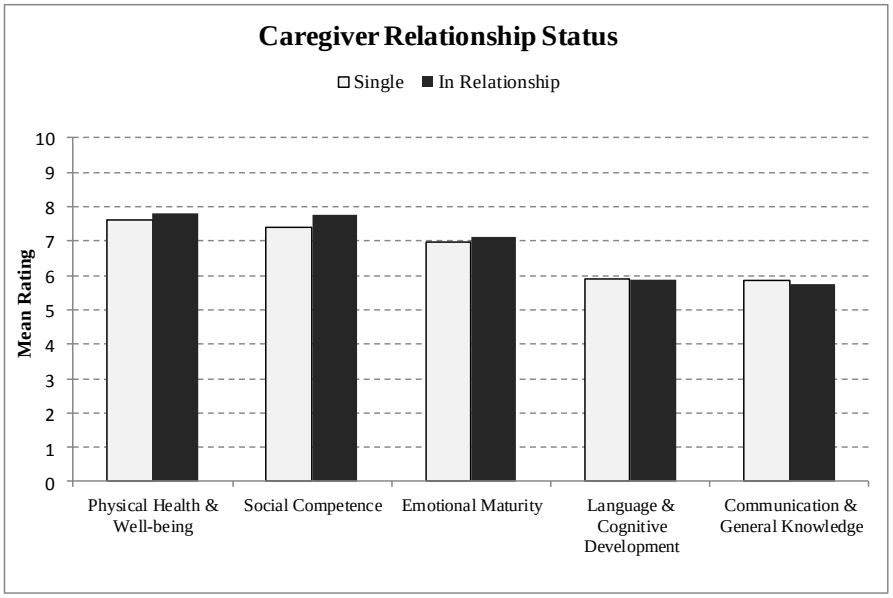

Figure 9 Differences in teacher reported S-EDI domains based on caregiver relationship status.

The associations between the S-EDI domains and relationship status of the caregiver did not reach statistical significance for any domain or subdomain. Therefore, relationship status of the caregiver was not highly associated with child school readiness.

5. Caregiver Age

The mean age of caregivers was approximately 31 years old *(SD*=6.25), with ages ranging from 21 to 54 years.

Analyses were conducted to examine whether the school readiness skills of children of young caregivers differed compared to children of older caregivers. To achieve this, caregivers were divided into two groups based on their age when the Junior Infant 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 cohort, 19% (*n*=74) were classified as being a young parent. Figure 10 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.

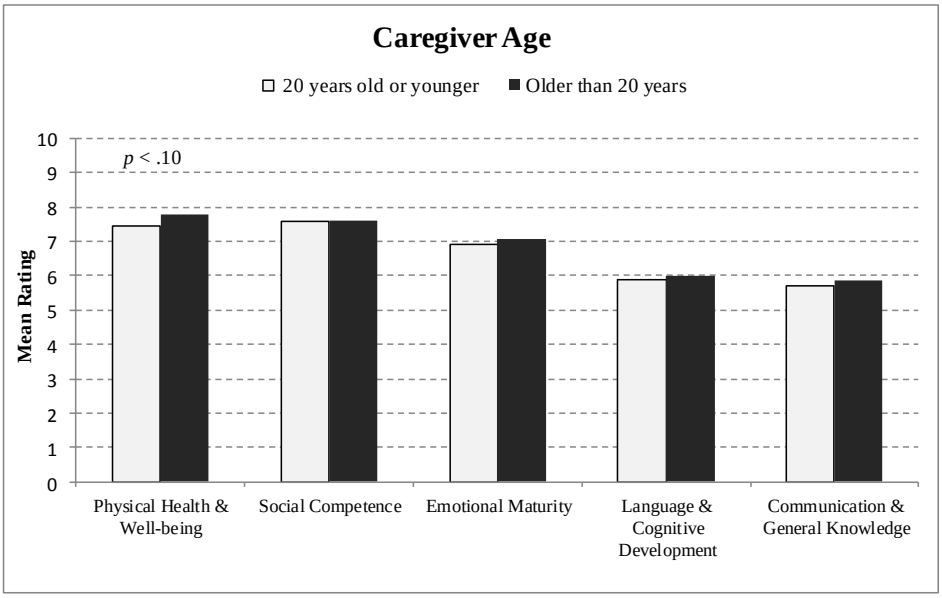

Figure 10. Differences in teacher reported S-EDI domains based on caregiver age at child's birth.

The associations between the S-EDI domains and caregiver age did not reach statistical significance for any domain or subdomain. A trend effect was shown in the *physical health and well-being* domain (*d*=.16), illustrating that children of older caregivers displayed higher levels of school readiness than children of younger caregivers. Overall, the age of the caregiver at the child's birth was not strongly associated with the child's school readiness.

In addition to examining the relationships between the young caregiver binary variable and school readiness, relationships between the continuous variable of caregiver age and school readiness were explored in a regression framework, while holding wave of data collection constant. As demonstrated in Table 8, no significant relationships emerged, further illustrating that caregiver age has little effect on a child's school readiness skills.

Table 8

Regression Analyses Representing the Relationship between Teacher Rated School Readiness and Caregiver Age while Holding Wave of Data Collection Constant

Domain	*df*	*F*	*β*	*SE*
Physical Health & Well-being	(2, 411)	1.08	0.02	0.02
Gross and Fine Motor Skills	(2, 393)	0.15	- 0.01	0.02
Social Competence	(2, 411)	2.32	- 0.02	0.02
Overall Social Competence with Peers	(2, 411)	2.04	- 0.03	0.02
Responsibility and Respect	(2, 411)	1.80	- 0.01	0.02
Approaches to Learning	(2, 411)	1.14	- 0.03	0.02
Readiness to Explore New Things	(2, 397)	6.29	- 0.02	0.02
Emotional Maturity	(2, 406)	2.34	- 0.01	0.02
Prosocial and Helping Behaviour	(2, 359)	1.01	- 0.02	0.03
Aggressive Behaviour	(2, 400)	2.15	- 0.02	0.02
Anxious and Fearful Behaviour	(2, 411)	2.97	0.01	0.03
Hyperactivity and Inattention	(2, 407)	3.93	0.04†	0.02
Language & Cognitive Development	(2, 386)	0.41	- 0.01	0.02
Basic Literacy Skills	(2, 406)	0.42	- 0.01	0.03
Interest in Literacy/Numeracy/Memory	(2, 407)	2.06	- 0.01	0.02
Basic Numeracy Skills	(2, 404)	1.99	- 0.01	0.02
Communication & General Knowledge	(2, 410)	0.83	0.01	0.03

Note. df illustrates the degrees of freedom, or the number of independent scores, associated with the statistical test. *F* represents the test statistic associated with the *F*- test, *β* signifies the beta coefficient, and *SE* represents the standard error of the beta estimate which illustrates the distance between the regression line and the actual data points.

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

6. Caregiver Education

The highest level of education attained by 29% (*n*=121) of the CPSE caregivers was the Junior/Group/Inter Certificate and the average school leaving age was 16 years old. Approximately 16% (*n*=65) of caregivers completed upper secondary education, while 17% (*n*=70) completed the Applied Leaving Certificate or Leaving Certificate. Twelve percent (*n*=51) of caregivers had a non-degree qualification, 2% (*n*=10) completed a primary degree and three respondents had completed a postgraduate qualification.

The educational categories were combined to enable a comparison between children of relatively low and high educated caregivers in this cohort. The low education group consisted of caregivers who did not attend school, had primary education, or lower secondary education. Note that the respondents in the low education group did not have a Junior Certificate. The *low education* categorisation comprises approximately 21% (*n*=85) of the sample. For purposes of these

analyses, the *high education* categorisation included all caregivers who had reached their Junior Certificate or higher and represents approximately 79% (*n*=327) of the total sample. Figure 11 represents the mean teacher ratings for each domain of school readiness for children of caregivers with low and high education.

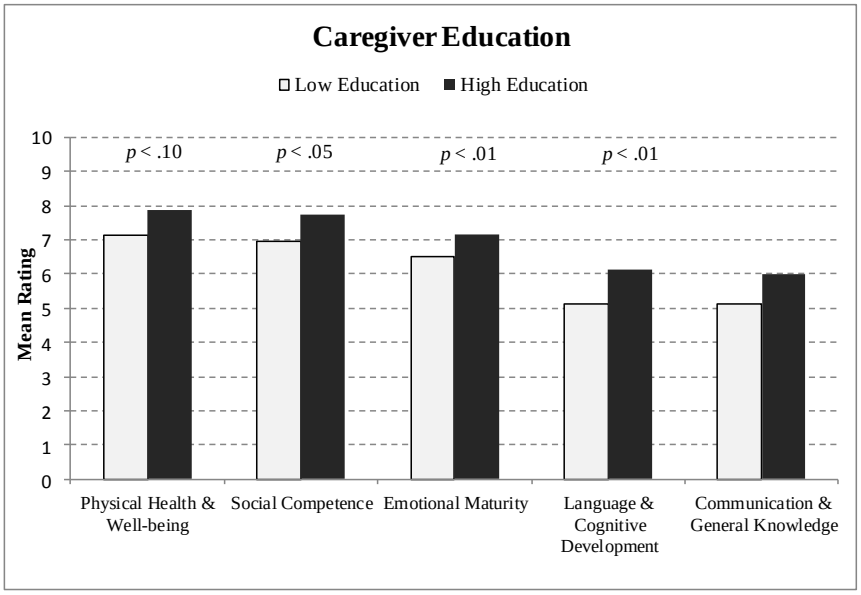

Figure 11. Differences in teacher reported S-EDI domains based on caregiver education.

Figure 11 demonstrates that children of caregivers with relatively higher levels of education were rated by teachers as displaying higher levels of school readiness in all domains. Specifically, children of relatively higher educated caregivers displayed higher levels of *social competence* (*d*=.38), *emotional maturity* (*d*=.32) and *language and cognitive development* (*d*=.37).

Additionally, they had higher levels of gross and fine motor skills (d=.29) and were significantly more socially competent in regards to their *approaches to learning* (*d*=.34). Trends were also found in the *overall social competence with peers* (*d*=.33) and *responsibility and respect* (*d*=.29) subdomains. Children of caregivers with relatively higher levels of education displayed significantly less *aggressive behaviour* (*d*=.30) and less *anxious and fearful behaviour* (*d*=.38). The data also suggested that children of caregivers with relatively higher education displayed higher levels of *basic literacy skills* (*d*=.28) and *basic numeracy skills* (*d*=.27). Collectively, these results indicated that children of caregivers with relatively higher levels of education displayed higher levels of school readiness, with moderate effect sizes identified.

7. Caregiver Employment Status[13]

The largest number of caregivers (31%, *n*=125) in the cohort were looking after their home or family, 28% (*n*=111) were in paid work, 3% (*n*=13) were on leave from paid work, 24% (*n*=96) were unemployed, 10% (*n*=41) were in paid FAS training, less than 1% (*n*=3) were in unpaid FAS training, 1% (*n*=6) were not able to work due to permanent disability, and less than 1% (*n*=3) indicated that they were a student. Of the caregivers who were currently in paid work, including those participating in a paid FAS training scheme, 93% (*n*=108) provided information on the number of hours worked. The average number of hours worked per week was 24.43 (*SD*=10.15).

Employment status was divided into two categories for further analyses based on those *not in paid work* and those *in paid work*, at least part time (including paid training courses). Approximately 40% (*n*=157) of the cohort were in paid work. Figure 12 represents the mean teacher ratings for each domain of school readiness for children of caregivers not in paid work and children of caregivers in paid work.

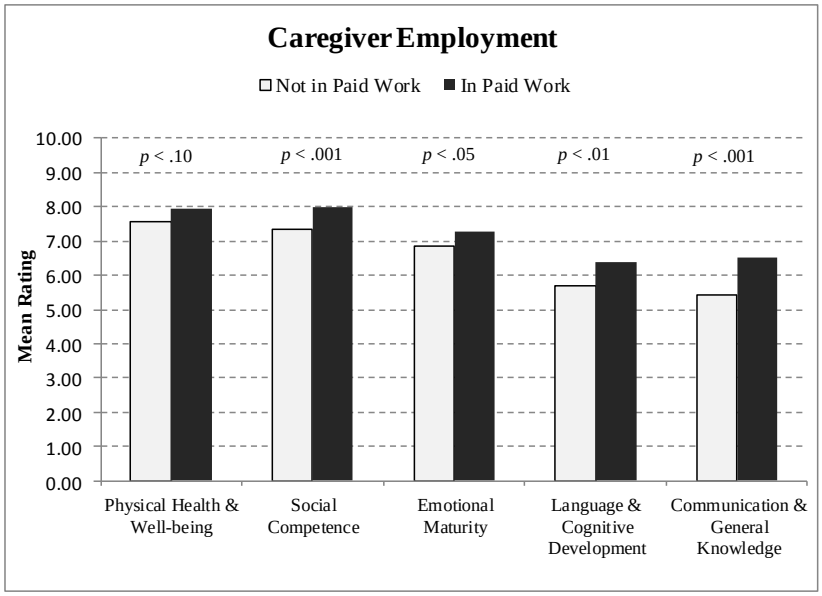

Figure 12. Differences in teacher reported S-EDI domains based on caregiver employment status.

[13] Note that the majority (93%) of respondents were biological mothers of the children, thus these figures largely represent the employment status of mothers.

Figure 12 shows that children of caregivers in paid work were rated as showing significantly higher levels of *social competence* (*d*=.32), *emotional maturity* (*d*=.20), *language and cognitive development* (*d*=.27), and *communication and general knowledge* (*d*=.31) than children of caregivers not in paid work. Specifically, children of caregivers in paid work displayed higher *overall social competence with peers* (*d*=.35), *responsibility and respect* (*d*=.18), *approaches to learning* (*d*=.23), *readiness to explore new things* (*d*=.25), *prosocial and helping behaviour* (*d*=.18), *basic literacy skills* (*d*=.17), *interest in literacy, numeracy, and memory* (*d*=.32), and *basic numeracy skills* (*d*=.23). Additionally, trends in the data suggested that children of caregivers in paid work displayed higher levels of *physical health and well-being* (*d*=.18) and less *anxious and fearful behaviour* (*d*=.22) than children of caregivers not in paid work. Collectively, these results suggest that children of caregivers in paid employment appear better ready for school, with moderate effect sizes.

8. Caregiver Social Welfare Dependency

Almost three-quarters of the cohort (74%, *n*=275) were receiving social welfare payments such as job seekers benefit, job seekers allowance, social welfare payments, rent allowance, or disability 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 13 represents the mean teacher ratings for each domain of school readiness for children in families who were *in receipt of social welfare* payments and children of families who were *not in receipt of social welfare* payments.

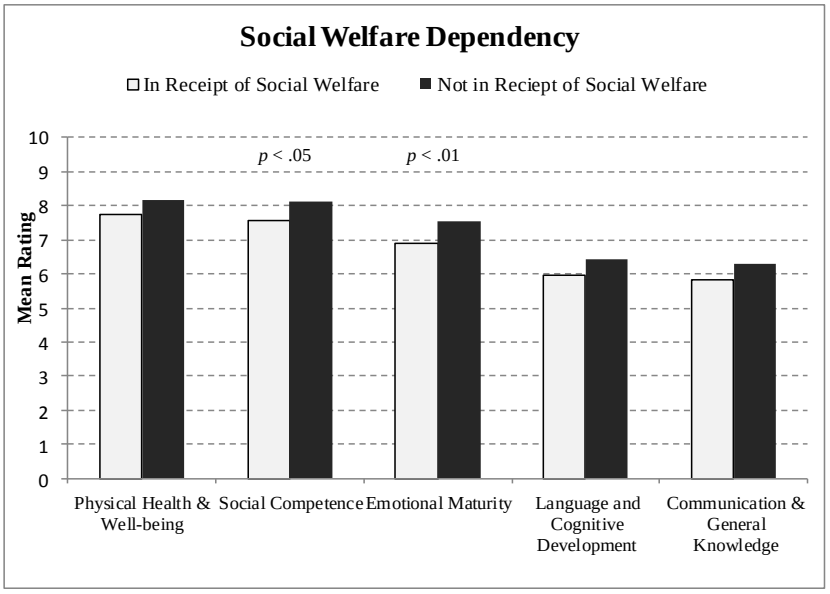

Figure 13. Differences in teacher reported S-EDI domains based on household social welfare dependency.

Two differences in school readiness were found between children living in households receiving social welfare payments and those in households not receiving social welfare payments. First, children living in households not dependent on social welfare payments were rated by teachers as displaying higher levels of *social competence* (*d*=.31), specifically in terms of the *overall social competence with peers* (*d*=.14), *responsibility and respect* (*d*=.37), *approaches to learning* (*d*=.28) and *readiness to explore new things* (*d*=.18) subdomains. Second, children living in households not dependent on social welfare were rated by teachers as displaying higher levels of *emotional maturity* (*d*=.32), specifically in terms of less *aggressive behaviour* (*d*=.42) and less *anxious and fearful behaviour* (*d*=.32) than children living in households dependent on social welfare payments. Differences in all other domains and subdomains did not reach significance. Therefore, social welfare status of the family appears only to be associated with the non-cognitive domains of school readiness, with moderate effect sizes.

9. Caregiver Mental Well-being (WHO-5)

On average, caregivers rated their mental well-being as 15.74 (*SD*=5.85) on a possible scale of zero to 25. This compares to a mean of 16.96 (*SD*=4.94) in a representative cohort of Irish respondents (Delaney, Doyle, McKenzie, & Wall, 2009). Therefore, the CPSE cohort rated their mental well-being significantly below a representative Irish sample (t (2579) =4.11, p<.001), indicating the relatively poor mental health status of this cohort.

According to the developers of the WHO-5 scale, scores at or below 13 represent *low mental well-being* and scores of 13 or above represent *high mental well-being*. Twenty-eight percent (*n=95*) of caregivers demonstrated low well-being and 72% (*n*=240) were categorized as having high well-being according to this criterion. Figure 14 represents the mean teacher ratings for each domain of school readiness for children of caregivers with low and high mental well-being.

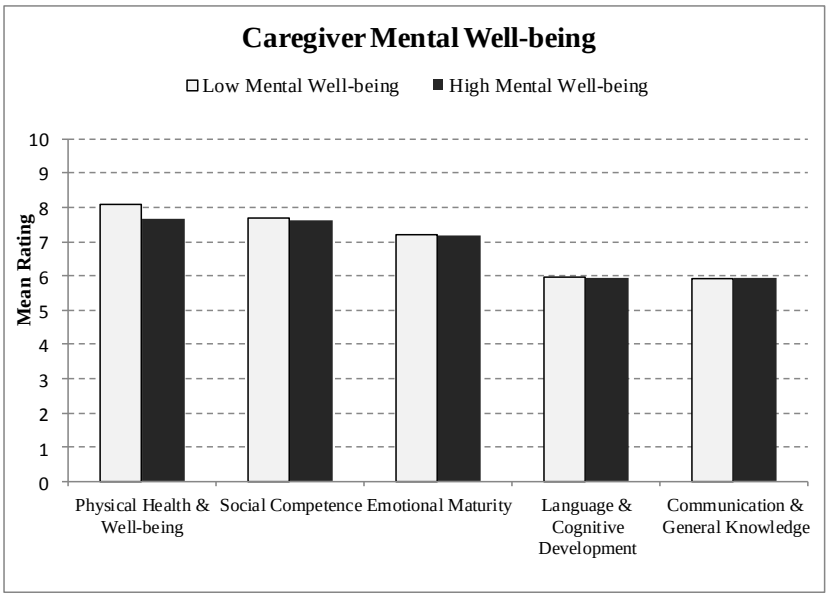

Figure 14. Differences in teacher reported S-EDI domains based on caregiver mental well-being.

While there were no statistical differences on the main S-EDI domains or subdomains in regards to caregiver mental well-being. In sum, the mental well-being of the caregiver was not associated with child school readiness.

In addition to examining the relationships between the binary well-being risk variable and school readiness, relationships between continuous caregiver well-being and school readiness were explored in a regression framework, while holding wave of data collection constant. In line with the finding reported using the binary well-being risk indicator, Table 9 finds no statistical relationship between mental well-being and school readiness.

Table 9
Regression Analyses Representing the Relationship between Teacher Rated School Readiness and Caregiver Mental Well-being while Holding Wave of Data Collection Constant

Domain	*df*	*F*	*β*	*SE*
Physical Health & Well-being	(2, 313)	1.12	- 0.03	0.02
Gross and Fine Motor Skills	(2, 311)	0.35	- 0.02	0.03
Social Competence	(2, 314)	1.48	- 0.01	0.02
Overall Social Competence with Peers	(2, 314)	0.68	- 0.01	0.03
Responsibility and Respect	(2, 314)	0.73	- 0.01	0.04
Approaches to Learning	(2, 314)	0.75	- 0.01	0.03
Readiness to Explore New Things	(2, 302)	4.44	- 0.01	0.02
Emotional Maturity	(2, 312)	0.27	0.02	0.02
Prosocial and Helping Behaviour	(2, 290)	0.69	- 0.02	0.03
Aggressive Behaviour	(2, 314)	2.93	- 0.04	0.02
Anxious and Fearful Behaviour	(2, 314)	0.67	- 0.03	0.04
Hyperactivity and Inattention	(2, 310)	0.32	- 0.01	0.03
Language & Cognitive Development	(2, 299)	0.38	0.01	0.02
Basic Literacy Skills	(2, 311)	0.62	0.03	0.03
Interest in Literacy/Numeracy/Memory	(2, 312)	1.01	0.02	0.03
Basic Numeracy Skills	(2, 311)	1.03	0.02	0.02
Communication & General Knowledge	(2, 313)	0.09	- 0.01	0.03

Note. df illustrates the degrees of freedom, or the number of independent scores, associated with the statistical test. *F* represents the test statistic associated with the *F*- test, *β* signifies the beta coefficient, and *SE* represents the standard error of the beta estimate which illustrates the distance between the regression line and the actual data points.

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

10. Caregiver Depressive Symptomology (CES-D)

On average, caregivers reported a score of 8.75 (*SD*=9.14) on a possible scale of zero to 60 in the CES-D measure of depressive symptomology. According to the developers of the CES-D scale, scores of 16 or higher represent high levels of depressive symptomology. Therefore, scores on the CES-D were dichotomised to represent *high symptomology* (total score≥16) or *low symptomology* (total score<16). Eighty-two percent (*n*=169) of caregivers demonstrated low depressive symptomology as measured by the CES-D and 19% (*n=36*) reported high

symptomology. Figure 15 represents the mean teacher ratings for each domain of school readiness for children of caregivers with high and low depressive symptomology.

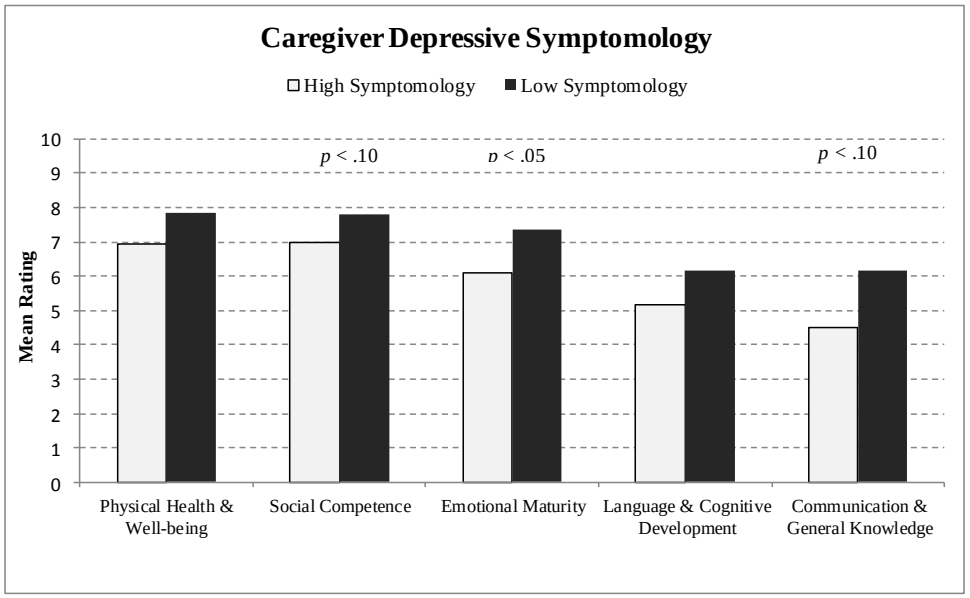

Figure 15. Differences in teacher reported S-EDI domains based on caregiver depressive symptomology.

Few differences in school readiness were present based on caregiver depressive symptomology. The only school readiness domain to reach statistical significance was *emotional maturity* (*d*=.63), with the *hyperactivity and inattention* (*d*=.58) and *prosocial and helping behaviour* (*d*=.42) subdomains reaching significance and the *anxious and fearful* (*d*=.48) subdomain showing a trend such that children of caregivers with lower depressive symptomology demonstrated lower levels of these behaviours, indicting they were more ready for school. Additionally, trends suggested that children of caregivers who reported low levels of depressive symptomology displayed higher levels of *communication and general knowledge* (*d*=.47) and *gross and fine motor skills* (*d*=.41). Finally, the trend found in the social competence (*d*=.42) domain appears to be driven by the *overall social competence with peers* (*d*=.47) subdomain. Differences in all other domains and subdomains did not reach significance. In sum, depressive symptomology of the caregiver was not highly associated with child school readiness, however, it was significantly associated with the one domain, *emotional maturity*, that best corresponds to the child's psychological health, indicating possible intergenerational effects. It is important to note, however, that this measure of depressive symptomology is only available for Wave 3 and

Wave 4 and it is, therefore, difficult to make a strong conclusion from these data given the relatively small sample size. The results may become more conclusive when additional responses are collected in future waves of data collection.

In addition to examining the relationships between the binary high depressive symptomology variable and school readiness, relationships between continuous measure of depressive symptomology and school readiness were explored in a regression framework for children in Wave 3. As demonstrated in Table 10, significant relationships were present among caregiver depressive symptomology and two of the subdomains of school readiness specifically, children of caregivers who report higher levels of depressive symptomology are rated by teachers as displaying lower levels of *basic literacy skills,* as they displayed higher levels of *anxious and fearful behaviour.* Additionally, higher caregiver reported depressive symptoms showed trend level relationships with the *emotional maturity* domains, a finding likely to be driven by the significant relationship with the *anxious and fearful behaviour* subdomain.

Table 10
Regression Analyses Representing the Relationship between Teacher Rated School Readiness and Caregiver Depressive Symptomology for Wave 3 and Wave 4

Domain	*df*	*F*	β	*SE*
Physical Health & Well-being	(2, 193)	1.15	- 0.03	0.02
Gross and Fine Motor Skills	(2, 191)	0.71	- 0.03	0.03
Social Competence	(2, 194)	3.36	- 0.02	0.02
Overall Social Competence with Peers	(2, 194)	2.34	- 0.03	0.02
Responsibility and Respect	(2, 194)	1.09	- 0.01	0.02
Approaches to Learning	(2, 194)	2.14	- 0.03	0.03
Readiness to Explore New Things	(2, 190)	5.08	- 0.02	0.02
Emotional Maturity	(2, 192)	1.79	- 0.03†	0.02
Prosocial and Helping Behaviour	(2, 175)	0.51	- 0.03	0.03
Aggressive Behaviour	(2, 194)	1.28	0.02	0.02
Anxious and Fearful Behaviour	(2, 194)	2.88	0.06*	0.03
Hyperactivity and Inattention	(2, 190)	1.26	0.02	0.01
Language & Cognitive Development	(2, 185)	1.57	- 0.05	0.03
Basic Literacy Skills	(2, 194)	4.7	- 0.09*	0.03
Interest in Literacy/Numeracy/Memory	(2, 194)	1.74	- 0.03	0.03
Basic Numeracy Skills	(2, 191)	0.23	- 0.01	0.03
Communication & General Knowledge	(2, 193)	1.06	- 0.04	0.03

Note. df illustrates the degrees of freedom, or the number of independent scores, associated with the statistical test. *F* represents the test statistic associated with the *F*- test, β signifies the beta coefficient, and *SE* represents the standard error of the beta estimate which illustrates the distance between the regression line and the actual data points.

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

11. Caregiver Self-rated Health

Thirty-four percent (*n*=114) of respondents indicated that their overall health was excellent, 38% (*n*=127) stated that their health was very good, 24% (*n*=79) indicated that it was good, 4% (*n*=13) reported that their overall health was fair, and no caregiver reported being in poor health. For the purposes of this analysis, self-rated health was dichotomised to represent those who believed their health was *good* or *fair* and those who felt that their health was *excellent or very good*. Approximately 72% (*n*=241) of the cohort indicated that they were in excellent or very good health. Figure 16 represents the mean teacher ratings for each domain of school readiness for children of caregivers who report good or fair health and children of caregivers who report excellent or very good health.

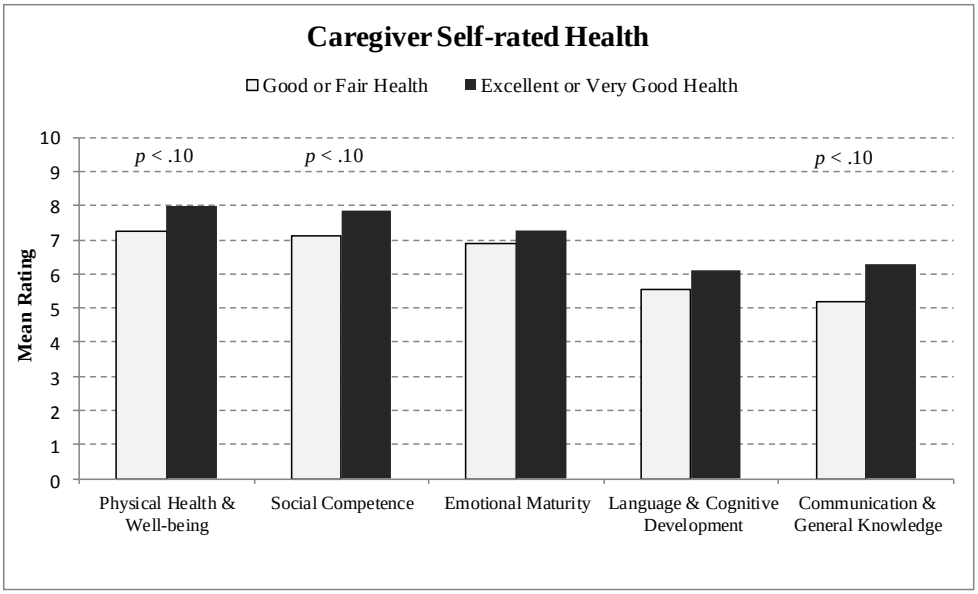

Figure 16. Differences in teacher reported S-EDI domains based on respondent self-reported health.

Few differences in school readiness were present based on self-rated health. Specifically, trend level effects were found in three domains, *physical health and well-being* (*d*=.35), *social competence* (*d*=.36) and *communication and general knowledge* (*d*=.37). Additionally, children of caregivers who reported their health to be excellent were rated higher in terms of the *gross and fine motor skills* (*d*=.41) and *approaches to learning* (*d*=46) subdomains and lower on the *anxious and fearful behaviour* (*d*=.33) subdomain. Finally, although differences in the overall

language and cognitive development domain did not reach significance, significant differences emerged in the *basic numeracy skills* (*d*=.31) subdomain. Collectively, children of caregivers with higher self-reported health displayed higher levels of school readiness, with moderate effect sizes.

12. Participation in 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 showed that 83% of children (*n*=371) experienced some form of childcare prior to starting school, with 82% (*n*=358) 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, 30.2 months (*SD*=22.2). Children who received centre-based childcare either in a nursery or Montessori school spent 19.2 months (*SD*=11.0), on average, in this type of childcare. Figure 17 represents the mean teacher ratings for each domain of school readiness for children in the CPSE cohort who *did not attend centre-based childcare* and those who *did attend centre-based childcare* at any period prior to school entry.

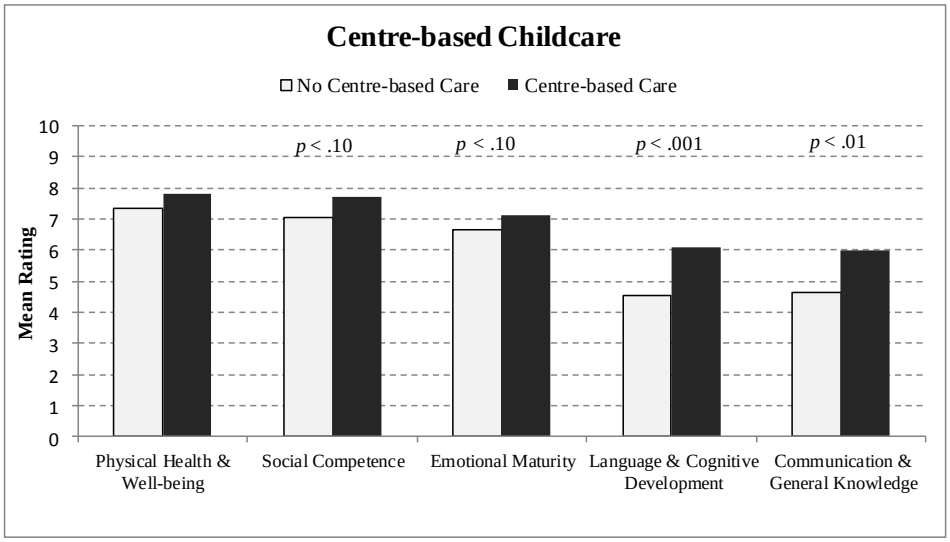

Figure 17. Differences in teacher reported S-EDI domains based on participation in centre-based childcare.

Differences on two of the five domains of school readiness, in addition to multiple subdomains, were present depending on whether a child participated in centre-based childcare prior to attending Junior Infants. Children who attended any form of centre-based care, for any period, prior to entering primary school, were rated as displaying significantly higher levels of *gross and fine motor skills* (*d*=.37), *readiness to explore new things* (*d*=.39), and *prosocial and helping behaviour* (*d*=.30). Additionally trends were found in the *social competence* (*d*=.32) and *emotional maturity* (*d*=.30) domains. Finally, they also were rated significantly higher than children who did not attend centre-based care in terms of *language and cognitive development* (*d*=.59), *basic literacy* (*d*=.51), *interest in literacy, numeracy, and memory* (*d*=.46), *basic numeracy skills* (*d*=.31), and *communication and general knowledge* (*d*=.40). Therefore, children who participated in centre-based childcare prior to school entry displayed higher levels of school readiness, especially in terms of cognitive skills, with moderate effect sizes.

In addition to examining the relationships between participation in centre-based childcare and school readiness, the duration spent in centre-based child care and school readiness was explored in a regression framework, while holding wave of data collection constant. As demonstrated in Table 11, significant relationships were present between duration in centre-based childcare and several domains and subdomains of school readiness. Specifically, children who spent a longer time in centre-based childcare displayed higher levels of *physical health and well-being*, specifically *gross and fine motor skills*. The *social competence* domain reached significance, with the *readiness to explore new things* subdomain reaching significance and the *overall social competence with peers* subdomain demonstrating a trend. Additionally, longer duration in centre-based childcare was associated with higher levels of *emotional maturity*, specifically in terms of *prosocial and helping behaviour*. Next, the *language and cognitive development* domain was significant, such that children who spent a longer time in centre-based childcare displayed higher levels of *basic literacy skills* and *basic numeracy skills*. Finally, duration in centre-based childcare was positively associated with *communication and general knowledge.* Collectively, these results highlight that longer duration in centre-based childcare is associated with greater school readiness.

Table 11

Regression Analyses Representing the Relationship between Teacher-rated School Readiness and Duration in Centre-based Childcare while Holding Wave of Data Collection Constant

Domain	*df*	*F*	β	*SE*
Physical Health & Well-being	(2, 310)	2.59	0.02**	0.01
Gross and Fine Motor Skills	(2, 296)	7.59	0.05***	0.01
Social Competence	(2, 310)	1.43	0.02*	0.01
Overall Social Competence with Peers	(2, 310)	2.33	0.03†	0.02
Responsibility and Respect	(2, 310)	0.90	0.01	0.01
Approaches to Learning	(2, 310)	0.48	0.02	0.01
Readiness to Explore New Things	(2, 302)	5.96	0.04***	0.01
Emotional Maturity	(2, 307)	3.41	0.02†	0.01
Prosocial and Helping Behaviour	(2, 275)	4.06	0.05***	0.01
Aggressive Behaviour	(2, 304)	1.26	- 0.01	0.01
Anxious and Fearful Behaviour	(2, 310)	1.24	- 0.01	0.02
Hyperactivity and Inattention	(2, 317)	2.32	- 0.01	0.01
Language & Cognitive Development	(2, 291)	4.70	0.05***	0.01
Basic Literacy Skills	(2, 306)	8.19	0.07***	0.02
Interest in Literacy/Numeracy/Memory	(2, 308)	0.77	0.01	0.01
Basic Numeracy Skills	(2, 305)	3.60	0.05***	0.01
Communication & General Knowledge	(2, 309)	2.21	0.05*	0.02

Note. *df* illustrates the degrees of freedom, or the number of independent scores, associated with the statistical test. *F* represents the test statistic associated with the *F*- test, β signifies the beta coefficient, and *SE* represents the standard error of the beta estimate which illustrates the distance between the regression line and the actual data points.

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

13. Parenting Behaviours

As demonstrated in Table 12, reports from the Parenting Styles and Dimensions Questionnaire showed that caregivers reported using a significantly higher level of authoritative parenting behaviours than authoritarian and permissive parenting behaviours, while they used 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 12
Wilcoxon Signed-rank Results for Comparisons of Parenting Behaviours

Comparison	Z	*p*
Authoritative vs. Authoritarian	18.15	<.001
Authoritative vs. Permissive	17.87	<.001
Permissive vs. Authoritarian	13.4	<.001

Note. Z represents the z-score or test statistic and p represents the p-value or significance level associated with the statistical test.

As displayed in Table 13, four discernible relationships emerged between parenting behaviours and teacher reports of school readiness. First, authoritative parenting behaviours were positively associated with teacher reports of *aggressive behaviour*. Second, permissive parenting behaviours were negatively associated with *approaches to learning*, while they were positively associated with *aggressive behaviour* and *anxious and fearful behaviour*. Finally, five trend level relationships were identified. Specifically, trends suggested a negative relationship between authoritarian parenting behaviours and *overall social competence with peers* and *basic literacy skills* and positive trends were present between authoritarian parenting behaviours and *aggressive behaviour* and *anxious and fearful behaviour*. Trends were also found between authoritative parenting behaviours and the *responsibility and respect* subdomain. Collectively, these results demonstrate that greater use of parenting behaviours characterised by low responsiveness and high control as well as those characterised by high warmth and low control were associated with lower levels of school readiness. These findings illustrate the impact that a parent's controlling behaviours have on a child's readiness for school.

Table 13

Regression Analyses Representing the Relationship between Teacher-rated School Readiness and Parenting Behaviours while Holding Wave of Data Collection Constant

Domain	Authoritative				Authoritarian				Permissive			
	df	***F***	***b***	***SE***	***df***	***F***	***b***	***SE***	***df***	***F***	***b***	***SE***
Physical Health & Well-being	(2, 415)	0.5	- 0.07	0.23	(2, 415)	0.52	- 0.08	0.22	(2, 417)	1.52	- 0.20	0.13
Gross and Fine Motor Skills	(2, 397)	0.11	0.04	0.41	(2, 397)	0.10	- 0.06	0.30	(2, 399)	0.19	- 0.14	0.24
Social Competence	(2, 416)	3.85	- 0.06	0.21	(2, 416)	3.89	- 0.30	0.23	(2, 418)	4.40	- 0.16	0.12
Overall Social Competence with Peers	(2, 416)	1.46	- 0.25	0.29	(2, 416)	2.77	- 0.58†	0.34	(2, 418)	1.86	- 0.17	0.18
Responsibility and Respect	(2, 416)	3.30	- 0.33†	0.17	(2, 416)	3.10	- 0.49	0.30	(2, 418)	3.42	- 0.20	0.15
Approaches to Learning	(2, 417)	0.93	0.16	0.32	(2, 416)	0.94	- 0.14	0.29	(2, 418)	2.63	- 0.34*	0.15
Readiness to Explore New Things	(2, 404)	4.06	0.21	0.22	(2, 404)	3.98	0.06	0.20	(2, 406)	3.90	0.07	0.12
Emotional Maturity	(2, 412)	2.46	- 0.30	0.19	(2, 412)	2.37	- 0.35	0.27	(2, 414)	2.35	- 0.17	0.12
Prosocial and Helping Behaviour	(2, 369)	0.29	0.01	0.38	(2, 369)	0.30	- 0.27	0.39	(2, 371)	0.27	- 0.04	0.15
Aggressive Behaviour	(2, 407)	3.37	0.51*	0.19	(2, 407)	2.42	0.70†	0.35	(2, 409)	3.25	0.37*	0.14
Anxious and Fearful Behaviour	(2, 416)	2.38	0.19	0.27	(2, 416)	2.43	0.81†	0.41	(2, 418)	4.27	0.51*	0.20
Hyperactivity and Inattention	(2, 412)	1.70	0.25	0.24	(2, 413)	1.49	- 0.33	0.32	(2, 414)	1.30	- 0.08	0.20
Language & Cognitive Development	(2, 392)	0.64	0.28	0.36	(2, 392)	0.82	- 0.42	0.33	(2, 393)	0.70	- 0.14	0.13
Basic Literacy Skills	(2, 410)	0.66	0.46	0.50	(2, 410)	1.40	- 0.84†	0.49	(2, 411)	0.88	- 0.36	0.24
Interest in Literacy/Numeracy/Memory	(2, 411)	1.58	0.34	0.37	(2, 411)	1.59	- 0.50	0.35	(2, 413)	1.69	- 0.08	0.17
Basic Numeracy Skills	(2, 409)	0.70	0.05	0.31	(2, 409)	0.67	0.07	0.28	(2, 411)	0.69	0.03	0.10
Communication & General Knowledge	(2, 415)	2.04	0.32	0.37	(2, 415)	2.00	- 0.06	0.35	(2, 417)	1.97	0.03	0.19

Note. df illustrates the degrees of freedom, or the number of independent scores, associated with the statistical test. *F* represents the test statistic associated with the *F*- test, *b* signifies the beta coefficient, and *SE* represents the standard error of the beta estimate which illustrates the distance between the regression line and the actual data points.

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

I. Multivariate Analysis of Factors Associated with School Readiness

Based on the results reported in the previous section, factors that were significantly related to children's S-EDI scores in the bivariate analyses were included in a Seemingly Unrelated Regression (SUR) analysis.[14] SUR is particularly efficient when the independent variables differ from one equation to the next as is the case in the present report as only factors significantly associated with the individual S-EDI domains are included in each model.

Two SUR analyses were conducted. First, an analysis was conducted examining the factors associated with school readiness across all waves, while controlling for wave of data collection. As the CES-D only was collected in Wave 3 and Wave 4 it was not included in this model. Therefore, a second SUR model was estimated for Wave 3 and Wave 4 data only. This model included the CES-D score of high depressive symptomology for the school readiness domain of *emotional maturity*. The results, reported in Tables 14 and 15, show that while some factors were significantly related to school readiness in a bivariate analysis, they were no longer significant in a multivariate context. However, there were several significant relationships which were consistent across domains.

1. Model 1: Factors Associated with School Readiness Across Waves

The bivariate analyses identified several factors associated with the five school readiness domains. A Seemingly Unrelated Regression (SUR) was estimated to test whether any observed associations between the socio-demographic, health, and environmental factors and the school readiness domains remained when all relevant variables were controlled for. Only factors that were significantly associated, at the 5% level or below, with an individual school readiness domain in the bivariate analyses were included in the multivariate SUR analysis discussed here, while controlling for wave of data collection. Table 14 reports the estimates from the SUR model, with the F statistics and R^2 for each individual equation and the overall Breusch-Pagan test reported at the end of the table. As the SUR model estimated the impact of the independent

[14] SUR is a special case of generalized least squares, which estimates a set of equations with cross-equation constraints imposed (Zellner, 1962). Specifically, it allows for the possibility that the residuals are correlated across each S-EDI domain.

variables on five S-EDI domains jointly, the sample size reported was lower than the individual permutation tests.

The Breusch-Pagan test of independence rejected the null hypothesis of independence of the residuals across the equations ($\chi^2(10) = 666.46$; $p<.001$). Therefore, OLS estimates would have been inconsistent and the choice of SUR was justified. All five of the school readiness domains were significant at the 5% level or below. Specifically, the *physical health and well-being* model (*F(3, 235) = 3.39; p<.01*), *social competence* (*F(7, 232) = 2.55; p<.05*), emotional maturity (F(6, 233) = 4.13; p<.001), *language and cognitive development* (*F(6, 232) = 2.44; p<.05*), and *communication and general knowledge* (*F(5, 234) = 5.06; p<.001*) models all reached significance accounting for 7%, 8%, 7%, 12% and 8% of the variance, respectively.

The only socio-demographic, health, and environmental factors to maintain significant relationships with multiple domains of school readiness in the SUR analysis were child gender, siblings in the household and the caregiver being in receipt of social welfare. Specifically, being a male child was significantly associated with a 1.61 point (on a zero to ten scale) decrease in *communication and general knowledge* ($p<.001$), a 1.08 point decrease in *emotional maturity* ($p<.001$), a 0.65 point decrease in *social competence* ($p<.05$) and *language and cognitive development* ($p<.05$) and a 0.5 point decrease in *physical health and well-being* ($p<.05$). For two of the five school readiness domains, children who had siblings were significantly less ready for school. Specifically, having siblings present in the household was associated with a .80 decrease in *physical health and well-being* ($p<.01$) and a trend suggested a 0.96 decrease in teacher rated *communication and general knowledge* ($p<.10$). Trends also suggested that the caregiver being in receipt of social welfare was associated with a .44 decrease in a child's *social competence* ($p<.10$) and a .49 decrease on the *emotional maturity* domain ($p<.10$).

Four other factors demonstrated significant relationships with at least one domain of school readiness at the 10% significance level or below. Specifically, an increase in child age was associated with a .31 increase in a child's teacher rated *social competence* ($p<.10$). With respect to caregiver education, children whose parents had obtained at least a Junior Certificate qualification were more ready for school. Specifically, low education was associated with a .64

decrease in teacher rated *language and cognitive development* ($p<.10$). Finally, the child of a caregiver who is in paid work was associated with a .77 point increase in *communication and general knowledge* ($p<.05$). Being in centre-based care was not associated with any of the five S-EDI domains.

Table 14

SUR Regression Results Estimating the Factors Associated with School Readiness while Controlling for Wave of Data Collection

	Physical Health & Well-being		Social Competence		Emotional Maturity		Language & Cognitive Development		Communication & General Knowledge	
F Statistic	*F* (3, 235) = 3.39; *p* <.01		*F* (7, 232) = 2.55; *p* <.05		*F* (6, 233) = 4.13; *p* <.001		*F* (6, 232) = 2.44; *p* <.05		*F* (5, 234) = 5.06; *p* <.001	
N =240	*β*	*SE*	*β*	*SE*	*β*	*SE*	*β*	*SE*	*β*	*SE*
Child Age	--	--	0.31†	0.17	--	--	--	--	--	--
Male Child	- 0.50*	0.23	- 0.65*	0.25	- 1.08***	0.23	- 0.65*	0.31	- 1.61***	0.42
Has Siblings	- 0.80**	0.29	- 0.33	0.32	- 0.24	0.30	- 0.59	0.40	- 0.96†	0.54
Single Caregiver	--	--	--	--	--	--	--	--	--	--
Young Caregiver	--	--	--	--	--	--	--	--	--	--
Low Education	--	--	- 0.23	0.32	0.01	0.28	- 0.64†	0.36	--	--
In Paid Work	--	--	0.15	0.23	- 0.09	0.23	0.45	0.29	0.77*	0.36
In Receipt of Social Welfare	--	--	- 0.44†	0.23	- 0.49†	0.25	--	--	--	--
Low Well-being	--	--	--	--	--	--	--	--	--	--
Low Subjective Health	--	--	--	--	--	--	--	--	--	--
In Centre-based Care	--	--	--	--	--	--	0.19	0.38	0.67	0.45
Authoritative Parenting	--	--	--	--	--	--	--	--	--	--
Authoritarian Parenting	--	--	--	--	--	--	--	--	--	--
Permissive Parenting	--	--	--	--	--	--	--	--	--	--
R^2	0.07		0.09		0.11		0.08		0.11	
Breusch-Pagan Test					$\chi^2(10) = 666.46$***					

Note. β represents the beta coefficient associated with the SUR analysis and *SE* signifies the standard error, or measurement error, of this coefficient, and illustrates the distance between the regression line and the actual data points.

† p<.10. *p<.05. **p<.01. ***p<.001.

2. Model 2: Factors Associated with School Readiness in Wave 3 and Wave 4

As the CES-D was only collected during Wave 3 and Wave 4 of data collection, it could not be included in the first SUR model estimating relationships using all waves of data collection. Therefore, a second SUR model was estimated for Wave 3 and Wave 4 including the CES-D for estimations in the *emotional maturity* domain. Table 15 reports the estimates from the SUR model, with the *F* statistics and R^2 for each individual equation and the overall Breusch-Pagan test reported at the end of the table. Note the sample size is lower as only one wave of data is included.

The Breusch-Pagan test of independence rejects the null hypothesis of independence of the residuals across the equations ($\chi^2(10) = 434.93$; $p<.001$). Therefore, OLS estimates would have been inconsistent and the choice of SUR was justified. Four of the five school readiness domains were significant at the 5% level or below. Specifically, the *physical health and well-being* model (*F(3, 148) = 3.11; p<.05*), *social competence* (*F(7, 145) = 3.55; p<.001*), emotional maturity (F(7, 145) = 5.28; p<.001) and *communication and general knowledge* (*F(5, 147) = 5.77; p<.001*) models all reached significance accounting for 7%, 14%, 19% and 16% of the variance, respectively.

The only socio-demographic, health, and environmental factors to maintain significant relationships with multiple domains of school readiness in the SUR analysis were child gender, siblings in the household and the caregiver being in receipt of social welfare. Specifically, being a male child was significantly associated with a 2.23 point (on a zero to ten scale) decrease in *communication and general knowledge* (*p*<.001), a 1.16 point decrease in *emotional maturity* (*p*<.001), a 0.78 point decrease in *social competence* (*p*<.01) and a trend suggested a .66 point decrease in *language and cognitive development* (*p*<.10).

For two of the five school readiness domains, children who had siblings were significantly less ready for school. Specifically, having siblings present in the household was associated with a .96 decrease in *physical health and well-being* (*p*<.01) and a trend suggested a 1.20 point decrease in teacher rated *communication and general knowledge* (*p*<.10). Children of caregivers being in receipt of social welfare payments were found to be significantly less ready for school on two

domains. Specifically, being in receipt of social welfare was associated with a .85 decrease in a child's *social competence* ($p<.01$) and a .58 decrease on the *emotional maturity* domain ($p<.10$).

One other factor demonstrated a significant relationship with one domain of school readiness at the 5% significance level. Specifically, children whose parents were in paid work were associated with a .90 point increase in *communication and general knowledge* ($p<.05$). Child age, being in centre-based care and low education was not associated with any of the five S-EDI domains.

Finally, high depressive symptomology was associated with a .84 point decrease in teacher rated *emotional maturity* ($p<.01$) for children in Wave 3 and Wave 4. Although, the differences present across the two SUR models may be a result of different cohorts of children being examined, they clearly illustrate the complexity of school readiness by demonstrating that no single factor is predictive of school readiness.

Table 15

SUR Regression Results Estimating the Factors Associated with School Readiness in Wave 3 and 4

	Physical Health & Well-being		Social Competence		Emotional Maturity		Language & Cognitive Development		Communication & General Knowledge	
F Statistic	*F* (3, 148) = 3.11; *p* <.05		*F* (7, 145) = 3.55; *p* <.001		*F* (7, 145) = 5.28; *p* <.001		*F* (6, 146) = 1.73; ns		*F* (5, 147) = 5.77; *p* <.001	
N =153	*β*	*SE*	*β*	*SE*	*β*	*SE*	*β*	*SE*	*β*	*SE*
Child Age	--	--	0.09	0.20	--	--	--	--	--	--
Male Child	- .045	0.30	- 0.78**	0.30	- 1.16***	0.29	- 0.66†	0.39	- 2.23***	0.51
Has Siblings	- 0.96**	0.37	- 0.47	0.37	- 0.57	0.36	- 0.69	0.50	- 1.20†	0.65
Single Caregiver	--	--	--	--	--	--	--	--	--	--
Young Caregiver	--	--	--	--	--	--	--	--	--	--
Low Education	--	--	- 0.12	0.31	- 0.12	0.34	- 0.22	0.45	--	--
In Paid Work	--	--	- 0.13	0.28	- 0.26	0.28	0.42	0.36	0.90*	0.44
In Receipt of Social Welfare	--	--	- 0.85**	0.30	- 0.58†	0.33	--	--	--	--
Low Well-being	--	--	--	--	--	--	--	--	--	--
High Depressive Symptomology	--	--	--	--	- 0.84**	0.28	--	--	--	--
Low Subjective Health	--	--	--	--	--	--	--	--	--	--
In Centre-based Care	--	--	--	--	--	--	0.58	0.49	0.33	0.54
Authoritative Parenting	--	--	--	--	--	--	--	--	--	--
Authoritarian Parenting	--	--	--	--	--	--	--	--	--	--
Permissive Parenting	--	--	--	--	--	--	--	--	--	--
R^2	0.07		0.14		0.19		0.07		0.16	
Breusch-Pagan Test					$\chi^2(10) = 434.93$***					

Note. β represents the beta coefficient associated with the SUR analysis and *SE* signifies the standard error, or measurement error, of this coefficient, and illustrates the distance between the regression line and the actual data points.

† 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 comprehensive reflection of school readiness and the factors that influence a child's abilities at school entry.

The 2008-2012 CPSE report examined this holistic view of school readiness among a cohort 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 this research will be conducted over multiple periods, it is feasible to generate a mean for Irish children living in designated disadvantaged areas.

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, the United States of America, Australia and several other countries illustrating its cross cultural utility and validity (e.g., Brinkman et al., 2007). In addition, by using the same S-EDI measure in multiple data collection waves, changes in school readiness within the *PFL* communities over time can be assessed.

The 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 and interventions designed to improve it. 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 the school readiness of young children.

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

Several statistical differences emerged between teacher and caregiver rated school readiness and the Canadian norms in the first wave of CPSE. 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 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 was a trend to suggest that caregivers also rated their children higher in this domain. While, on average, children in the CPSE cohort scored below the norms across all domains based on the teacher reports, approximately half the cohort were performing above the norm in regards to *physical health and well-being* and *social competence* and one-third of the cohort scored above the norm in the other three domains.

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

In the second round of data collection, many statistical differences were also recorded between teacher and caregiver rated school readiness and the Canadian norms. The overall pattern was very similar to Wave 1, with teachers in Wave 2 rating children as performing below the Canadian norm, and caregivers rating children above the Canadian norm. Regarding caregiver and teacher ratings, there were significant mean differences on *all school readiness domains* apart from language and cognitive development, with caregivers rating children higher on most S-EDI domains. Based on the teacher reports, almost 60% of children performed above the norm on the *social competence* domain and approximately 40% scored 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. School Readiness in the 2010-2011 CPSE Cohort (Wave 3)

In Wave 3, many similar statistical differences were also recorded between teacher and caregiver rated school readiness and the Canadian norms. The overall pattern of teacher rated scores was very similar to previous waves, with teachers in Wave 3 rating children as performing below the Canadian norm across *all domains of school readiness*. Caregiver ratings, however, were mixed with caregivers rating children above the Canadian norm on the domains of *physical health and well-being, social competence,* and *communication and general knowledge* and below the Canadian norm on the domains of *emotional maturity* and *language and cognitive development*. Regarding teacher and caregiver rating comparisons, caregivers rated children significantly higher than did teachers on the domains of *physical health and well-being, social competence, language and cognitive development,* and *communication and general knowledge.* Based on the teacher reports, 50% of children performed above the norm on the *social competence* domain and approximately 40% scored above the norm on the *physical health and well-being* and *emotional maturity* domains. Finally, 30% of children in Wave 3 scored above the norm on the *language and cognitive development* and *communication and general knowledge* domains according to teacher ratings.

D. School Readiness in the 2011-2012 CPSE Cohort (Wave 4)

In Wave 4, many similar statistical differences also were recorded between teacher and caregiver rated school readiness and the Canadian norms. The overall pattern of teacher rated scores was very similar to previous waves, with teachers in Wave 4 rating children as performing below the Canadian norm on the domains of *physical health and well-being, emotional maturity, language and cognitive development* and *communication and general knowledge* and statistically equal to the Canadian norm on the domains of *social competence*. Caregivers rated children above the Canadian norm on the domains of *physical health and well-being, social competence, emotional maturity,* and *communication and general knowledge* and below the Canadian norm on the domain *language and cognitive development*. Regarding teacher and caregiver rating comparisons, caregivers rated children significantly higher than did teachers on all five domains of school readiness. Based on the teacher reports, 60% of children performed above the norm on the *social competence* domain and more than 40% scored above the norm on the *physical health and well-being, emotional maturity* and *communication and general knowledge* domains.

Finally, 28% of children in Wave 4 scored above the norm on the *language and cognitive development* domain according to teacher ratings.

E. Comparison of School Readiness in Waves 1 to 4

Overall, the pattern of results is very similar for the four waves of data collection. In all 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* in Waves 1, 2 and 4 and emotional maturity in Wave 3. Two domains demonstrated significant teacher rated differences between waves of data collection. Specifically, teachers rated children in Wave 4 higher on the *social competence* domain than children in previous waves. Teachers also rated children in Wave 1 lower on *emotional maturity* domain than children in subsequent waves. In terms of caregiver ratings, significant wave differences were present on the *emotional maturity* and *language and cognitive development* domains. Specifically, caregivers indicated that children in Wave 3 demonstrated lower levels of *emotional maturity* than children in Waves 1, 2 or 4. Additionally, caregivers reported that children in Wave 1 displayed significantly higher levels of *language and cognitive development* than children in Wave 3. Differences between the four waves in terms of *physical health and well-being*, *social competence*, and *communication and general knowledge* did not reach significance.

There was considerable variation between waves in terms of the percentage of children scoring above and below the Canadian norm. The percentage of children scoring above the Canadian norm on the *physical health and well-being* domain in Waves 2, 3 and 4 has remained largely constant. In addition, although a higher percentage of children in Waves 2 and 4 scored above the norm on the *social competence* and *communication and general knowledge* domains compared to Wave 1. The percentage of children in Wave 3 scoring above the norm on these two domains has remained consistent with figures reported in Wave 1, suggesting little consistent improvement over time in children's school readiness skills. In terms of *emotional maturity*, the percentage of children performing above the norm increased from Wave 1 to Wave 2 and remained at a similar level in Waves 3 and 4. Finally, although a lower percentage of the Wave 2 cohort scored above the norm on the *language and cognitive development* domain compared to

Wave 1, scores in Waves 3 and 4 make it difficult to ascertain whether children are performing better from one year to the next.

There is a clear decrease in the percentage of children scoring in the lowest 10% on any one domain, from Wave 1 to Wave 3, suggesting that fewer children in Waves 2 and 3 were performing in the lowest 10% of the Irish cohort on any domain of school readiness. In Wave 4, 70.75% of children did not score in the lowest 10% on any domain. However, there are considerably more children vulnerable on two domains in Wave 4 than Waves 2 and 3, suggesting a decline in school readiness for some children over time.

1. Discussion of Wave Differences in School Readiness

There are several possible explanations for these findings. First, as different teachers have participated throughout this survey, it is possible that the teachers may have a different frame of reference on which to base their assessments. Additionally, as some of the teachers in Wave 3 and Wave 4 participated in previous waves, it is possible that their frame of reference has evolved with the additional years of teaching experience. Second, these results may represent a cohort effect such that the children in each wave display different levels of school readiness. Third, the *PFL* programme may be generating 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. However, only 27 (10.9%) of children in the entire CPSE cohort are in families participating in the *PFL* programme. Therefore, it is unlikely that positive externalities are being transmitted at the family level, and thus we are experiencing little improvement in skills over time.

F. Discussion of Differences in Teacher and Caregiver Reported School Readiness

An important observation of this report is that several differences emerged between teacher and caregiver reports on the S-EDI across all waves of data collection. 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). Additionally, teachers and caregivers often have different definitions of school readiness, which may affect the school readiness ratings in the CPSE survey. A clear pattern emerged from

the importance ratings such that teachers place more importance on non-cognitive skills, while caregivers appear to place a greater emphasis on being physically ready for the school day and cognitive skills. This is in line with research indicating that 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 & Baker, 1995). Additionally, teachers are more likely to rate the child's ability not to disrupt a class high on importance for school readiness (Harradine & Clifford, 1996).

There are several possible explanations for the observed discrepancies in the current report. First, caregivers may perceive the same child behaviours differently to teachers. Teachers observe multiple children daily and over many years, whereas caregivers may only regularly observe their own children, children in their community, or neighbours' and friends' children. Additionally, while teachers may interact with children from a range of areas, communities and cultures, caregivers may only be familiar with the children living in their own area. Therefore, the frame of reference upon which assessments of child skill and behaviour are made may differ for teachers and caregivers. In relation to frame of reference as an explanation for reported discrepancies, it is worth noting that this study was conducted in a disadvantaged area with above national levels of unemployment and social welfare dependency (Census Small Area Population Statistics, 2006). The frame of reference upon which the caregivers are rating their children may be skewed, with caregivers considering their children as performing above average for the community. This might be viewed as a downward social comparison (Wills, 1981) as caregivers witnessing low levels of school readiness in the community may perceive their children as displaying higher levels of school readiness relative to other children living in the area. In contrast, teachers may rate children's behaviours in comparison to a larger pool of children from multiple areas, including those living in more advantaged communities demonstrating higher levels of school readiness. Therefore, teacher ratings may be influenced by their experience of interacting with children at different ends of the social spectrum.

Secondly, the discrepancy between teacher and caregiver reported school readiness may be a function of children exhibiting different behaviours in a school context than in a family context. Children's behaviours, whether problematic or not, have long been conceptualised as responses to different social situations (Mischel, 1968), and therefore, caregivers and teachers may be rating different behaviours. For example, children may be expected to follow different rules in the school and home environments, and the consequences for their actions may differ across contexts. Thus, children may learn that behaviours which are acceptable at school may not be acceptable at home, and vice-versa, resulting in different behaviours being exhibited in different environments. This is commonly referred to as the situational specificity hypothesis and has been supported by several research findings. For example, child behaviour has been shown to cluster between school and home settings, and even when antisocial behaviour is found in both situations, the type of behaviour differs across settings (Wahler, 1975). Young childrens' behaviour also may vary according to the type of situation they are in, and depend on the constraints placed upon them, for example in a teaching versus a playtime situation (Rose, Blank, & Spalter, 1975). It is therefore possible that caregivers and teachers may be providing accurate reports of the behaviours that they witness. However, further research is required to understand the situational specificity of other, non-behavioural skills encompassed in school readiness, such as language, literacy, and physical well-being.

In addition, these divergences may represent differential capabilities that are focused on in the school and home environments. 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 caregiver 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. Specifically, 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 the 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. Understanding why these differences exist is important as being exposed to diverging messages about the skills important for school success may lead to lower levels of school readiness for young children.

G. Subjective Ratings and Importance of School Readiness Domains

Teachers in the 2011-2012 CPSE cohort indicated that 56% of children were *definitely ready* for school when they started in September, 2011, compared with 52% of children in the 2010-2011 cohort and 48% in the 2009-2010 cohort. As these figures are broadly in line with the 48% of children reported as being *definitely ready* for school in September, 2004, it suggests that there have been few improvements in children's school readiness, as reported by teachers, in the *PFL* communities over a six year period.

H. Factors Associated with School Readiness

In addition to measuring the level of school readiness in the *PFL* catchment area, the report also investigated how school readiness differed by socio-demographic, health, and environmental factors. The report replicated several of the findings from the 2004 school readiness survey conducted in the *PFL* 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, with differences in the social competence and language and cognitive development domains remaining when other relevant factors were controlled for. In addition, girls were more physically ready for school, more socially competent, more emotionally mature, and displayed higher levels of communication and general knowledge than boys, however, only differences in the emotional maturity domain remained significant when relevant socio-demographic, health, and environmental 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). While many of the significant SES relationships identified in the bivariate analyses no longer remained in the

multivariate analysis, relatively low caregiver education still was associated with poorer physical health and language and cognitive development. 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 regards 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 language and cognitive development and communication and general knowledge. Additionally, an examination of the total number of siblings present in the household demonstrated that not only does the presence of siblings matter for a child's school readiness, so too does the number of siblings living in the household. However, only the relationship for the physical health and well-being domain remained when relevant socio-demographic, health, and environmental factors were controlled for in the multivariate analysis. There are several plausible explanations for this unexpected finding. First, children without any siblings living in the same house may be modelling their behaviour after their parents, rather than siblings, and parents of only children may be better equipped to provide the necessary resources required for a child to be physically ready for the school day.

The significant relationships observed between parenting behaviours and certain dimensions of school readiness are generally in accordance with the literature. In the present report, authoritarian parenting behaviours were associated with lower levels of school readiness, which is consistent with literature identifying 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, Bierman, McMahon, & Lengua, 2000). Additionally, permissive parenting was negatively associated with school readiness, which replicates findings by Querido, Warner, and Eyberg (2002) and Williams et al. (2009). This may be associated with caregiver laxness in monitoring or managing the eating habits and physical activities of their children (Birch & Fisher, 1998; Davison & Birch, 2001).

I. Caregiver Health & School Readiness

The second, third and fourth waves of CPSE data collection addressed the mental well-being and self-reported health of caregivers. Additionally, depressive symptomology was assessed in Wave 3 and Wave 4. Overall, the caregivers in the *PFL* communities report quite positive health. While 72% of caregivers reported having excellent or very good general health, 72% reported their mental well-being as being above the threshold for being classified as having poor mental health, and 82% reported low depressive symptomology. While 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; Lesesne, Visser, & White, 2003; Linver, Brooks-Gunn, & Kohen, 2002), no significant relationship was found between the S-EDI domains and the mental well-being of caregivers. However, significant relationships were present between depressive symptomology and the social competence, emotional maturity and language and cognitive development domains, with children of caregivers who reported lower symptomology displaying higher levels of school readiness. The relationships between low levels of caregiver depressive symptomology and higher child emotional maturity remained in the multivariate analysis, suggesting a strong intergenerational relationship between caregiver and child socio-emotional well-being. Additionally, several strong effects were present in the relationship between subjective health 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 three of the five domains of school readiness. Specifically, strong associations were present between caregiver subjective health and the child's *physical health and well-being*, s*ocial competence* and *communication and general knowledge* indicating that children of caregivers who report better health are more ready for school. However, none of these results remained in the multivariate analysis controlling for all characteristics. The bivariate 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.

J. Centre-based Childcare & School Readiness

As formal childcare has been identified as one of the key promoters of early school readiness (National Institute of Child Health and Human Development Early Childcare Research Network, 2000; 2002), 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 cohort 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 30.2 months and formal childcare (e.g., care in nursery or Montessori school) for 19.2 months. Studies typically find that children from disadvantaged areas are more likely to avail of informal, rather than formal, childcare (Petitclerc et al., 2011), however, this result is not borne out in the CPSE cohort.

Several significant relationships were identified between participation in centre-based childcare and school readiness. Children who participated in centre-based childcare were rated higher than children who did not attend centre-based childcare on the domains of language and cognitive development and communication and general knowledge. However this relationship did not reach significance when relevant socio-demographic, caregiver, and environmental factors were held constant in the multivariate analysis. These findings are consistent with the literature which suggests that centre-based childcare is beneficial for children's development (National Institute of Child Health and Human Development Early Childcare Research Network, 2000; 2002). There also is established 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 (Geoffroy et al., 2006; Caughy, DiPietro, & Strobino, 1994), especially in terms of physical aggression (Borge, Rutter, Côté, & Tremblay, 2004) and emotional maturity (Côté, Borge, Geoffroy, Rutter, & Tremblay, 2008).

Furthermore, 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 preschools, schools, and childcare settings in the *PFL* catchment area as part of the *Preparing for Life* programme. This framework aims to raise the standards of the childcare settings within the *PFL* community, therefore future CPSE surveys may be able to incorporate these measures to analyse the effects on school readiness over time.

K. Conclusion of Findings

This report serves as an update for an on-going assessment of the school readiness of children living in the *PFL* catchment area. Overall, there is little improvement in the level of school readiness in the community based on multiple forms of assessment. However, as the sample size increases, it is possible to identify several relationships from the data. Interestingly, many significant relationships emerged between school readiness and child characteristics, such as age and gender, and environmental characteristics, such as participation in centre-based childcare. Familial factors, such as presence of siblings and dependence on social welfare, were associated with various domains of school readiness, while caregiver characteristics show mixed results. Specifically, caregiver relationship status and mental well-being were not associated with any domains of school readiness, but caregiver age, education, employment status, depressive symptomology, and subjective health displayed significant relationships with at least some domains of school readiness. Collectively, the results of this study illustrate the complexity of the factors associated with school readiness.

L. 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 and caregivers were 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 and maximise the 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 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, health, and environmental 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.

M. The Need for the *PFL* Intervention

The CPSE survey 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 area 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.

N. 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 the 2013-2014 academic year. 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 2013. Additionally, the combined CPSE surveys will serve as a baseline measure of school readiness for children receiving the *PFL* early childhood intervention. 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 more data which may deepen the richness of the analysis and allow researchers to fully investigate the determinants and antecedents of school readiness of children living in disadvantaged areas in Ireland.

VI. References

Arnold, D.H., Ortiz, C., Curry, J.C., Stowe, R.M., Goldstein, N.E., Fisher, P.H.,…Yershova, K. (1999). Promoting academic success and preventing disruptive behaviour disorders through community partnership. *Journal of Community Psychology*, *27*, 589-598.

Barry, T.D., Dunlap, S.T., Cotton, S.J., Lochman, J.E., & Wells, K.C. (2005). The influence of maternal stress and distress on disruptive behavior problems in boys. *Journal of the American Academy of Child and Adolescent Psychiatry, 44,* 265–273.

Baumrind, D. (1966). Effects of authoritative control on child behaviour. *Child Development, 37,* 887-907.

Baumrind, D. (1967). Child care practices anteceding three patterns of preschool behaviour. *Genetic Psychology Monographs, 75*, 43-88.

Baumrind, D. (1971). Current patterns of parental authority. *Developmental Psychology Monograph, 4,* 1-103.

Birch L.L., & Fisher, J.O. (1998). Development of eating behaviors among children and adolescents. *Pediatrics, 101,* 539-549.

Borge, A., Rutter, M., Côté, S., & Tremblay, R.E. (2004). Early childcare and physical aggression: Differentiating social selection and social causation. *Journal of Child Psychology and Psychiatry*, *45*, 367-376.

Brenner, V., & Fox, R.A. (1998). Parental discipline and behavior problems in young children. *Journal of Genetic Psychology, 159,* 251-256.

Brinkman, S.A., Silburn, S., Lawrence, D., Goldfeld, S., Sayers, M., & Oberklaid, F. (2007). Investigating the validity of the Australian Early Development Index. *Early Education and Development, 18*, 427-451.

Brooks-Gunn, J. (2003). Do you believe in magic? *Social Policy Report, 17*, 3-16.

Burchinal, M.R., Roberts, J.E., Riggins, R., Zeisel, S.A., Neebe, E., & Bryant, D. (2000). Relating quality of center-based child care to early cognitive and language development longitudinally. *Child Development*, *71*, 339-357.

Caughy, M.O., DiPietro, J.A., & Strobino, D.M. (1994). Day-care participation as a protective factor in the cognitive development of low-income children. *Child Development*, *65*, 457-471.

Child Trends. (2001). *School readiness: Helping communities get children ready for school and schools ready for children*. Washington, DC: Child Trends. Retrieved from http://www.childtrends.org/files/schoolreadiness.pdf.

Census Small Area Population Statistics. (2006). Retrieved August 23rd 2010, from http://beyond2020.cso.ie/census/ReportFolders/ReportFolders.aspx

Cohen, J. (1988). *Statistical Power Analysis for the Behavioral Sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.

Côté, S.M., Borge, A.I., Geoffroy, M.C., Rutter, M., & Tremblay, R.E. (2008). Nonmaternal care in infancy and emotional/behavioral difficulties at 4 years old: Moderation by family risk characteristics. *Developmental Psychology, 44*, 155-168.

Cronbach, L.J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika, 16*, 297-334.

Davison, K.K., & Birch, L.L. (2001). Childhood overweight: A contextual model and recommendations for future research. *Obesity Reviews, 2*, 159-171.

Delaney, L., Doyle, O., McKenzie, K., & Wall, P. (2009). The distribution of psychological well-being in Ireland. *Irish Journal of Psychological Medicine, 26*, 119-126.

Doyle, O., Finnegan, S., & McNamara, K.A. (2010). Differential parent and teacher reports of school readiness in a disadvantaged community. UCD Geary Institute Working Paper Series: 201011.

Fantuzzo, J.W., Bulotsky-Shearer, R., Fusco, R.A., & McWayne, C. (2005). An investigation of preschool classroom behavioural adjustment problem and social-emotional school readiness competencies. *Early Childhood Research Quarterly, 20*, 259-275.

Gagnon, C., Vitaro, F., & Tremblay, R.E. (1992). Parent-teacher agreement on kindergartners' behaviour problems. *Journal of Child Psychology and Psychiatry, 33*, 1255-1261.

Geoffroy, M.C., Côté, S.M., Borge, A., Larouche, F., Seguin, J.R., & Rutter, M. (2006). Association between nonmaternal care in the first year of life and children's receptive language skills prior to school entry: the moderating role of socioeconomic status. *Journal of Child Psychology and Psychiatry, 48*, 490-497.

Gravetter, F.J., & Wallnau, L.B. (2004). *Statistics for the Behavioral Sciences* (6th ed.). Thompson Wadsworth: CA.

Green, W. H. (2000). *Econometric Analysis*, 4th Edition, Upper Saddle River: NJ: Prentice Hall.

Guhn, M., Gaderman, A., & Zumbo, B.D. (2007). Does the EDI measure school readiness in the same way across different groups of children? *Early Education and Development, 18*, 453-472.

Halle, T., Zaff, J., Calkins, J., & Geyelin-Margie, N. (2000). Part II: Reviewing the literature on contributing factors to school-readiness. In *Background for Community-Level Work on School readiness: A review of Assessments and Investment Strategies*. Child Trends, Final Report to the Knight Foundation.

Harradine, C.C., & Clifford, R.M. (1996). *When are children ready for kindergarten? Views of families, kindergarten teachers, and child care providers*. Paper presented at the meeting of the American Educational Research Association, New York, NY (ERIC Document Reproduction Service No. ED 399044).

Heaviside, S., & Farris, E., (1993). *Public school kindergarten teachers' views on children's readiness for school*, U.S. Department of Education, NCES 93–410, Washington, D.C.

Heckman, J. (2000). *Invest in the very young*. Chicago, IL: Ounce of Prevention Fund.

Hinshaw, S.P. (1992). Externalizing behaviour problems and academic underachievement in childhood and adolescence: Causal relationships and underlying mechanisms. *Psychological Bulletin*, *111*, 127-155.

Janus, M., & Duku, E. (2007). The school entry gap: Socioeconomic, family, and health factors associated with children's school readiness to learn. *Early Education and Development, 18,* 375-403.

Janus, M., Duku, E.K., & Stat, P. (2005). *Development of the Short Early Development Instrument (S-EDI).* Report for the World Bank.

Janus, M., & Offord, D. (2000). Readiness to learn at school. *Canadian Journal of Policy Research, 1,* 71-75.

Johnson, D. L., Swank, P. R., Baldwin, C. D., & McCormick, D. (1999). Adult smoking in the home environment and children's IQ. *Psychological Reports, 84,* 149–154.

Kagan, S.L., Moore, E., & Bradenkamp, S. (1995). *Reconsidering children's early development and learning: Toward common views and vocabulary.* Washington, DC: National Education Goals Panel, Goal 1 Technical Planning Group.

Kahen, V., Katz, L.F., & Gottman, J.M. (1994). Linkages between parent-child interaction and conversations of friends. *Social Development, 3,* 238-254.

Kahn, R.S., Zuckerman, B., Bauchner, H., Homer, C.J., & Wise, P.H. (2002). Women's health after pregnancy and child outcomes at age three years: A prospective cohort study. *American Journal of Public Health, 92,* 1312-1318.

Kiernan, G., Axford, N., Little, M., Murphy, C., Greene, S., & Gormley, M. (2008). The school readiness of children living in a disadvantaged area in Ireland. *Journal of Early Childhood Research, 6,* 119-144.

Knudsen-Lindauer, S.L., & Harris, K. (1989). Priorities for kindergarten curricula: Views of parents and teachers. *Journal of Research and Childhood Education*, *4*, 51-61.

Lesesne, C.A., Visser, S.N., & White, C.P. (2003). Attention-Deficit/Hyperactivity Disorder in school-aged children: Association with maternal mental health and use of health care resources. *Pediatrics*, *111*, 1232-1237.

Lewit, E.M., & Baker, L.S. (1995). School readiness. *Critical Issues for Children and Youths*, *5*, 128-139.

Linver, M., Brooks-Gunn, J., & Kohen, D. (2002). Family processes as pathways from income to young children's development. *Developmental Psychology*, *38*, 719-734.

Mischel, W. (1968). *Personality and assessment*. New York: Wiley.

National Institute of Child Health and Human Development Early Child Care Research Network. (2000). The relation of child care to cognitive and language development. *Child Development*, *71*, 960-980.

National Institute of Child Health and Human Development Early Child Care Research Network. (2002). Early child care and children's development prior to school entry: Results from the NICHD Study of Early Child Care. *American Educational Research Journal*, *39*, 133-164.

Nunnaly, J. (1978). *Psychometric Theory*. New York: McGraw Hill.

Petitclerc, A., Côté, S., Doyle, O., Burchinal, M., Herba, C., Kelleher, C., Tremblay, R.E. (2011). Selection factors for participation in child care: An international comparison. UCD Geary Institute, Unpublished Manuscript.

Querido, J.G., Warner, T.D., & Eyberg, S.M. (2002). Parenting styles and child behaviour in African American families of preschool children. *Journal of Clinical Child Psychology*, *31*, 272-277.

Radloff, L.S. (1977). The CES-D scale: A self report depression scale for research in the general population. *Applied Psychological Measurement*, *1*, 385-401.

Raver, C. (2003). Young children's emotional development and school readiness. *ERIC Digest*. URL: http://www.childcareresearch.org/SendPdf?resourceId=2833.

Rimm-Kaufman, S.E., Pianta, R.C., & Cox, M.J. (2000). Teachers' judgements of problems in the transition to kindergarten. *Early Childhood Research Quarterly*, *15*, 147-166.

Robinson, C.C., Mandleco, B., Olsen, S.F., & Hart, C.H. (2001). The Parenting Styles and Dimensions Questionnaire (PSDQ). In: B.F. Perlmutter, J. Touliatos and G.W. Holden, (Eds.), *Handbook of family measurement techniques: Vol. 3. Instruments & index,* (pp. 319-321), Sage, Thousand Oaks.

Rose, S.A., Blank, M., & Spalter, I. (1975). Situational specificity of behaviour in young children. *Child Development, 46*, 464-469.

Ross, D., & Shillington, R. (1990). Child poverty and poor educational attainment: The economic costs and implications for society. In *Children in Poverty: Toward a Better Future.* Report of the Standing Committee on Social Affairs, Science and Technology. Ottawa: Minister of Supply and Services, Appendix I.

Shaw, J.G., Hammer, D., & Leland, H. (1991). Adaptive behaviour of preschool children with developmental delays: Parent versus teacher ratings. *Mental Retardation, 29,* 49-53.

Stormshak, E.A., Bierman, K.L., McMahon, R.J., & Lengua, L.J. (2000). Parenting practices and child disruptive behavior problems in early elementary school. *Journal of Clinical Child Psychology, 29,* 17-29.

Tasse, M.J., & Lecavalier, L. (2000). Comparing parent and teacher ratings of social competence and problem behaviours. *American Journal of Mental Retardation, 105,* 252-259.

Tomz, M., Tucker, T., & Wittenburg, J. (2002). A Convenient Statistical Model for Multiparty Electoral Data. *Political Analysis, 10,* 66-83.

Wahler, R.G. (1975). Some structural aspects of deviant child behaviour. *Journal of Applied Behavior Analysis, 8,* 27-42.

West, J., Hausken, E.G., & Collins, M. (1993). *Readiness for kindergarten: Parent and teacher beliefs.* US Department of Education, Office of Educational Research and Improvement, NCES, 93-257, Washington, D.C.

Williams, L.R., Degnan, K.A., Perez-Edgar, K.E., Henderson, H.A., Rubin, K.H., Pine, D.S., … Fox, N.A. (2009). Impact of behavioral inhibition and parenting style on internalizing and externalizing problems from early childhood through adolescence. *Journal of Abnormal Child Psychology, 37,* 1063–1075.

Wills, T. A. (1981). Downward comparison principles. *Psychological Bulletin, 90,* 245-271.

World Health Organisation: Regional Office for Europe (1998). Well-being measures in primary health care: The DepCare Project. Consensus Meeting, Stockholm, Sweden.

Zellner, A. (1962). An efficient method of estimating seemingly unrelated regression equations and tests for aggregation bias. *Journal of the American Statistical Association 57,* 348–368.

VII. Appendix A: Instruments: Example Items

Table 1
Domains, Subdomains, and Example Items for the Parenting Styles and Dimensions Questionnaire

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

Table 2
Domains, Subdomains, and Example Items for the S-EDI

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

VIII. Appendix B: Descriptive Statistics

Table 1
Descriptive Statistics for Continuous Variables

	Wave 1				Wave 2				Wave 3				Wave 4				F/χ^2	*df*
	n	Mean (SD)	Min.	Max.	*n*	Mean (SD)	Min.	Max.	*n*	Mean (SD)	Min.	Max.	*n*	Mean (SD)	Min.	Max.		
Teacher Information																		
Age[1]	12	37.25 (10.9)	24	55	9	34.11 (11.8)	24	59	9	34.67 (9.68)	22	55	9	38.44 (11.74)	26	58	0.16	(3, 26)
Years Teaching[1]	12	10.83 (9.27)	2	31	9	11.78 (12.6)	3	39	9	8 (5.15)	2	16	9	15.36 (10.69)	6	34	1.04	(3, 26)
Years Teaching Junior Infants[1]	12	4.25 (3.82)	1	15	9	3.33 (3.77)	0	12	9	3.56 (2.3)	1	7	9	4.03 (3.75)	1	15	0.21	(3, 26)
Years Teaching at School[1]	12	9.42 (8.17)	1	31	9	10.67 (12.8)	3	38	9	7.22 (4.41)	2	14	9	12.00 (10.20)	5	34	0.62	(3, 26)
Number of Students in Class[1]	7	14.57 (1.40)	13	16	9	18.33 (1.93)	16	21	9	15 (1.33)	13	17	9	14.34 (1.30)	13	17	11.76***	(3, 26)
Caregiver Information																		
Age[2]	92	30.48 (5.53)	22	45	126	31.76 (6.72)	21	54	105	30.83 (5.86)	22	51	102	31.41 (6.64)	22	52	1.69	3
WHO-5[2] (higher = greater well-being)	--	--	--	--	129	14.31 (6.11)	1	25	106	16.49 (5.76)	3	25	100	16.79 (5.26)	1	25	11.08**	2
CES-D (higher = greater symptomology)	--	--	--	--	--	--	--	--	106	8.98 (9.09)	0	45	99	8.52 (9.24)	0	45	0.20	1
Self-reported Health	--	--	--	--	126	4.03 (0.81)	2	5	105	3.98 (0.95)	2	5	102	4.07 (0.84)	2	5	0.20	2
Child Information																		
Age[2]	91	4.83 (0.46)	3.93	7.1	127	4.72 (0.42)	4.08	7.13	106	4.67 (0.4)	3.26	6.08	103	4.70 (0.44)	3.02	6.44	6.15	3
# Months in Home-based Care[2]	11	21.82 (10.1)	12	36	16	34.75 (19.4)	6	60	10	36.8 (32.4)	4	120	6	26 (17.25)	12	60	3.40	3
# Months in Centre-based Care[2]	70	18.5 (10.3)	12	72	94	20.63 (10.9)	6	58	80	21.21 (10.4)	9	52	83	20.08 (9.74)	6	55	3.08	3

Table 1 continued…

Descriptive Statistics for Continuous Variables

	Wave 1				Wave 2				Wave 3				Wave 4				F/χ^2	*df*
	n	Mean (SD)	Min.	Max.	*n*	Mean (SD)	Min.	Max.	*n*	Mean (SD)	Min.	Max.	*n*	Mean (SD)	Min.	Max.		
Household Information																		
# Household Members[2]	91	4.69 (1.44)	2	9	127	4.67 (1.59)	2	14	105	4.58 (1.62)	2	10	102	4.82 (1.66)	2	11	1.54	3
# Biological Children[2]	92	2.88 (1.61)	1	10	128	2.78 (1.45)	1	8	106	2.74 (1.51)	1	9	101	2.61 (1.27)	2	11	1.04	3
# Siblings in Household[2]	94	1.84 (1.52)	0	7	129	1.61 (1.30)	0	6	106	1.63 (1.37)	0	6	102	1.52 (1.26)	0	5	2.02	3

Note. Ninety-three percent of caregivers are the child's mother. n represents the number of observations, Mean illustrates the average score, *SD* represents the standard deviation, Min. denotes the minimum score indicated, Max. signifies the maximum score endorsed, F/χ^2 represents the associated test statistic, and *df* signifies the degrees of freedom.

[1]ANOVA with Tukey pairwise comparison post hoc test used. [2]Kruskal-Wallis with Dunn's multiple comparison procedure in unequal sample sizes post hoc test used.

Table 2
Descriptive Statistics for Categorical Variables

		Wave 1		Wave 2		Wave 3		Wave 4		Fisher's *p*/ χ^2
		n	%	*n*	%	*n*	%	*n*	%	
Teacher Information										
Highest Level of Education[1]	Non-degree Qual.	1	8.33	1	11.11	0	0.00	1	11.11	0.59
	Primary Degree	4	33.33	5	55.56	3	33.33	5	55.56	
	Postgraduate Qual.	7	55.56	3	33.33	6	66.67	3	33.33	
Caregiver Information										
Relationship to child[1]	Biological Mother	87	93.55	116	90.63	102	96.23	95	93.14	0.06
	Foster Mother	1	1.08	1	0.78	0	0.00	0	0.00	
	Biological Father	1	1.08	8	6.25	3	2.83	6	5.88	
	Adoptive Father	4	4.30	0	0.00	0	0.00	0	0.00	
	Grandmother	0	0.00	1	0.78	1	0.94	1	0.98	
	Grandfather	0	0.00	1	0.78	0	0.00	0	0.00	
	Other Family Member	0	0.00	1	0.78	0	0.00	0	0.00	
Ethnicity[1]	Irish	81	88.04	110	87.3	98	95.45	86	86.00	0.66
	Irish Traveller	9	9.78	10	7.94	5	4.72	10	10.00	
	British	1	1.09	1	0.79	1	0.94	0	0.00	
	Other White	1	1.09	0	0.00	0	0.00	2	2.00	
	Asian	0	0.00	1	0.79	0	0.00	1	1.00	
	African	0	0.00	1	0.79	1	0.94	1	1.00	
	Other	0	0.00	3	2.38	1	0.94	0	0.00	
Highest Level of Education[1]	Primary or Lower	11	12.36	10	8.4	7	6.67	5	5.10	0.72
	Lower Secondary	14	15.73	13	10.92	18	17.14	8	8.16	
	Junior Certificate	25	28.09	31	26.05	37	35.2	28	28.57	
	Upper Secondary	13	14.61	24	20.17	14	13.33	14	14.29	
	Applied Leaving Cert.	4	4.49	8	6.72	5	4.76	9	9.18	
	Leaving Cert.	8	8.99	13	10.92	10	9.52	13	13.27	
	Non-degree Qual.	12	13.48	16	13.45	11	10.48	12	12.24	
	Primary Degree	2	2.25	3	2.52	3	2.86	2	2.04	
	Postgraduate Qual.	0	0.00	1	0.84	0	0.00	2	2.04	
	Other	0	0.00	0	0.00	0	0.00	5	5.10	

Table 2 continued…

Descriptive Statistics for Categorical Variables

		Wave 1		Wave 2		Wave 3		Wave 4		Fisher's p/ χ^2
		n	%	*n*	%	*n*	%	*n*	%	
Work Status[1]	Paid job, but on leave	6	6.9	4	3.33	3	3.03	0	0.00	0.54
	In paid Work	21	24.14	39	32.5	24	24.24	27	28.13	
	Unemployed	16	18.39	25	20.83	26	26.26	29	30.21	
	Student	0	0.00	2	1.67	0	0.00	1	1.04	
	Looking after home/family	30	34.48	36	30	35	35.35	24	25.00	
	Not able to work	1	1.15	1	0.83	2	2.02	2	2.08	
	FAS training (paid)	11	12.64	13	10.83	8	8.08	9	9.38	
	FAS training (unpaid)	2	2.3	0	0.00	1	1.01	0	0.00	
Self-rated Health[2]	Fair	--	--	5	3.97	7	6.67	1	0.98	11.54†
	Good	--	--	24	19.05	27	25.71	28	27.45	
	Very Good	--	--	59	46.83	32	30.48	36	35.29	
	Excellent	--	--	38	30.16	39	37.14	27	36.27	
Well-being[2]	WHO-5 At Risk	--	--	51	39.53	25	23.58	19	19	13.43***
	CES-D At Risk	--	--	--	--	20	18.87	16	16.16	0.26
Child Information										
Gender[2]	Male	59	57.28	74	55.64	63	56.76	52	49.06	
Childcare	Any Childcare[2]	80	77.67	107	80.45	95	89.62	89	84.76	6.21
	Centre Based Childcare[2]	78	75.73	103	77.44	87	78.38	90	84.91	3.12
	Home Based Childcare[2]	15	14.56	22	16.54	16	14.41	8	7.55	4.46
Living in Catchment Area[2]	Yes	87	87	106	80.3	81	74.31	81	77.14	5.68
Household Information										
Income bracket €250 - €500[2]	Yes	26	46.43	40	57.14	30	46.88	42	58.33	3.23
Receiving Social Welfare[2]	Yes	55	68.75	79	63.71	65	73.86	76	81.72	6.68
Medical Card[2]	Yes	66	75	87	70.16	76	74.51	79	79.80	1.42
GP Visit Card[2]	Yes	9	11.84	12	10.34	9	9.78	9	11.54	0.22
Private Health Insurance[1]	Yes	4	4.55	7	5.88	4	4.17	6	6.67	0.81

Note. n represents the number of observations, and Fisher's p/χ^2 illustrates the test statistic.

[1]Fisher exact test used. [2]Pearson chi-square test used.

† $p<.10$. * $p<.05$. ** $p<.01$.

IX. Appendix C: Monte Carlo Permutation Test Results[15,16]

Table 1

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

Domain	Male		Female		*p*	*d*
	n	Mean (*SD*)	*n*	Mean (*SD*)		
Physical Health & Well-being	240	7.39 (2.13)	199	8.09 (2.02)	<.001	.34
Gross and Fine Motor Skills	230	5.92 (3.15)	191	7.23 (2.71)	< .001	.44
Social Competence	240	7.22 (2.12)	200	8.00 (1.87)	< .01	.39
Overall Social Competence with Peers	240	5.86 (2.97)	200	6.89 (2.81)	< .01	.35
Responsibility and Respect	240	7.66 (2.59)	200	8.15 (2.34)	ns	.20
Approaches to Learning	240	7.12 (2.71)	200	8.22 (2.36)	< .001	.43
Readiness to Explore New Things	231	8.26 (2.16)	192	8.79 (1.78)	< .05	.26
Emotional Maturity	236	6.48 (2.05)	199	7.62 (1.79)	< .001	.59
Prosocial and Helping Behaviour	204	4.58 (3.24)	182	6.61 (2.81)	< .001	.67
Aggressive Behaviour	232	1.94 (2.86)	197	1.05 (1.97)	< .01	.36
Anxious and Fearful Behaviour	240	4.61 (3.65)	200	3.27 (3.33)	< .001	.38
Hyperactivity and Inattention	238	2.41 (2.67)	198	1.78 (2.54)	< .01	.24
Language & Cognitive Development	229	5.50 (2.76)	184	6.14 (2.56)	< .05	.24
Basic Literacy Skills	236	6.47 (3.57)	197	7.16 (3.46)	< .05	.20
Interest in Literacy/Numeracy/Memory	238	8.23 (3.07)	196	9.16 (2.36)	< .01	.30
Basic Numeracy Skills	237	2.32 (2.94)	196	2.99 (2.90)	< .01	.23
Communication & General Knowledge	239	5.06 (3.61)	200	6.52 (3.20)	< .001	.42

Note. n represents the number of observations, Mean illustrates the average score, *SD* represents the standard deviation, *p* illustrates the *p*-value, and *d* corresponds to Cohen's *d* effect size. ns = not significant.

[15] 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.

[16] 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		*p*	*d*
	n	Mean (*SD*)	*n*	Mean (*SD*)		
Physical Health & Well-being	356	7.54 (2.14)	83	8.40 (1.84)	< .001	.41
Gross and Fine Motor Skills	340	6.35 (3.01)	81	7.21 (3.02)	< .05	.29
Social Competence	357	7.44 (2.09)	83	8.17 (1.72)	< .01	.36
Overall Social Competence with Peers	357	6.12 (3.00)	83	7.23 (2.51)	< .01	.38
Responsibility and Respect	357	7.74 (2.55)	83	8.47 (2.12)	< .05	.30
Approaches to Learning	357	7.49 (2.67)	83	8.17 (2.32)	< .05	.26
Readiness to Explore New Things	344	8.43 (2.04)	79	8.82 (1.83)	< .10	.20
Emotional Maturity	354	6.90 (2.06)	81	7.45 (1.73)	< .10	.27
Prosocial and Helping Behaviour	316	5.42 (3.27)	70	6.06 (2.89)	ns	.20
Aggressive Behaviour	348	1.61 (2.58)	81	1.19 (2.30)	ns	.16
Anxious and Fearful Behaviour	357	4.16 (3.61)	83	3.27 (3.31)	ns	.25
Hyperactivity and Inattention	353	2.14 (2.68)	83	2.03 (2.37)	ns	.04
Language & Cognitive Development	333	5.62 (2.71)	80	6.47 (2.50)	< .001	.32
Basic Literacy Skills	350	6.65 (3.58)	83	7.35 (3.30)	< .05	.20
Interest in Literacy/Numeracy/Memory	351	8.56 (2.92)	83	9.34 (2.08)	< .05	.28
Basic Numeracy Skills	350	2.46 (2.88)	83	3.31 (3.09)	< .01	.29
Communication & General Knowledge	356	5.52 (3.48)	83	6.61 (3.48)	< .05	.31

Note. *n* represents the number of observations, Mean illustrates the average score, *SD* represents the standard deviation, *p* illustrates the *p*-value, and *d* corresponds to Cohen's *d* effect size. ns = not significant.

Table 3

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

Domain	Single		In Relationship		*p*	*d*
	n	Mean (*SD*)	*n*	Mean (*SD*)		
Physical Health & Well-being	181	7.62 (2.19)	225	7.80 (2.01)	ns	.09
Gross and Fine Motor Skills	177	6.43 (3.05)	214	6.62 (3.08)	ns	.06
Social Competence	181	7.42 (2.04)	226	7.76 (2.01)	ns	.17
Overall Social Competence with Peers	181	6.23 (2.91)	226	6.47 (2.95)	ns	.08
Responsibility and Respect	181	7.73 (2.43)	226	8.10 (2.43)	ns	.15
Approaches to Learning	181	7.37 (2.63)	226	7.83 (2.59)	ns	.17
Readiness to Explore New Things	177	8.39 (2.10)	216	8.66 (1.95)	ns	.13
Emotional Maturity	179	6.99 (2.00)	223	7.11 (1.95)	ns	.06
Prosocial and Helping Behaviour	156	5.60 (3.22)	200	5.57 (3.22)	ns	.01
Aggressive Behaviour	178	1.53 (2.54)	220	1.41 (2.39)	ns	.05
Anxious and Fearful Behaviour	181	3.88 (3.48)	226	3.94 (3.57)	ns	.02
Hyperactivity and Inattention	180	2.33 (2.72)	223	1.98 (2.46)	ns	.14
Language & Cognitive Development	166	5.89 (2.61)	216	5.88 (2.68)	ns	.01
Basic Literacy Skills	178	6.79 (3.49)	224	7.02 (3.47)	ns	.07
Interest in Literacy/Numeracy/Memory	177	9.02 (2.39)	225	8.65 (2.83)	ns	14
Basic Numeracy Skills	176	2.69 (3.00)	224	2.71 (2.91)	ns	.01
Communication & General Knowledge	180	5.84 (3.49)	226	5.76 (3.52)	ns	.02

Note. *n* represents the number of observations, Mean illustrates the average score, *SD* represents the standard deviation, *p* illustrates the *p*-value, and *d* corresponds to Cohen's *d* effect size. ns = not 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		*p*	*d*
	n	Mean (*SD*)	*n*	Mean (*SD*)		
Physical Health & Well-being	73	7.44 (2.22)	314	7.77 (2.10)	< .10	.16
Gross and Fine Motor Skills	70	6.21 (3.16)	301	6.60 (3.05)	ns	.12
Social Competence	73	7.60 (1.96)	315	7.60 (2.07)	ns	.01
Overall Social Competence with Peers	73	6.46 (3.01)	315	6.35 (2.93)	ns	.04
Responsibility and Respect	73	7.65 (2.65)	315	7.93 (2.48)	ns	.11
Approaches to Learning	73	7.67 (2.59)	315	7.62 (2.64)	ns	.02
Readiness to Explore New Things	70	8.67 (1.85)	304	8.53 (2.03)	ns	.07
Emotional Maturity	71	6.91 (2.06)	312	7.08 (2.00)	ns	.08
Prosocial and Helping Behaviour	61	5.49 (3.11)	278	5.61 (3.23)	ns	.04
Aggressive Behaviour	70	1.94 (2.71)	307	1.42 (2.49)	ns	.21
Anxious and Fearful Behaviour	73	4.25 (3.64)	315	3.83 (3.52)	ns	.12
Hyperactivity and Inattention	73	1.93 (2.56)	311	2.13 (2.57)	ns	.08
Language & Cognitive Development	65	5.89 (2.88)	298	5.98 (2.57)	ns	.04
Basic Literacy Skills	69	6.81 (3.70)	314	7.10 (3.35)	ns	.09
Interest in Literacy/Numeracy/Memory	72	9.00 (2.43)	312	8.77 (2.74)	ns	.09
Basic Numeracy Skills	71	2.77 (3.01)	310	2.74 (2.94)	ns	0.1
Communication & General Knowledge	73	5.70 (3.61)	314	5.85 (3.49)	ns	.04

Note. *n* represents the number of observations, Mean illustrates the average score, *SD* represents the standard deviation, *p* illustrates the *p*-value, and *d* corresponds to Cohen's *d* effect size. ns = not significant.

Table 5

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

Domain	Low Education		High Education		*p*	*d*
	n	Mean (*SD*)	*n*	Mean (*SD*)		
Physical Health & Well-being	81	7.13 (2.11)	318	7.86 (2.08)	< .10	.35
Gross and Fine Motor Skills	74	5.82 (3.03)	308	6.71 (3.07)	< .10	.29
Social Competence	82	6.97 (2.16)	318	7.73 (2.00)	< .05	.38
Overall Social Competence with Peers	82	5.55 (2.99)	318	6.53 (2.93)	< .10	.33
Responsibility and Respect	82	7.30 (2.90)	318	8.02 (2.36)	< .10	.29
Approaches to Learning	82	6.91 (2.55)	318	7.78 (2.62)	< .05	.34
Readiness to Explore New Things	80	8.17 (2.21)	307	8.62 (1.98)	ns	.22
Emotional Maturity	80	6.50 (2.22)	316	7.15 (1.96)	< .01	.32
Prosocial and Helping Behaviour	77	4.96 (3.26)	275	5.71 (3.21)	ns	.23
Aggressive Behaviour	77	2.12 (3.00)	312	1.35 (2.40)	< .05	.30
Anxious and Fearful Behaviour	82	5.02 (3.80)	318	3.68 (3.44)	< .01	.38
Hyperactivity and Inattention	81	1.96 (2.40)	315	315 (2.62)	ns	.07
Language & Cognitive Development	74	5.14 (2.48)	301	6.12 (2.69)	< .01	.37
Basic Literacy Skills	80	6.18 (3.50)	315	7.16 (3.44)	< .05	.28
Interest in Literacy/Numeracy/Memory	80	8.44 (3.02)	315	8.88 (2.60)	ns	.16
Basic Numeracy Skills	80	2.10 (2.41)	313	2.90 (3.08)	< .05	.27
Communication & General Knowledge	82	5.12 (3.35)	317	6.00 (3.51)	ns	.25

Note. n represents the number of observations, Mean illustrates the average score, *SD* represents the standard deviation, *p* illustrates the *p*-value, and *d* corresponds to Cohen's *d* effect size. ns = not significant.

Table 6

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

Domain	In Paid Work		Not In Paid Work		*p*	*d*
	n	Mean (*SD*)	*n*	Mean (*SD*)		
Physical Health & Well-being	150	7.96 (2.09)	226	7.58 (2.09)	< .10	.18
Gross and Fine Motor Skills	145	6.86 (3.17)	215	6.40 (2.98)	ns	.15
Social Competence	150	7.99 (1.84)	227	7.35 (2.14)	< .001	.32
Overall Social Competence with Peers	150	6.98 (2.76)	227	5.95 (3.04)	< .001	.35
Responsibility and Respect	150	8.17 (2.13)	227	7.71 (2.69)	< .05	.18
Approaches to Learning	150	8.01 (2.46)	227	7.40 (2.71)	< .05	.23
Readiness to Explore New Things	146	8.84 (1.86)	217	8.35 (2.04)	< .01	.25
Emotional Maturity	149	7.26 (1.81)	224	6.86 (2.17)	< .05	.20
Prosocial and Helping Behaviour	129	5.94 (3.13)	202	5.35 (3.29)	< .05	.18
Aggressive Behaviour	146	1.39 (2.36)	221	1.58 (2.64)	ns	.07
Anxious and Fearful Behaviour	150	3.48 (3.24)	227	4.26 (3.71)	< .10	.22
Hyperactivity and Inattention	149	2.14 (2.52)	224	2.18 (2.73)	ns	.02
Language & Cognitive Development	140	6.40 (2.42)	212	5.70 (2.73)	< .01	.27
Basic Literacy Skills	149	7.33 (3.24)	223	6.76 (2.53)	< .05	.17
Interest in Literacy/Numeracy/Memory	148	9.39 (1.81)	223	8.59 (2.88)	< .01	.32
Basic Numeracy Skills	147	3.22 (2.90)	223	2.53 (3.01)	< .05	.23
Communication & General Knowledge	150	6.51 (3.36)	226	5.43 (3.53)	< .001	.31

Note. n represents the number of observations, Mean illustrates the average score, *SD* represents the standard deviation, *p* illustrates the *p*-value, and *d* corresponds to Cohen's *d* effect size. ns = not significant.

Table 7

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

Domain	In Receipt of Social Welfare Payments		Not in Receipt of Social Welfare Payments		*p*	*d*
	n	Mean (*SD*)	*n*	Mean (*SD*)		
Physical Health & Well-being	268	7.72 (1.97)	92	8.15 (1.97)	ns	.22
Gross and Fine Motor Skills	256	6.69 (2.91)	88	6.91 (3.05)	ns	.07
Social Competence	269	7.54 (1.99)	92	8.14 (1.87)	< .05	.31
Overall Social Competence with Peers	269	6.34 (2.97)	92	6.76 (2.79)	< .01	.14
Responsibility and Respect	269	7.72 (2.51)	92	8.60 (2.09)	< .01	.37
Approaches to Learning	269	7.59 (2.53)	92	8.30 (2.42)	< .05	.28
Readiness to Explore New Things	256	8.57 (1.89)	91	8.91 (1.87)	< .05	.18
Emotional Maturity	265	6.89 (2.12)	92	7.54 (1.62)	< .01	.32
Prosocial and Helping Behaviour	236	5.57 (3.24)	83	5.97 (3.10)	ns	.13
Aggressive Behaviour	260	1.73 (2.71)	91	0.71 (1.48)	< .001	.42
Anxious and Fearful Behaviour	269	4.21 (3.56)	92	3.08 (3.31)	< .05	.32
Hyperactivity and Inattention	267	2.16 (2.67)	91	2.09 (2.54)	ns	.03
Language & Cognitive Development	251	5.97 (2.55)	86	6.41 (2.38)	ns	.18
Basic Literacy Skills	264	6.97 (3.35)	92	7.57 (3.16)	ns	.18
Interest in Literacy/Numeracy/Memory	265	8.97 (2.49)	91	9.27 (2.02)	ns	.13
Basic Numeracy Skills	263	2.64 (2.98)	91	3.22 (2.95)	ns	.20
Communication & General Knowledge	268	5.83 (3.46)	92	6.29 (3.53)	ns	.13

Note. *n* represents the number of observations, Mean illustrates the average score, *SD* represents the standard deviation, *p* illustrates the *p*-value, and *d* corresponds to Cohen's *d* effect size. ns = not significant.

Table 8

Monte Carlo Permutation Test Results for Differences in Teacher Reported School Readiness Based on Caregiver Mental Well-being as Measured by the WHO-5

Domain	Low Mental Well-being		High Mental Well-being		*p*	*d*
	n	Mean (*SD*)	*n*	Mean (*SD*)		
Physical Health & Well-being	92	8.10 (2.04)	231	7.68 (2.03)	ns	.21
Gross and Fine Motor Skills	92	6.81 (2.90)	229	6.51 (3.01)	ns	.10
Social Competence	93	7.69 (1.98)	231	7.64 (2.07)	ns	.02
Overall Social Competence with Peers	93	6.60 (2.94)	231	6.49 (2.86)	ns	.04
Responsibility and Respect	93	8.04 (2.53)	231	7.98 (2.43)	ns	.02
Approaches to Learning	93	7.63 (2.63)	231	7.64 (2.66)	ns	.01
Readiness to Explore New Things	86	8.51 (1.90)	223	8.49 (2.08)	ns	.01
Emotional Maturity	91	7.22 (1.95)	230	7.19 (1.90)	ns	.02
Prosocial and Helping Behaviour	87	5.65 (3.31)	208	5.49 (3.27)	ns	.05
Aggressive Behaviour	92	1.45 (2.49)	230	1.39 (2.40)	ns	.02
Anxious and Fearful Behaviour	93	3.82 (3.72)	231	3.58 (3.43)	ns	.07
Hyperactivity and Inattention	92	1.79 (2.35)	228	1.93 (2.57)	ns	.06
Language & Cognitive Development	88	5.96 (2.55)	219	5.94 (2.61)	ns	.01
Basic Literacy Skills	91	6.85 (3.45)	230	6.97 (3.48)	ns	.04
Interest in Literacy/Numeracy/Memory	93	8.91 (2.81)	229	8.96 (2.39)	ns	.02
Basic Numeracy Skills	92	2.78 (2.86)	228	2.67 (2.92)	ns	.04
Communication & General Knowledge	93	5.90 (3.47)	230	5.96 (3.48)	ns	.02

Note. *n* represents the number of observations, Mean illustrates the average score, *SD* represents the standard deviation, *p* illustrates the *p*-value, and *d* corresponds to Cohen's *d* effect size. ns = not significant.

Table 9

Monte Carlo Permutation Test Results for Differences in Teacher Reported School Readiness Based on Caregiver Depressive Symptomology as Measured by the CES-D

Domain	High Symptomology		Low Symptomology		*p*	*d*
	n	Mean (*SD*)	*n*	Mean (*SD*)		
Physical Health & Well-being	35	6.96 (2.68)	168	7.86 (1.93)	ns	.43
Gross and Fine Motor Skills	34	5.53 (3.28)	167	6.74 (2.89)	< .10	.41
Social Competence	36	6.97 (2.07)	168	7.78 (1.93)	< .10	.42
Overall Social Competence with Peers	36	5.27 (3.17)	168	6.64 (2.83)	< .05	.47
Responsibility and Respect	36	7.78 (2.67)	168	7.93 (2.35)	ns	.06
Approaches to Learning	36	6.85 (2.58)	168	7.83 (2.38)	ns	.41
Readiness to Explore New Things	32	8.15 (2.20)	165	8.79 (1.73)	ns	.36
Emotional Maturity	33	6.11 (2.61)	168	7.34 (1.82)	< .05	.63
Prosocial and Helping Behaviour	29	4.60 (3.55)	151	5.95 (3.23)	< .05	.42
Aggressive Behaviour	35	2.14 (3.09)	167	1.52 (2.47)	ns	.24
Anxious and Fearful Behaviour	36	5.28 (4.05)	168	3.62 (3.37)	< .10	.48
Hyperactivity and Inattention	33	2.95 (2.54)	167	1.58 (2.38)	< .05	.58
Language & Cognitive Development	33	5.19 (2.91)	160	6.18 (2.49)	ns	.39
Basic Literacy Skills	36	5.93 (3.64)	168	7.32 (3.35)	ns	.41
Interest in Literacy/Numeracy/Memory	35	8.29 (3.56)	168	9.20 (2.04)	ns	.39
Basic Numeracy Skills	34	2.35 (3.34)	167	2.53 (2.90)	ns	.06
Communication & General Knowledge	35	4.52 (3.56)	168	6.15 (3.43)	< .10	.47

Note. n represents the number of observations, Mean illustrates the average score, *SD* represents the standard deviation, *p* illustrates the *p*-value, and *d* corresponds to Cohen's *d* effect size. ns = not significant.

Table 10

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		*p*	*d*
	n	Mean (*SD*)	*n*	Mean (*SD*)		
Physical Health & Well-being	91	7.24 (2.53)	230	7.97 (1.85)	< .10	.35
Gross and Fine Motor Skills	91	5.70 (3.25)	228	6.92 (2.83)	< .05	.41
Social Competence	91	7.13 (2.34)	231	7.86 (1.89)	< .10	.36
Overall Social Competence with Peers	91	6.04 (3.02)	231	6.72 (2.80)	ns	.23
Responsibility and Respect	91	7.57 (2.68)	231	8.15 (2.35)	ns	.23
Approaches to Learning	91	6.78 (3.15)	231	7.97 (2.35)	< .05	.46
Readiness to Explore New Things	86	8.17 (2.06)	222	8.64 (2.00)	ns	.24
Emotional Maturity	90	6.87 (2.23)	229	7.28 (1.88)	ns	.21
Prosocial and Helping Behaviour	84	5.34 (3.48)	210	5.58 (3.17)	ns	.07
Aggressive Behaviour	90	1.56 (2.50)	230	1.33 (2.38)	ns	.09
Anxious and Fearful Behaviour	91	4.51 (3.83)	231	3.36 (3.33)	< .05	.33
Hyperactivity and Inattention	89	2.00 (2.43)	229	1.95 (2.60)	ns	.02
Language & Cognitive Development	87	5.54 (2.62)	218	6.11 (2.56)	ns	.22
Basic Literacy Skills	89	6.50 (3.65)	230	7.11 (3.39)	ns	.18
Interest in Literacy/Numeracy/Memory	90	8.80 (2.76)	229	9.03 (2.35)	ns	.10
Basic Numeracy Skills	91	2.07 (2.73)	227	2.97 (2.94)	< .10	.31
Communication & General Knowledge	91	5.18 (3.69)	230	6.27 (3.35)	< .10	.32

Note. *n* represents the number of observations, Mean illustrates the average score, *SD* represents the standard deviation, *p* illustrates the *p*-value, and *d* corresponds to Cohen's *d* effect size. ns = not significant

Table 11

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		*p*	*d*
	n	Mean (*SD*)	*n*	Mean (*SD*)		
Physical Health & Well-being	347	7.81 (2.08)	92	7.32 18)	ns	.23
Gross and Fine Motor Skills	333	6.75 (3.07)	88	5.64 (2.71)	< .05	.37
Social Competence	348	7.71 (1.98)	92	7.06 (2.22)	< .10	.32
Overall Social Competence with Peers	348	6.47 (2.96)	92	5.80 (2.84)	ns	.23
Responsibility and Respect	348	7.95 (2.41)	92	7.63 (2.75)	ns	.13
Approaches to Learning	348	7.81 (2.50)	92	6.88 (2.90)	< .10	.36
Readiness to Explore New Things	336	8.66 (1.89)	87	7.89 (2.32)	< .01	.39
Emotional Maturity	344	7.10 (1.99)	91	6.63 (2.06)	< .10	.24
Prosocial and Helping Behaviour	306	5.73 (3.20)	80	4.79 (3.16)	< .05	.30
Aggressive Behaviour	340	1.51 (2.49)	89	1.60 (2.70)	ns	.04
Anxious and Fearful Behaviour	348	3.86 (3.52)	92	4.51 (3.73)	ns	.18
Hyperactivity and Inattention	344	2.09 (2.57)	92	2.26 (2.84)	ns	.07
Language & Cognitive Development	327	6.11 (2.60)	86	4.56 (2.67)	< .001	.59
Basic Literacy Skills	343	7.15 (3.40)	90	5.39 (3.71)	< .001	.51
Interest in Literacy/Numeracy/Memory	344	8.97 (2.49)	90	7.70 (3.56)	< .01	.46
Basic Numeracy Skills	343	2.81 (2.97)	90	1.91 (2.71)	< .05	.31
Communication & General Knowledge	347	6.01 (3.49)	92	4.64 (3.36)	< .01	.40

Note. *n* represents the number of observations, Mean illustrates the average score, *SD* represents the standard deviation, *p* illustrates the *p*-value, and *d* corresponds to Cohen's *d* effect size. ns = not significant.