

RESEARCH PROPOSAL

The impact of full-day kindergarten on children's health and development.

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Purpose and value of the research

The proposed research, the *BC School Arrangements Survey*, will provide evidence of the effects of full-day Kindergarten programs on children's health and development and on parent employment and income, as compared to half-day programs. The research will also contribute to understanding the pathways that lead to different outcomes, and will support evaluation of the implications of full-day kindergarten for addressing health and developmental disparities. The resulting knowledge will inform policy discussions related to the important question of targeted versus universal child development programs, and their potential to contribute to reducing disparities in health and well-being. It will contribute to educators' understanding of how different school arrangements affect the development of young children, and it will illuminate how effects vary for different types of learner. Accordingly, this project has the support of the Ministry of Education.

What would be asked of schools and families?

We are seeking permission to send three separate packages of parental notices to all schools offering Kindergarten and/or Grade 1, between April and June 2011. If the principal agrees, these would then be distributed by classroom teachers to students in Kindergarten and Grade 1, to be brought home to their parents/guardians. No further involvement by school or district personnel will be required.

The first notice advises families of the purpose of the BC School Arrangements Survey and informs them of a secure, Canadian-hosted website where they can complete it. The second notice includes a paper version of the survey, along with a pre-paid, addressed envelope to return it. The third notice is a reminder. The survey will take parents/guardians approximately 15-20 minutes to complete. The survey requires no in-school time.

In addition, we would ask parents whether they are willing to share identifying information that would allow us later to link their survey responses to administrative and test data held by the Ministry of Education, and if they would be willing to be contacted in future for possible follow-up surveys. We clearly explain our purposes and how their privacy will be protected. A consent form is provided for respondents who agree to provide this additional requested information. These documents and procedures have been vetted and approved by Simon Fraser University's Office of Research Ethics.

This process would be repeated in 2012, and then again in 2013 (Grade 1 only). All communications to families are enclosed. (English versions; Punjabi and Chinese versions will also be available, distributed according to published estimates of home language prevalence.)

Methodology

In 2010-11, approximately half of BC Kindergarten students are enrolled in a full-day program, while the rest are in a half-day program (proportions vary by district). From September 2012, all students will be enrolled in a full-day program. This creates an excellent opportunity to explore the effects of the extended program – one that will not be repeated. We will compare changes across consecutive years in the average outcomes of cohorts within schools who switch from half-day to full-day kindergarten, to changes across the same years in the average outcomes of cohorts within schools whose Kindergarten program does not change (full-day both years). We will measure the effects of different Kindergarten programs on parents and families of children when they are in Kindergarten and, subsequently, when they are in Grade 1.

This is the best available method for measuring the effect of full- and half-day kindergarten in B.C. and avoiding any effect of pre-existing differences between schools or other factors. This study will produce the

most scientifically valid study to date, from any jurisdiction, of the effects of full-day Kindergarten on children's development.

Even if relatively few schools in your district offered a different kindergarten program from the rest in 2010-11, data from your district will still be extremely valuable, as we are proposing to conduct this survey province-wide and all contributions will enlarge the sample. It is also important for diverse districts to be represented.

Population of interest

Our sample will include all parents/guardians of Kindergarten and Grade 1 students who agree to participate. We require the largest possible sample in order to improve the precision of our measurements, especially bearing in mind the possibility of a low response rate.

Incentive

In order to encourage participation, survey respondents will be informed that every school in B.C. where more than a third of parents complete the survey will be entered into a province-wide draw for the sum of \$2,500. We will notify every school district of the winning school in August each year.

Privacy and confidentiality

The survey is anonymous and confidential. Data collected will be used only in university research that will help us understand how school arrangements affect children and families on average. We will not analyze or report results for specific individuals, schools or communities. We will not share any survey data with any other party. If a respondent consents to share identifying information, we will send only that information to the Ministry of Education, along with a unique code; we will not send any survey data. Education records would then be linked back to survey data using the unique code. Identifying information will be stored separately from the data. All completed surveys will be stored in a locked filing cabinet or on an offline, password protected computer in secure premises at SFU, and will be destroyed five years after completion of the study. All researchers who work with BC School Arrangements Survey data will sign a Non-Disclosure Agreement. These arrangements have been vetted and approved by Simon Fraser University's Office of Research Ethics.

Availability of results

Copies of all final research papers based on this survey will be distributed to all districts where schools were surveyed as soon as they are ready to be published. Copies will also be available to participants upon request. Researchers will be available to present and discuss their findings.

Outcome variables

The survey instrument includes questions about child and parent outcomes, as well as important control variables, and auxiliary variables that will be used to improve our research design.

Children's mental health and behavior. Four behavior subscales will be calculated from responses to questions drawn from the Behavior Problems Index (BPI). The BPI questions have been incorporated into major U.S. survey instruments including the National Longitudinal Survey of Youth 79, Children and Young Adults (NLSY-C) and the Panel Study of Income Data Child Development Supplement, and have been validated and used extensively in research on child development and health. We include a total of nineteen questions from the BPI that will allow us to construct hyperactivity, antisocial, peer conflicts, and headstrong sub-scores as well as an overall behavioural score. These items can also be used to construct internalizing and externalizing subscales. An emotional health score will be calculated from responses to eight questions drawn from the Canadian National Longitudinal Survey of Children and Youth (NLSCY).

Childhood obesity. A body mass index will be constructed from responses to questions about child height and weight. Height and weight of children age 12 and under are reported by the parent in National Longitudinal Survey of Children and Youth, and data from this survey has been used extensively in the Canadian literature on child obesity.

Maternal labour supply will be measured using one question from the Canadian Labour Force Survey.

Maternal depression. We include six questions from the Center for Epidemiologic Studies Depression Scale that are used in the NLSY-C to assess maternal depression.

Child and parent general health will be assessed using a single question from the NLSCY for each.

Control variables. To improve the efficiency of our estimates and control for any changes in the composition of schools across the two cohorts, we will include indicators for Aboriginal identity, home language, parent's education, family income, family type (e.g. single parent), age in months, gender of child, and number of siblings in the home less than age 5. In case schools with a full-day program may be more inclined to offer split-grade classrooms (e.g. Kindergarten and grade one students together) that in turn may affect child development, we include a split class indicator.

Auxiliary variables. We include several additional questions that will help define our samples. We ask about attendance in full-day or half-day Kindergarten throughout the school year (i.e. not just at the survey date), and about the importance of full-day availability to parents' choice decisions and for residential postal code in order to control for selection into programs in 2010. Postal code information will also be used to attach census information about neighbourhood socioeconomic characteristics to individual records. In order to better assess the effects of FDK on child weight and obesity, we ask about the receipt of free or subsidized school meals.

Select bibliography

This research will contribute to a body of valuable knowledge that can further the goals of public education.

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