Do the Perils of Universal Child Care Depend on the Child’s Age?

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Abstract

The rising participation of women in paid work has not only heightened demand for universal early education and care programs but also led to increased use of child care amongst children at earlier ages. Prior research investigating Quebec’s universal highly-subsidized child care documented significant declines in a variety of developmental outcomes for all children aged 0-4 years. However, past analysis has not explored whether these effects vary for children of different ages. In this paper, we demonstrate substantial heterogeneity in policy impacts by child age. Children who gain access to subsidized child care at earlier ages experience significantly larger negative impacts on developmental scores, health and behavioral outcomes. The sole exception is the negative relationship between access to subsidized child care and hyperactivity scores which steepens with child age. Our analysis additionally provides significant evidence of treatment effect heterogeneity within ages, and reveals benefits from access to universal child care on developmental scores for those that are above three years of age.

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Executive Summary

The rising participation of women in paid work has not only heightened demand for universal early education and care programs but also led to increased use of child care amongst children at earlier ages. As a result the role of government assistance with childcare has been a topic of great debate prior to many recent provincial elections in Canada, including the 2013 election in British Columbia. Since any universal childcare policy would involve a large financial commitment, a margin by which policymakers can leverage is the age at which children would gain access to these programs. Yet, current debates tend to focus strictly on whether or not these policies should be introduced and do not consider heavily these details.

Although there is much support among parents and advocacy groups who point to the potential benefits of the government developing early education and care policies, the academic literature paints a mixed picture as to whether these policies when introduced have actually improved developmental outcomes. The academic studies evaluate public programs across numerous countries that differ in terms of the age which children are eligible to attend. For example, Germany and Norway's universal child care programs are aimed at 3- to 6-year-olds, Quebec’s subsidized child care program targets children between 0 to 4, and both Georgia’s prekindergarten initiative and Oklahoma’s Early Childhood Program target only children aged four. As Baker (2011) states in his survey "of the academic literature from a developmental perspective...the case for universal early childhood interventions does not have a strong foundation in evidence", suggesting we need to identify if there is an optimal age for children to begin attending child care programs.

This paper presents empirical evidence indicating that the effects of access to universal subsidized child care in Canada on a host of developmental outcomes differ on the basis of child age. This investigation estimates causal impacts by exploiting a natural experiment created from the introduction of Quebec's universal subsidized child care policy. This policy allowed all children aged 0-4 years in the province of Quebec to access provincially subsidized child care at an out of pocket cost of 5 per day (increased to $7 per day in 2004).

There are two main findings from the empirical analysis. First, the authors demonstrate significant heterogeneity in the policy impacts of access to subsidized universal child care on short run child outcomes by child age. The estimates indicate that on average, children who gain access to subsidized child care at earlier ages experience significantly larger negative impacts on motor-social developmental scores, self-reported health status and behavioral outcomes including physical aggression and emotional anxiety. The sole behavioral outcome for which the significant negative relationship steepens with child age, is that between access to subsidized child care and hyperactivity and inattention scores. Interestingly, for children aged 3 and 4 years, the authors do not find any evidence that access to child care leads to lower developmental scores. Further, for children aged 4, hyperactivity and inattention scores comprise the only behavioral outcome that has a significant association with access to
child care. This set of results indicates that younger children are driving many of the estimated effects reported in the policy evaluation conducted by Baker, Gruber, and Milligan (2008) and Kottelenberg and Lehrer (2013).

Second, the authors conduct a distributional analysis examining how the effects of the policy vary across the age-specific unconditional distribution of motor-social development scores. This analysis reveals significant evidence of treatment effect heterogeneity within ages. For children 0 to 2 years old, we find evidence that child care leads to declines in motor social development scores throughout the distribution. In contrast, we find benefits from access to universal child care on developmental scores among three year olds, with the largest of these effects for children in the lower percentiles of the distribution. This result suggests that access to subsidized child care at 3 years of age may help the most disadvantaged and is consistent with evidence from numerous studies including those evaluating the The HighScope Perry Preschool Project, a well-studied program that offered preschool to disadvantaged children at ages 3 and 4.

Taken together, the evidence presented can be interpreted as suggesting societal benefits could be enriched from policies that target early education and care programs to those that would appear to benefit most, rather than making these programs universal. Further, the authors conclude that much of the conflicting results in the academic literature on the impacts of universal child care may not be due to differences in provision of early education and care, but rather due to the ages at which children are eligible to attend these programs across countries.

Finally, the authors suggest that to better inform policy debates, future research is needed in two specific directions. Study is needed to determine benefits would be derived from using age segregation in early child education and care policies. At present, there is little research examining whether child care workers are better able to meet the needs of children within a group composed of infants, toddlers and preschoolers versus one segregated by age. Further, since the production of human capital is a cumulative process, we believe more work is needed to explore differences in the timing at which treatments are received and investments are made, and how they interact with child characteristics. That is, do the gaps from having access to subsidized child care persist over time, and additionally examine whether the length of attendance affects subsequent development.