

**Early Childhood Education and  
Care in Israel  
Compared to the OECD:  
Enrollment Rates, Employment  
Rates of Mothers, Quality Indices,  
and Future Achievement**

**Dana Vaknin**

*This research was prepared with the generous support of the  
Bernard van Leer Foundation, the Bracha Foundation, and Yad Hanadiv*

---

*Jerusalem, July 2020*

## Taub Center for Social Policy Studies in Israel

The Taub Center was established in 1982 under the leadership and vision of Herbert M. Singer, Henry Taub, and the American Jewish Joint Distribution Committee. The Center is funded by a permanent endowment created by the Henry and Marilyn Taub Foundation, the Herbert M. and Nell Singer Foundation, Jane and John Colman, the Kolker-Saxon-Hallock Family Foundation, the Milton A. and Roslyn Z. Wolf Family Foundation, and the American Jewish Joint Distribution Committee.

### Initiative on Early Childhood Development and Inequality

The Taub Center's "Initiative on Early Childhood Development and Inequality" is tasked with examining the effects of the young child's environment on future achievements and disseminating the latest research on this subject to relevant individuals and agencies. The Initiative's goal is to assist in the advancement of effective policy to improve the environmental conditions of children in Israel during their early years of life, in order to improve their outcomes and reduce disparities due to socioeconomic background. The Initiative encourages empirical research into development and inequality among preschoolers in Israel by, among other things, creating a database that facilitates the investigation of the connection between environmental factors during early childhood and future outcomes. The researchers involved in this initiative draft up-to-date research reports, literature surveys, position papers, and policy papers. As part of its effort to disseminate the latest available knowledge, the Initiative holds an academic seminar to provide a multidisciplinary basis – both theoretical and empirical – for the investigation of early childhood. The seminar is intended primarily for civil service employees who are involved in policy making in this field. The activity of the Initiative is guided by an International Advisory Council consisting of leading academics, policy makers and members of civil society organizations who are committed to the advancement and implementation of effective policy in the area of early childhood in Israel.

The activities of the Initiative are supported by the Bernard van Leer Foundation, the Bracha Foundation, and Yad Hanadiv.

The Initiative is headed by Prof. Yossi Shavit, Principal Researcher, Taub Center for Social Policy Studies in Israel; Professor Emeritus, Tel Aviv University.

**Research staff:** Dr. Carmel Blank, Liora Bowers, Dr. Yael Navon, Dana Vaknin, Noam Zontag.

Research assistant: Hai Vaknin.

**Advisory Council:** Prof. Esti Adi-Japha; Daniella Ben-Attar; Efrat Degani-Toperoff; Prof. Isaac Friedman; Prof. John Gal; Dr. Shoshi Goldberg; Prof. Reuven Gronau; Sima Hadad; Dr. Tzipi Horowitz-Kraus; Fatma Kassem; Orit Levin; Varda Malka; Michal Mankas; Dr. Tali Yariv Mishal; Dr. Naomi Moreno; Prof. Frank Oberklaid; Ehud (Udi) Praver; Prof. Sigal Sadetsky; Prof. Manual Trajtenberg; Dr. Maya Yaari.

# Early Childhood Education and Care in Israel Compared to the OECD: Enrollment Rates, Employment Rates of Mothers, Quality Indices, and Future Achievement

Dana Vaknin

## Introduction

---

Early childhood is a particularly critical age for cognitive, social, and emotional development and has a significant effect on later stages in life (Shavit, Friedman, Gal & Vaknin, 2018). Studies have shown that investment in early childhood education yields high returns in terms of educational, economic, social, and health outcomes later in life (Heckman, 2006; Cunha & Heckman, 2007). The age that children enter the preschool system and the amount of time they are there, as well as their access to high-quality preschool education, though, are determined to a great extent by the family's socioeconomic status (Early & Burchinal, 2001; Blossfeld, Kulic, Skopek & Triventi, 2017, Cebolla-Boado, Radl & Salazar, 2017).

This paper examines the characteristics of preschool education in Israel relative to other countries and their influence on achievements at a later age. The data presented indicate that from several perspectives, including demographic and political, Israel is unique in the area of early childhood education:

---

\* Dana Vaknin, Researcher, the Initiative on Early Childhood Development and Inequality, Taub Center for Social Policy Studies in Israel. I wish to thank Yossi Shavit, Carmel Blank, Liora Bowers, Avi Weiss, Alex Weinreb, and Gil Epstein for their helpful comments.

- The share of young children within the total population in Israel is double the average of the OECD countries.
- The employment rate of mothers of young children in Israel is higher than the average in the OECD countries.
- Thus, the enrollment rate of children in the preschool system is also high in Israel relative to the average in the OECD countries, both among the 0 to 2 age group and the 3 to 5 age group.
- The data indicate that not only is the enrollment rate of young children in Israel among the highest among the developed countries but that they also spend more hours per week in preschool on average than young children in those countries.

These characteristics place Israel in a unique position with respect to both the relative size of the population of young children and the intensity of the public attention that they receive. Therefore, the characteristics of the preschool system and its quality are highly important. Despite the high enrollment rates in Israel, only 25 percent of all children up to the age of 3 are in settings that are under state supervision. In the absence of government supervision, there are no consistent and reliable data on most of the educational frameworks for children under the age of 3 – neither with respect to the social and educational characteristics of the staff nor the socioeconomic background of the young children.

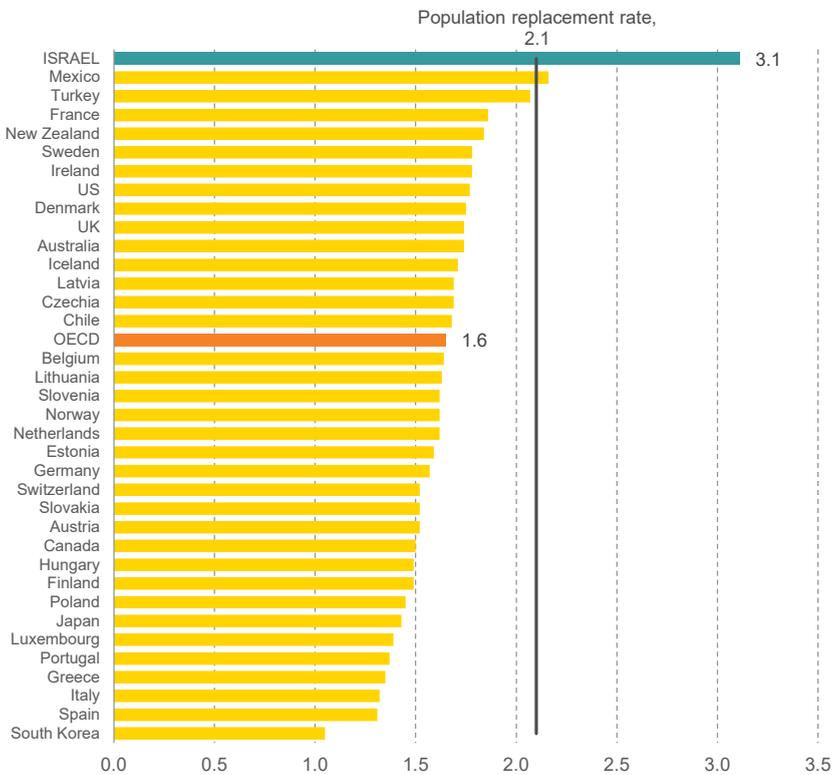
The data gathering on young children is a particularly important step in arriving at social, economic, and health insights on children at this critical age and in promoting empirically-based policy. The data presented in this review are to a large extent based on the OECD database of families (OECD, 2018). It includes data on Israel, most of which originates from the Central Bureau of Statistics. Furthermore, this paper presents findings from the TALIS survey (Teaching and Learning International Survey), which was conducted in preschools in 2018 and was the first international survey that focused on the preschool staff in Israel, as well as findings from the PISA test (Programme for International Student Assessment) which was conducted in Israel in 2015.

## Children in Israel: The picture today

Israel has a large population of children. It is important to remember this in any discussion of preschool education. As shown in Figure 1, the fertility rate in Israel is the highest among the 36 OECD countries. In 2017, the average was 3.1 children per woman in Israel (OECD, 2020). The total fertility rate in

Israel is also high relative to the BRICS countries (developed countries with the largest economic potential: Brazil, Russia, India, China, and South Africa) and other developing economies (Weinreb, Chernichovsky & Brill, 2018). In most of the OECD countries, the fertility rate is, in contrast, much lower than the population replacement rate, i.e., the average number of children per woman that is required to maintain the size of the population in the developed countries (1.6 children per woman).

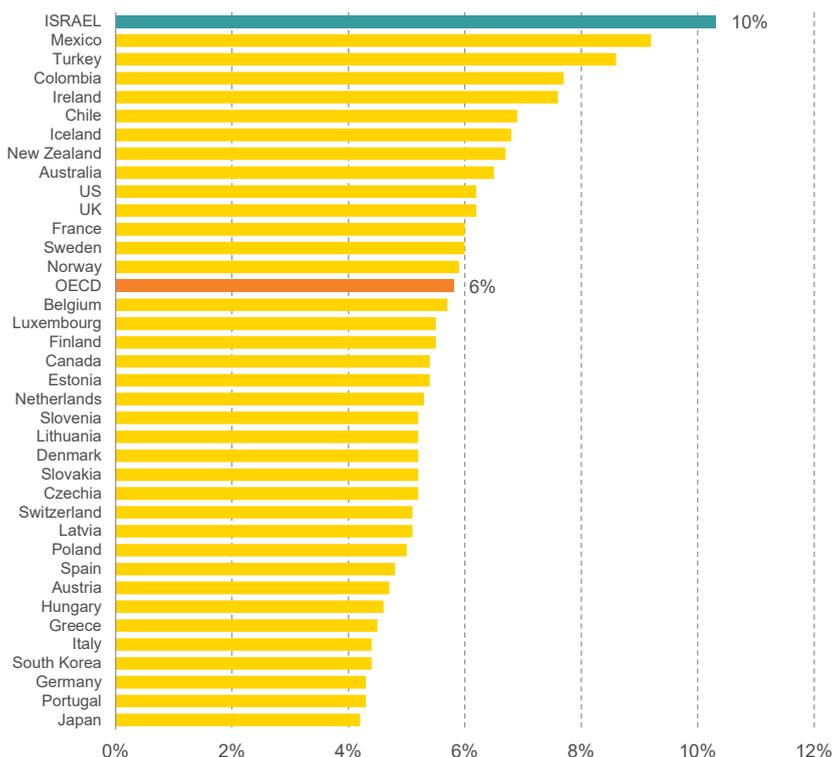
**Figure 1. Total fertility rate, 2017**  
Average number of children per woman



Source: Dana Vaknin, Taub Center | Data: OECD, 2020

Due to the particularly high fertility rate in Israel, the share of young children in the population is also high. As can be seen in Figure 2, in 2015, children aged 0 to 4 accounted for 10.3 percent of the total population in Israel, as compared to the OECD average of 5.8 percent (UN, 2019). In view of the large number of young children in Israel, the demand for preschool and childcare has grown in recent years, due to both the need to support working mothers and the passing of the Free Compulsory Education Law for age 3 and older (Rabinowitz, 2015; OECD, 2017). Many countries, including Israel, have expanded preschool education services at an unprecedented rate and children are currently entering the education system at a younger age than ever before (OECD, 2017; Kulic, Skopek, Triventi & Blossfeld, 2019). Nonetheless, among the OECD countries, there is significant variation in the enrollment rate of young children in the formal education and childcare system.

**Figure 2. Share of children under 4 in the overall population in the OECD countries, 2015**

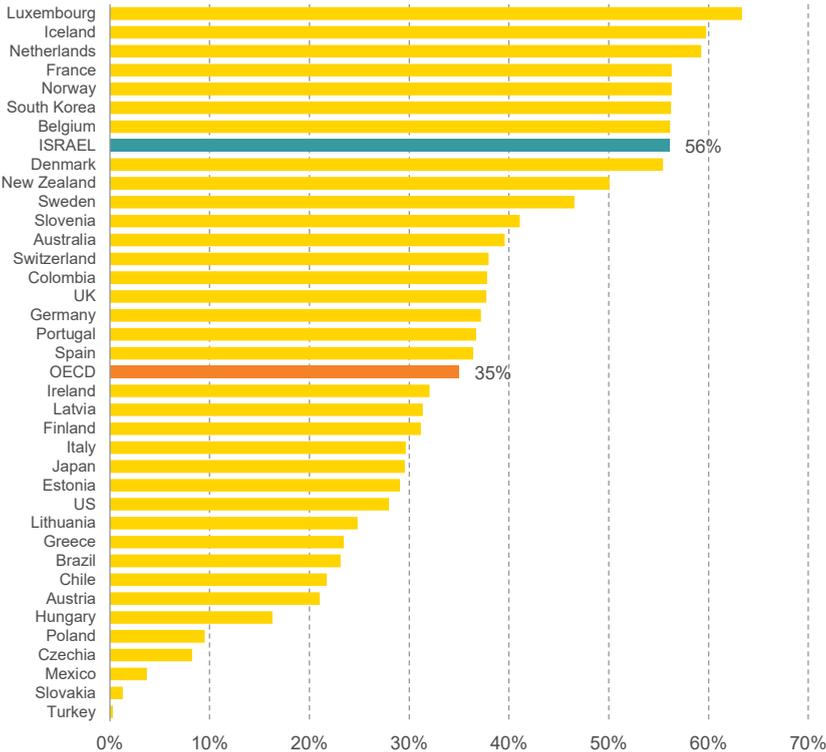


Source: Dana Vaknin, Taub Center | Data: UN, 2019

## Preschool enrollment rates in Israel are higher than the OECD average

The preschool enrollment rate for children ages birth to 2 in Israel is 56 percent as compared to 35 percent on average in the OECD countries (Figure 3). The enrollment rate in the OECD countries varies from less than 10 percent in Turkey, Slovakia, Mexico, Czechia, and Poland to more than 45 percent in the Scandinavian countries (apart from Finland), the Benelux countries (Belgium, Netherlands, and Luxembourg), France, South Korea, and Israel (OECD, 2017). It can be assumed that this is related to, among other things, the length of paid maternity leave and the employment rate of mothers of young children. However, it is not possible to know the direction of the relationship between the enrollment rate of children in preschool and the employment of mothers, as will be discussed below.

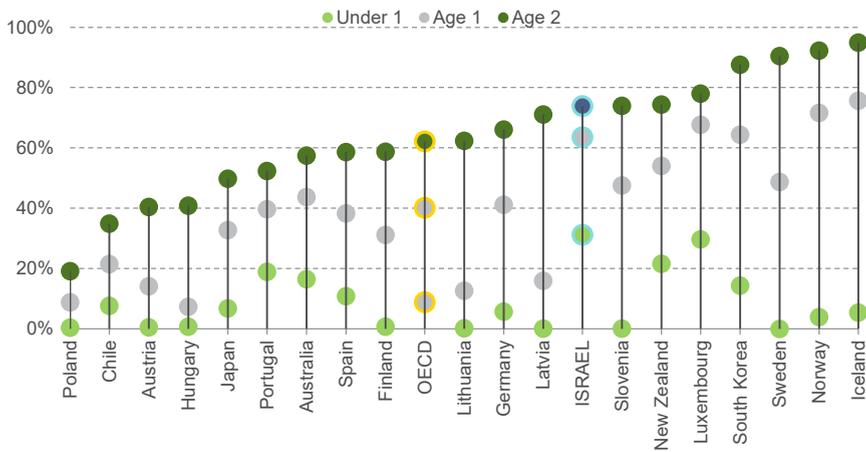
**Figure 3. Preschool enrollment rates for children under 2, 2017**  
The percent enrolled out of the age cohort



Source: Dana Vaknin, Taub Center | Data: OECD, 2018

Figure 4 shows the preschool enrollment rates according to age. It shows that in countries with the highest enrollment rates — such as Iceland, Norway, and Sweden — most of the children enter the preschool system at the age of 1 or 2. Israel, in contrast, heads the list for the enrollment rate of children aged under 1, with a rate of 31 percent in contrast to the OECD average of 9 percent.

**Figure 4. Preschool enrollment rates for children under 2, 2017**  
By age

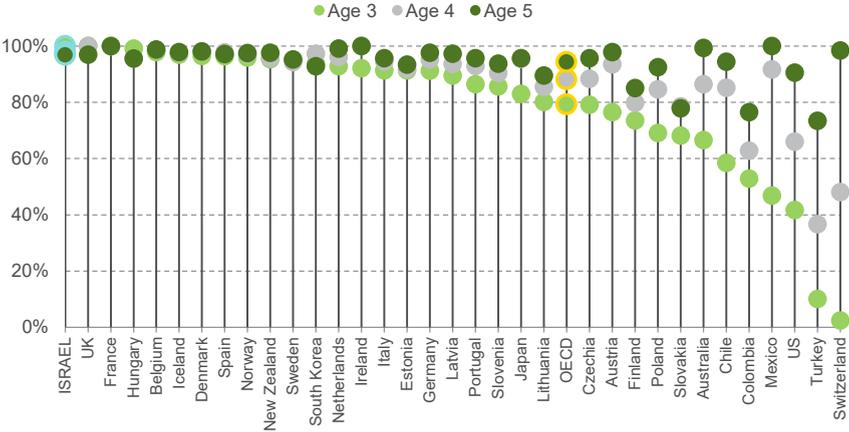


Source: Dana Vaknin, Taub Center | Data: OECD, 2019

The preschool enrollment rate for children ages 3 to 5 is particularly high in Israel. In 2017, it stood at 99 percent as compared to the OECD average of 87 percent (OECD, 2019). In Israel, therefore, there is almost universal attendance of children of this age in preschool. Figure 5 shows the variation in enrollment rates for children ages 3, 4, and 5 in the OECD countries. In Israel, there is almost no difference in participation rates between these ages while in countries such as Switzerland, Turkey, the US, and Mexico, the enrollment rates for children ages 4 and 5 are significantly higher than for 3-year-olds.

**Figure 5. Preschool enrollment rates for children ages 3 to 5, 2017**

By age

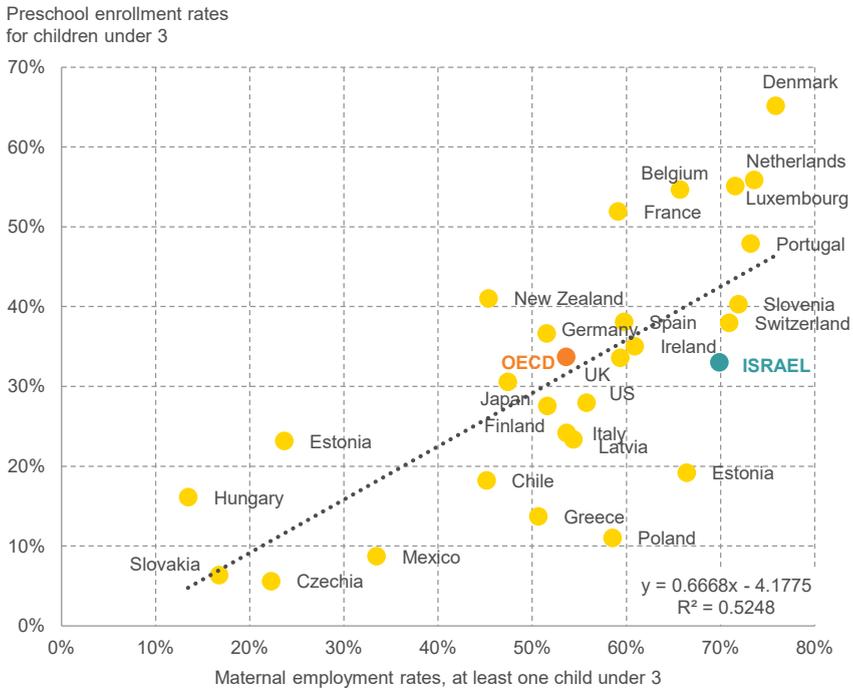


Source: Dana Vaknin, Taub Center | Data: OECD, 2019

### The preschool enrollment rate for children is related to women’s labor force participation rate and the maternity leave policy in each country

Figure 6 shows the relationship between the employment rate of mothers of children up to the age of 3 and the enrollment rate of these children in preschool. As the employment rate rises, so does the enrollment rate in preschool education. Israel is located relatively high in the figure: the share of working mothers is quite high and the enrollment rate of children under age 3 in preschool is higher than the average (although below the regression line). It is important to emphasize that the data in Figure 6, with respect to both the employment rates the enrollment rate of children under age 3 in preschool education, are for 2014. As seen in Figure 3, the enrollment rate of children ages birth to 2 in preschool was even higher in Israel in 2017, at 56 percent. In other words, this places Israel above the regression line and closer to countries such as Luxembourg and the Netherlands.

**Figure 6. The relationship between employment rates of mothers with children under 3 and the preschool enrollment rate of children under 3, 2014**



Source: Dana Vaknin, Taub Center | Data: OECD, 2017

The question arises as to why there are such large differences between countries. Countries are differentiated by the degree of commitment to encouraging mothers of young children to participate in the labor force. Social democratic countries, such as the Scandinavian countries, encourage mothers to work based on an ideological commitment to gender equality and to the accessibility of public education services at no or low cost, starting from birth (Esping-Andersen, 1990; European Commission, 2014; 2019). This is seen in high labor force participation rates among mothers and high enrollment rates of young children in preschool education (OECD, 2017). In contrast, in those countries considered to be liberal, the employment of mothers is a result of economic necessity (Esping-Andersen, 1990) and,

in turn, so is preschool education. In the US, for example, public support of preschool services is limited and only disadvantaged families benefit from any significant assistance (Moshel, 2015). In liberal countries, working parents are forced to rely on market solutions in order to obtain daycare for their children and, therefore, the share of private preschool education is higher than in the social democratic countries. In both types of countries, the employment rate of mothers is high, as are the enrollment rates for young children in preschool educational settings. In contrast, in conservative countries (according to the classification of Esping-Anderson, 1990), there is a family orientation that is directed toward encouraging and supporting the integration of families as parenting and education units. According to this approach, the family is responsible for the care and upbringing of their children. In such countries, the labor force participation rate of married women is low and, in many cases, the government offers extended paid maternity leave. Therefore, their preschool education systems are limited in size especially for children from birth to age 2 (Smeeding, Erikson & Jäntti, 2011; Waldfogel, 2006).

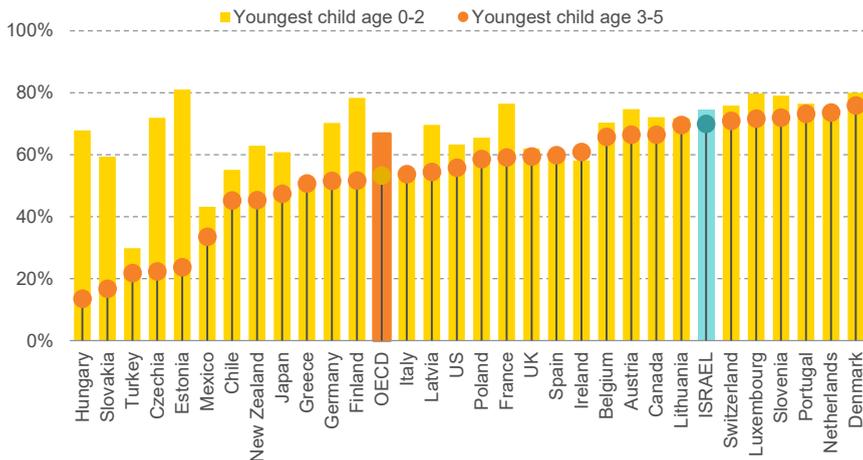
Israeli policy is derived from a combination of the two models. On the one hand, the state is committed to the employment of women (Moshel, 2015; Bowers & Fuchs, 2016), which is reflected in policies prohibiting firing a worker during pregnancy, relatively generous maternity allowances, and shortened work hours after a return from maternity leave (Bowers & Fuchs, 2016). In keeping with this commitment, and as in the social democratic countries, Israel finances free education starting from age 3 for the entire population. On the other hand, in the case of very young children up to the age of 2, the state adheres to principles adopted by liberal countries: for this age group, it subsidizes education only for needy families while other families that are in financial need of a second income must turn to the private market for daycare.

The combination of these two models (the liberal model for young children ages birth to 2 and the social democratic model for age 3 and older) should be expressed among other things in the employment rates of mothers with very young children that are observed. This is, in fact, what is seen in the OECD countries, in which the employment rate for mothers of very young children (under age 2) is lower than that of mothers with children ages 3 to 5 (53 percent as compared to 67 percent on average in the OECD, respectively; Figure 7). In Israel, in contrast, there are no significant differences in employment rates for mothers as a function of the age of their youngest child. Thus, the employment rate among mothers of children under age 2 is 70 percent as compared to 75 percent among women with children between

the ages of 3 and 5. This implies that the two models – the liberal one for young children up to the age of 2 and the social democratic one for children ages 3 to 5 – as they are seen in Israel result in similar rates of employment among mothers, despite the different solutions to childcare implicit in each.

The employment rate among mothers of young children in Israel is high relative to the average rate in developed countries, such that Israel is similar to countries like Switzerland, Luxembourg, and the Netherlands (Figure 7). The employment rate among Arab Israeli women is lower though it has been rising gradually in recent years. This is primarily due to cultural norms that discourage married women from working outside the home or outside their town as well as structural barriers in the labor market, such as a limited supply of jobs in towns with an Arab population and limited access to labor markets (Bowers & Fuchs, 2016).

**Figure 7. Employment rates for mothers by age of youngest child, 2014**



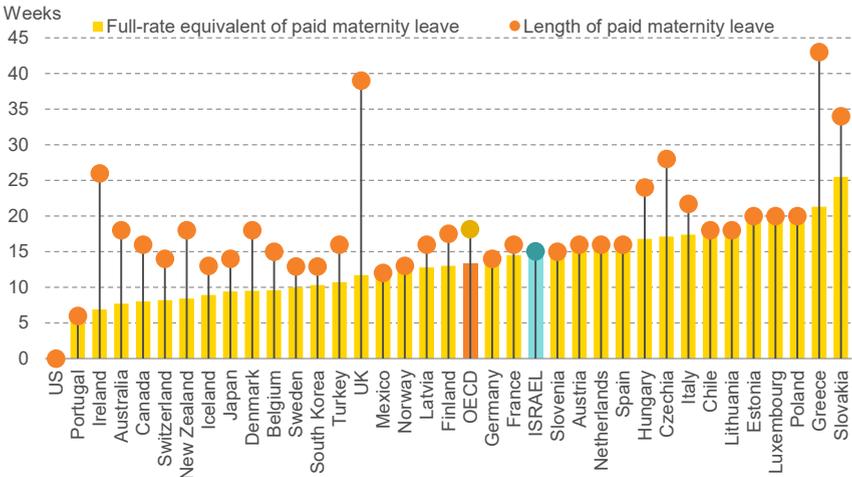
Source: Dana Vaknin, Taub Center | OECD, 2018

As noted, maternity leave is an important policy tool that can be used to influence the employment rate of mothers and the enrollment rates of young children in preschool education outside the home. In Israel, maternity leave, both paid and unpaid, is shorter than in other developed countries, such that paid maternity leave in Israel is 15 weeks as compared to 18 weeks on average in the OECD countries (Figure 8). Women in countries such as Greece,

the UK, Slovakia, Czechia, and Ireland enjoy a paid maternity leave of 25 weeks or longer. Nonetheless, the total maternity leave allowance in Israel is relatively generous and for 15 weeks the woman receives her full salary. Although many OECD countries provide a longer paid maternity leave, the maternity leave allowance is less than the average wage (Bowers & Fuchs, 2016). Figure 8 shows in yellow (light blue for Israel) the number of weeks of paid maternity leave in terms of full rate equivalent (FRE).<sup>1</sup> Israel is ranked somewhat above the OECD average, but lower than the Eastern European countries, such as Slovakia, Greece, Poland, Estonia, and Lithuania, for which this index is 18 weeks or more. It is important to remember that the fertility rate in Israel is higher than in the OECD countries and the average number of children per woman is 3.1 (Figure 1). Thus, the fairly generous maternity leave allowance in Israel is provided for a very large number of children relative to other countries and the total maternity leave allowance received by an Israeli woman during her lifetime is higher than that for women in other OECD countries.

**Figure 8. Length of paid maternity leave and full-rate equivalent of paid maternity leave, 2018**

In weeks



Source: Dana Vaknin, Taub Center | Data: OECD, 2018

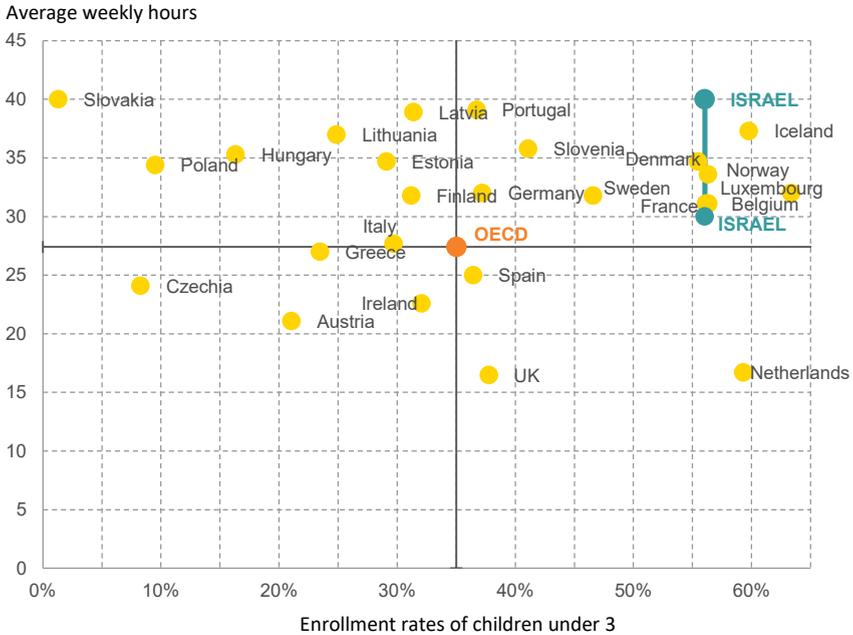
1 This index represents the duration of the maternity leave calculated in weeks if the maternity leave allowance was 100 percent of the mother's wage (using the average wage in that country) (OECD, 2010; 2016; Bowers & Fuchs, 2016).

## Time spent in preschool: half-day or full-day

The time that children spend in preschool is also an important parameter. There is variation among countries in the degree of universality of enrollment in preschool education and in the degree of uniformity in participation for all sectors of the population. Figure 9 shows that countries such as Croatia, Latvia, Lithuania, Bulgaria, Hungary, and Estonia provide a greater number of hours per week to a small share of children under the age of 3 (less than one-third of this age group). In contrast, countries such as the Netherlands provide fewer weekly hours but to a larger group of children under the age of 3 (more than 50 percent). The preschool enrollment rate for 3-year-olds is high in all of the Scandinavian countries (apart from Finland), Luxembourg, France, and Belgium. These countries provide a greater number of weekly hours on average to more than 50 percent of children under the age of 3. In terms of weekly number of hours, preschool enrollment rates in Austria, Ireland, and Spain are lower than the OECD average (less than 27 weekly hours). The Netherlands and the UK are part of the group with the lowest enrollment rates, i.e. an average of 17 weekly hours (less than 4 hours per day).

The data for average weekly hours in preschool education under the age of 3 were taken from a report of the European Commission (2019). Since Israel is not a member of the EU, it is not included in this dataset. Furthermore, as mentioned, data gathering on young children in Israel is inadequate and as a result there is no precise measure of average weekly hours in preschool education. In our estimation, young children up to the age of 3 spend an average of 30 to 40 hours in daycare, depending on the number of school days in the week (5 or 6) and the number of hours in a day (a full-day usually ends at 16:30; a half-day at 13:30). According to other sources, young children up to the age of 3 in Israel spend an average of even 50 hours per week in a preschool setting (Moshel, 2015). In any case, Israel is located in the upper right-hand quadrant in Figure 9, alongside the Scandinavian countries, France, and Belgium, with a particularly high enrollment rates and weekly number of hours. Therefore, the picture is clear: children in Israel spend a relatively large amount of time in preschool education each day and, therefore, its quality is an important issue.

**Figure 9. Enrollment rates for children under 3 in formal education and the average number of weekly hours spent in daycare, 2017**

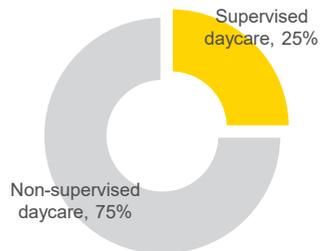


Source: Dana Vaknin, Taub Center | Data: OECD, 2018; European Commission, 2019

### A lack of supervision and coordination

Despite high preschool enrollment rates among young and very young children, as of 2018, only 25 percent of all children up to the age of 3 in Israel are in a framework under the supervision of the Ministry of Labor, Social Affairs and Social Services. Of the remaining 75 percent, about half a million children are in unsupervised private frameworks or they are at home (National Council for the Welfare of the Child, 2018; Ministry of Labor, Social Affairs and Social Services, 2019).

**Figure 10. Share of children under 3 in a setting supervised by the Ministry of Labor, Social Affairs and Social Services, 2018**



Source: Dana Vaknin, Taub Center | Data: Ministry of Labor, Social Affairs and Social Services, 2019

In Israel, responsibility for preschool educational services is divided between four government ministries: the Ministry of Health, the Ministry of Economy, the Ministry of Education, and the Ministry of Labor, Social Affairs and Social Services. The Ministry of Health is responsible for the operation of Tipat Halav (mother and baby wellness clinics); the Ministry of Labor, Social Affairs and Social Services is responsible for the operation of daycare centers for young children up to age 3 and for their supervision; and the Ministry of Education is responsible for the operation of preschool frameworks for children ages 3 to 5. The policy adopted in Israel is primarily characterized by a splitting of responsibility and a lack of coordination between the four government ministries that determine the availability and quality of services and preschool settings (Rabinowitz, 2015). As can be seen in the diagram, the OECD countries are differentiated by the model adopted for the division of responsibility for this area: the integrated early childhood education and care system or the split system, which has been adopted in Israel.

### **Integrated System**

The responsibility for daycare centers is concentrated in a single ministry. There is uniformity both in the curriculum and in the services provided. The integrated model is seen in Australia, Estonia, Germany, Norway, New Zealand, Slovenia, Finland, and Sweden.

### **Split System**

Responsibility for preschool education is divided among various ministries. The Ministry of Welfare is in general responsible for the preschool frameworks for children up to age 3 while the Ministry of Education is responsible for those for older children. Usually, there is no uniformity in the curriculum and in the services provided in preschool education. The split model is seen in Italy, the US, Belgium, the Netherlands, Turkey, Japan, Israel, Portugal, France, South Korea, and Switzerland.

## The quality of preschool education

Research has shown that the participation of young children in high-quality preschool education can contribute to the development of their abilities and skills and as a result can improve their outcomes in the future, primarily in the case of children from weak socioeconomic backgrounds (Barnett, 1995; Sylva, Melhuish, Sammons, Siraj-Blatchford & Taggart, 2010; Vandell et al., 2010; Blossfeld et al., 2017; Cebolla-Boado et al., 2017; Kulic et al., 2019). The quality of preschool education is to a great extent dependent on the child-staff ratio, the staff's level of education and training, and the process quality in the preschool setting (Blossfeld et al., 2017).

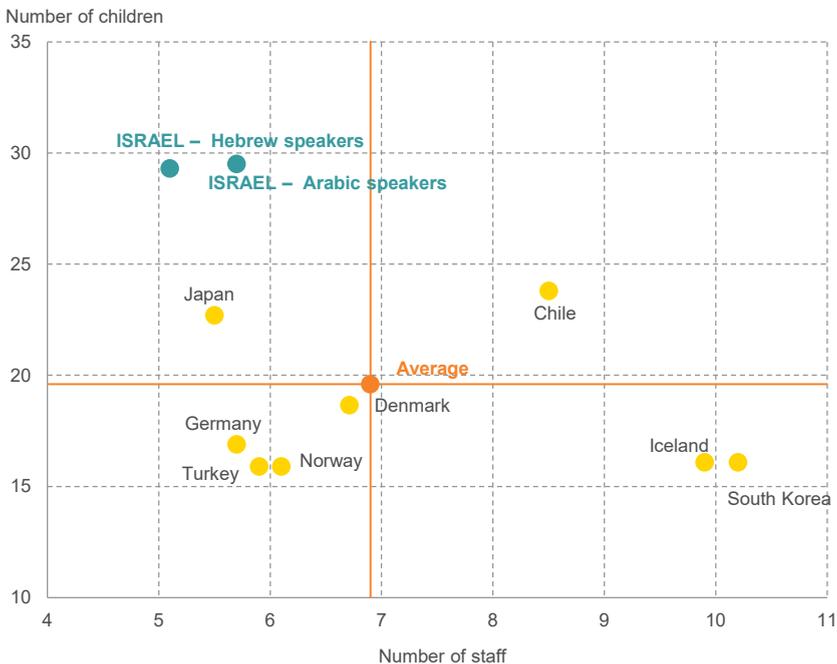
The TALIS survey of preschools in 2018 was the first international survey that focused on the staff in these settings in Israel. It carried out a comparative examination of the indices of quality for preschool education in Israel and the characteristics of the children's educational environment. The data were gathered by means of self-reporting questionnaires distributed among preschool teachers and other workers in the preschool education system (for children ages 3 to 5) in nine countries: Iceland, Germany, Denmark, South Korea, Turkey, Japan, Israel, Norway, and Chile. The data for Israel were gathered between April and May 2018 from a sample of more than 400 public and private preschool settings under Ministry of Education supervision, which included all parts of the country and all sectors. The response rate among members of the preschool staff in Israel was about 94 percent (Ministry of Labor, Social Affairs and Social Services, 2019; RAMA, 2019).

### Israel: More children, fewer staff

The findings of the TALIS survey (Figure 11) show that the child-staff ratio in preschool education in Israel — among both Hebrew speakers and Arabic speakers — is high relative to other countries. An Israeli preschool setting has an average of 29 children and about 5 staff members on any given workday. The average number of children in an Israeli preschool setting is higher than the average for the other countries in the survey by 50 percent. In contrast, the number of staff per preschool in Israel is 23 percent lower than the average for the other countries in the survey. In Iceland and South Korea, for example, the situation is far better, with 10 staff members on average per preschool and about 16 children on average (RAMA, 2019). Studies have found that a low child-staff ratio in preschool has a positive

effect on the working conditions of the staff and on their wages and also reduces their workload. This, in turn, improves their job satisfaction and the quality of the service they provide, as well as the process quality in the preschool setting (Burchinal et al., 2001; Clarke-Stewart, Vandell, Burchinal, O'Brien & McCartney, 2002; de Schipper, Riksen-Walraven & Geurts, 2007). When the child-staff ratio is high, as it is in Israel, the staff find it difficult to focus on the individual needs of each child.

**Figure 11. Number of children and number of staff in preschool settings, 2018**

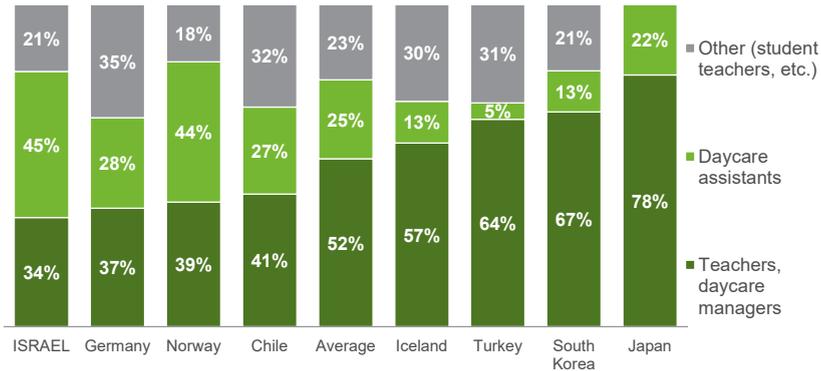


Source: Dana Vaknin, Taub Center | Data: TALIS, 2019

The composition of the preschool education staff is also worth examining. Not only is the number of staff low in Israel by international standards, but a large share of them (45 percent) are assistants (Figure 12). As will be discussed, assistants in Israel have a relatively low level of formal education (about 70 percent have a high school education or less as compared to only 25 percent on average in the other countries). Moreover, the share of teachers

in the preschool staff in Israel is 34 percent, which is the lowest among the countries in the survey. (This translates into one preschool teacher and two assistants per preschool as compared to, for example, 78 percent in Japan, 67 percent in South Korea and 52 percent on average for all the countries.)

**Figure 12: Composition of preschool staff, 2018**

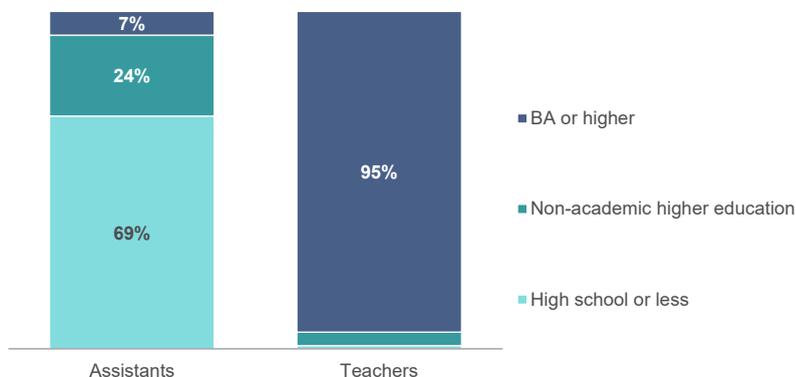


Source: Dana Vaknin, Taub Center | Data: TALIS, 2018

Many studies have found a positive link between the quality of preschool education and high achievement later in life. The lower the child-staff ratio and the higher the staff's level of education, the higher will be the child's achievement level in school (see, for example: Schütz, 2009; Bauchmüller, Gørtz & Rasmussen, 2014; Dämmrich & Esping-Andersen, 2017). The finding of the TALIS survey of preschool education also shows that the staff's level of formal education is low in Israel relative to the other survey countries. Thus, 46 percent of the staff in Israeli preschools have an academic education in contrast to 52 percent on average in the other countries. Moreover, 39 percent of the staff in Israel have no more than a high school education, which is double the average in the other countries. The gap between Israel and the other countries is primarily the result of the difference in education level between the teachers and the assistants in preschool education. As can be seen in Figure 13, 95 percent of the preschool teachers in Israel have a bachelor's degree or above – an impressive figure by any standard – which puts Israel alongside Norway (95 percent) and above other countries in the survey, such as Chile (81 percent), Germany (74 percent) and South Korea (49 percent). However, the formal education of the assistants in preschool education is particularly low: 69 percent have a high school education or

less, 24 percent have a post-secondary non-academic education and only 7 percent have an academic degree. The share of assistants with a high school education or lower is particularly high in Arabic-speaking preschool education (74 percent) relative to Hebrew-speaking preschool education (49 percent). As noted and as can be seen from the previous figure, assistants in Israel constitute about 65 percent of the total staff in preschool education. Therefore, it is not enough to simply consider the particularly high preschool enrollment rates in Israel but attention should also be paid to the service quality provided to these children as reflected in the staff's (low) level of formal education.

**Figure 13. Level of formal education of teachers and assistants in Israeli preschools, 2018**

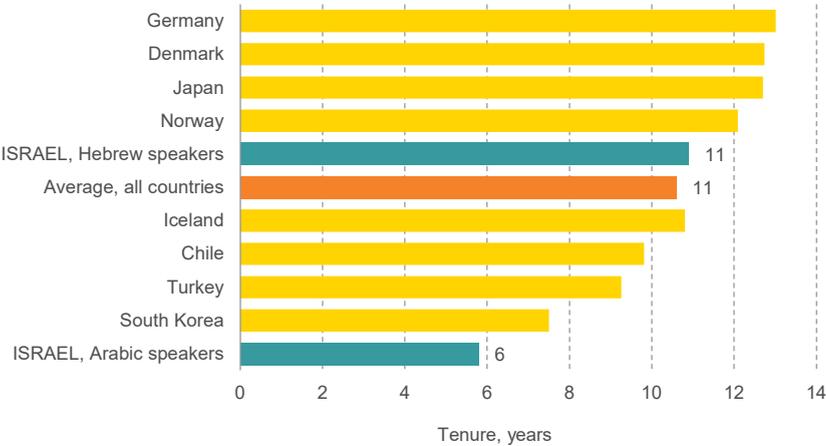


Source: Dana Vaknin, Taub Center | Data: RAMA, 2019

Not only does the staff in Israeli preschools have a lower level of education than those in the other countries surveyed, they also have less experience. Preschool staff in Germany, Denmark, Japan, and Norway have an average of 12 to 13 years of experience. In contrast, in Israel they have on average about 10 years, which is shorter by about 1 year than the average of the countries in the survey. There is also a wide gap between the average experience of the staff in Hebrew-speaking preschools and that of the staff in Arabic-speaking preschools (11 years versus 7 years). There is no doubt that the professional experience of the staff in preschool education in the Arabic-speaking sector is related to a large degree to the young age of the assistants, with 23 percent of them being under the age of 30 in comparison to only 12 percent for assistants in Hebrew-speaking preschool education.

A report published by the Knesset Research and Information Center in 2019 found that there is no uniformity in the employment criteria for staff in preschools. In preschool education for under age 3 supervised by the Ministry of Labor, Social Affairs and Social Services, there are no uniform defined criteria and each setting is free to decide whether or not to apply some set of criteria in employing their staff and what those criteria will be (Rabinowitz, 2019). As noted, these preschool settings account for 75 percent of the total for children under the age of 3 in Israel.

**Figure 14. Average tenure of preschool staff, 2018**



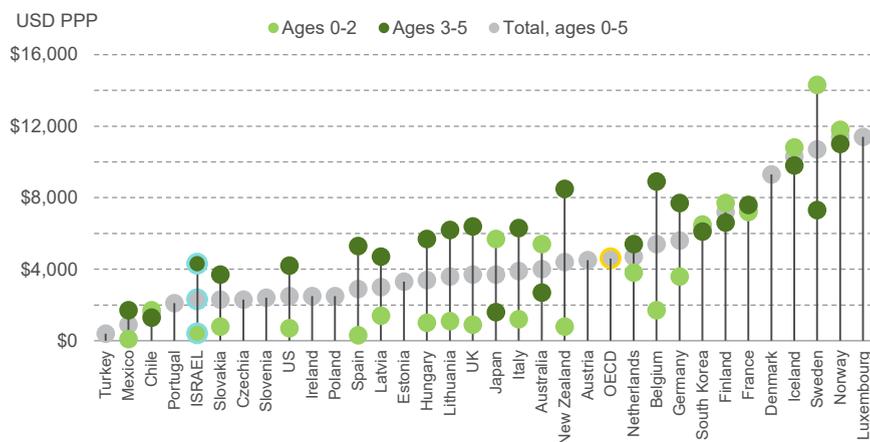
Source: Dana Vaknin, Taub Center | Data: TALIS, 2018

### Public expenditure on preschool education in Israel and in particular on very young children up to the age of 2 is among the lowest in the OECD

Public expenditure on welfare and education services in Israel has been on an upward trend since the mid-2000s (Blass & Cogan, 2014, Gal & Madhala-Brik, 2016). However, public expenditure per child in the preschool system is low by international standards and is similar to levels in countries such as Portugal, Slovakia, and the US. In contrast, public expenditure on preschool education is higher in the Scandinavian countries, Luxembourg, and France. Figure 15 shows the gap in public expenditure according to age. Public expenditure was calculated in term of purchasing power parity (PPP) in

US dollars (USD), which adjusts expenditure according to the price level in each country. In terms of USD PPP, public investment in Israel in preschool education up to the age of 2 — the critical period for cognitive, social, and emotional development — is among the lowest in the OECD. Even though public expenditure on these services for ages 3 to 5 is higher in Israel, it is still among the countries with the lowest index. It is reasonable to assume that in countries with a low level of government intervention, such as Israel, there will be higher social inequality in access to high-quality preschool education, which tends to be more expensive and receives little in terms of public subsidies (OECD, 2017).

**Figure 15. Public expenditure per child on early childhood education and care, 2015**

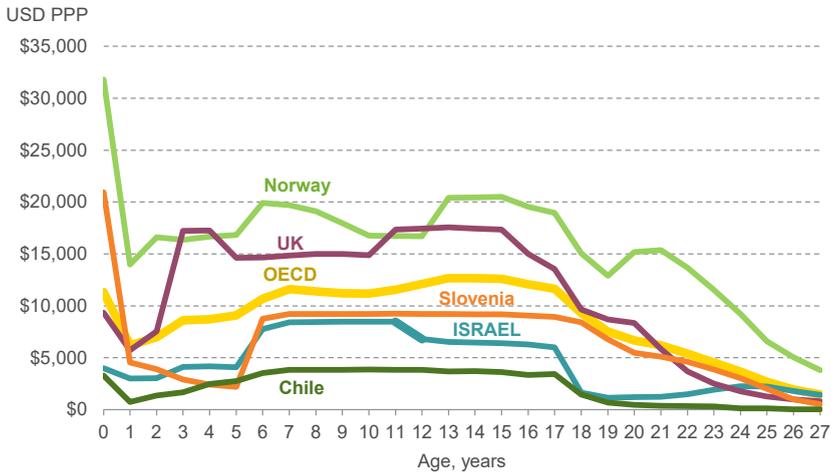


Source: Dana Vaknin, Taub Center | Data: OECD, 2018

Studies indicate that educational intervention and investment in education during early childhood produce high educational, economic, social, and health returns (Heckman, 2006; Cunha & Heckman, 2007). Therefore, it is wise to invest more resources in early childhood education. However, the State of Israel has chosen not to do so. Figure 16 shows that public expenditure in Israel for children during the early years of life is significantly lower than the average for the OECD and countries such as Norway, Slovenia, and the UK, particularly at a very young age (birth to 2-years-old).

**Figure 16. Public expenditure per child on family benefits and on educational services and childcare, 2013**

By age



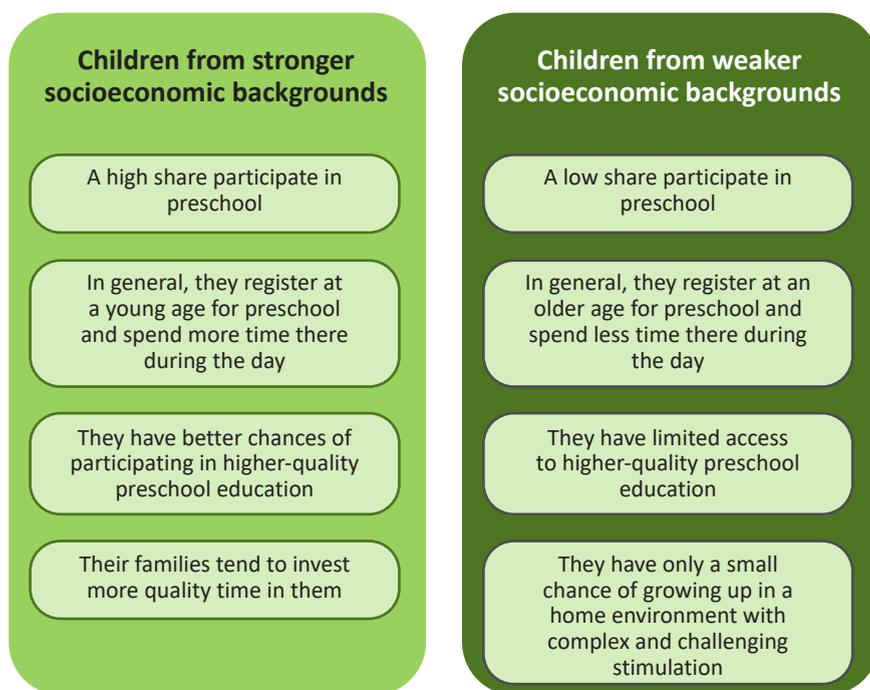
Source: Dana Vaknin, Taub Center | Data: OECD, 2018

## Preschool education and inequality

Children differ according to their cognitive and non-cognitive abilities long before they enter school. Studies show that inequality in abilities and learning skills begin at birth and may even begin before that (Feinstein 2003; Esping-Andersen, 2004; Heckman, 2006; Vaknin, Shavit & Sasson, 2019). The social, economic and cultural environment at this critical age determines to a large extent children's learning opportunities as well as the cognitive, language, and social stimulation that they are exposed to and thus also influences their future achievement (Kulic et al., 2019). Studies have also shown that gaps in skills and cognitive abilities between young children from different socioeconomic backgrounds are liable to widen over time up until preschool and school, and even into adulthood (Feinstein, 2003; Fernald, Marchman & Weisleder, 2013; Skopek & Passaretta, 2018).

There are those who claim that participation in preschool education is likely to reduce the gaps between children (Magnuson & Duncan, 2016; Heckman & Karapakula, 2019). As mentioned, preschool enrollment rates in Israel and other countries in the OECD have been on a continuous upward trend in recent years, in both the 0 to 2 age group and the 3 to 5 age group.

However, universal access to preschool education does not necessarily guarantee equal access to high-quality education (OECD, 2017). The child's family environment has an effect on their learning opportunities and the family's socioeconomic ranking determines to a large extent parents' decisions regarding a preschool education framework for their children. As can be seen in the following chart, the parents' choice of their child's educational setting — in terms of type of framework, its quality, the time the child spends there, and the starting age of the child — is dependent on the needs of the parents, their socioeconomic level, the opportunities they have had, and the various economic constraints they face. These decisions eventually have an effect on the physical and social environment to which young children are exposed and therefore also on their learning opportunities (Early & Burchinal, 2001; Blossfeld et al., 2017; Kulic et al., 2019).



Source: Early & Burchinal 2001; Wolfe & Scrivner 2004; Waldfogel 2006; Hynes & Habasevich-Brooks, 2008; Magnuson & Shager 2010; Chaudry et al., 2011; Esping-Andersen et al., 2012; Felfe & Lalive 2013; Blossfeld et al., 2017; Cebolla-Boado et al., 2017; OECD, 2017

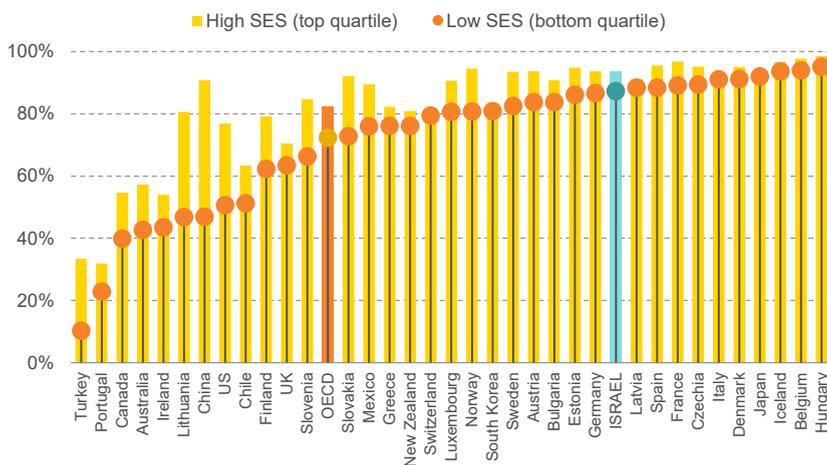
Studies have found that a family's socioeconomic characteristics influence their choice of preschool education for their children, even after controlling for economic and employment characteristics (Fuller, Holloway & Liang, 1996; Early & Burchinal, 2001). There is a better chance that parents from stronger socioeconomic backgrounds will send their children to higher-quality preschool frameworks and, in general, their children enter preschool at a younger age and spend more time there each day (Early & Burchinal, 2001; Wolfe & Scrivner, 2004; Waldfogel, 2006; Cebolla-Boado et al., 2017). In contrast, children of parents from weaker socioeconomic backgrounds are often cared for in non-formal frameworks and they are less likely to participate in high-quality preschool education (Early & Burchinal, 2001; Wolfe & Scrivner, 2004; Kulic et al., 2019).

### **The time spent by children in preschool is a predictor of achievement later in life**

Studies show that in terms of cognitive development, children from weaker socioeconomic backgrounds are likely to benefit more from preschool education. However, Figure 17 indicates that the average enrollment rate among children from weaker backgrounds for two years or more is lower than that of children from stronger backgrounds. The OECD average enrollment rate for children from weaker socioeconomic backgrounds in preschool for two years or more is 72 percent in contrast to a rate of 82 percent among children from stronger socioeconomic backgrounds. In Italy, Germany, and Finland, significant socioeconomic gaps were found in participation in preschool education among children up to the age of 3 (Krapf, 2014; Brilli, Kulic & Triventi, 2017; Karhula, Erola & Kilpi-Jakonen, 2017). In contrast, in the Scandinavian countries, such as Sweden and Norway, socioeconomic background has a smaller effect on the age of entry into preschool education (Zachrisson, Janson & Nærde, 2013; Krapf, 2014; Viklund & Duvander, 2017). In Israel, the preschool enrollment rates for a period of two years or more is high relative to the OECD average (93 percent versus 79 percent) and inequality with respect to years spent in preschool according to socioeconomic level is low relative to other countries: 87 percent of children from weaker socioeconomic backgrounds are in preschool for two years or more as compared to 94 percent of children from stronger backgrounds.

**Figure 17. Share of students age 15 who were in preschool for at least 2 years, 2015**

By socioeconomic status



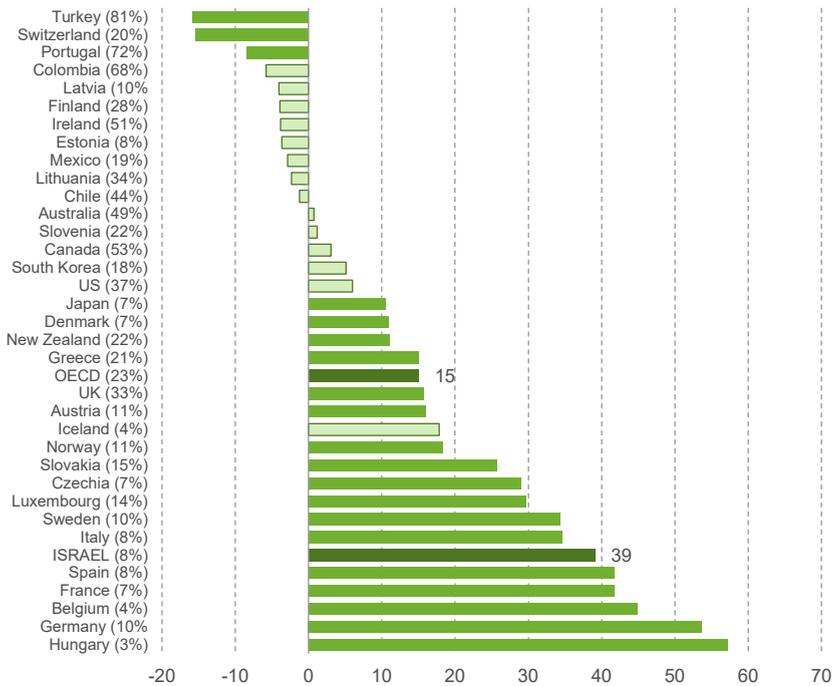
Source: Dana Vaknin, Taub Center | Data: OECD, 2017

The early years of life constitute the basis for development and learning of skills (Phillips & Shonkoff, 2000), and, therefore, preschool education, where young children spend a good part of their day, is of critical importance in their development. Studies have found that the number of years that children spend in preschool is a strong predictor of their level of achievement in school. Thus, for example, the PISA test found that 15-year-old students who had spent two years or more in preschool had higher achievements on cognitive exams – math, reading, and science – relative to children who had spent less than a year in preschool (OECD, 2017). The Progress in International Reading Literacy Study (PIRLS) exam led to a similar finding – the longer a child spends in preschool, the higher is their achievement on a reading test in Grade 4. The findings indicate that each year spent in preschool is accompanied by an increase of 7 percent of a standard deviation in reading skills (Cebolla-Baodo et al., 2017).

Figure 18 shows that in 47 out of 57 countries for which data are available, children who had been in preschool for two years or more had higher average scores on the PISA exam than children who had been in preschool for less

than two years. Beside the name of each country, the percentage of 15-year-olds who spent less than two years in preschool appears in parentheses. After controlling for the socioeconomic background of the child and of the school, this finding remains statistically significant for about one-half of the countries, including Israel (dark green). After controlling for the same factors, the largest gaps in scores between children who were in preschool for at least two years and children who were in preschool for less than two years were found in Hungary, Germany, Belgium, France, Spain, Israel, and Italy. The gap in these countries stood at 35 points or more relative to an average gap in the OECD of 15 points (OECD, 2017).

**Figure 18. The difference in PISA science scores between students who were in preschool for at least 2 years and those who were in preschool for less than 2 years, 2015**  
 Controlling for student and school socioeconomic status



Note: In parentheses, the percent of students age 15 who were in preschool for less than 2 years. Lightest green signifies not statistically significant; darker green signifies a level of statistical significance. Source: Dana Vaknin, Taub Center | Data: OECD, 2017

However, this finding which is based on PISA scores should be treated with caution since the socioeconomic background of the children was not measured when they were younger but rather at age 15. Additional research is needed that will make it possible to control for the background of the children at the time they enter a preschool setting. Another reservation is that the findings based on the PISA and PIRLS data do not take into account various measures of quality in preschool education. The research literature indicates that high-quality preschool education has the potential to improve the skills and abilities, both cognitive and non-cognitive, of young children and can influence their life chances over time (Barnett, 1995; Burger, 2010). This is the case primarily for children from weaker socioeconomic backgrounds who grow up in weaker social environments (Heckman, 2006). A positive relationship has been found, for example, between enrollment in preschool and reading skills in primary school and high school. The relationship is stronger in countries with higher-quality preschool education, that is, a low child-staff ratio and a preschool staff with high education and skill levels (Dämmrich & Esping-Andersen, 2017). In order to claim that longer participation in preschool education in Israel has an effect on children's achievement at a later age, there is a need to control not only for the socioeconomic background of the children and the school but also measures of instrumental and process quality of the preschool settings they were in as young children. No such data are currently available on the individual level in Israel.

## Conclusion

This paper presents data on the characteristics of preschool education in Israel relative to other countries and their influence on the achievements of children at a later age. In many ways, Israel is a paradise for children. The percentage of children in preschool is double that of the OECD average and is increasing from year to year. The enrollment rate of children in preschool in Israel is among the highest of the developed countries, both among the 0 to 2 age group and the 3 to 5 age group. Furthermore, children in Israel spend a relatively long time each day in preschool.

However, only one-quarter of children up to the age of 3 in Israel are in a preschool setting that is supervised by the state. The data presented indicate that the quality of preschool education in Israel is in need of major improvement. The level of formal education of the preschool staff is low relative to other countries, primarily due to the low level of education of preschool assistants. The child-staff ratio in preschool — in both Hebrew-

speaking and Arabic-speaking frameworks — is higher than in other countries. Due to the low number of staff in each setting, they find it difficult to focus on the individual needs of each child. These characteristics are to a great extent the result of the low level of public expenditure per child on preschool education services, primarily in the 0 to 3 age group.

The demographic characteristics of preschoolers and preschool education policy in Israel presented here illustrate the growing need for high-quality preschool education. Studies have shown that the participation of children in high-quality preschool education can improve their future achievements, particularly in the case of children from weaker socioeconomic backgrounds. Therefore, it is important to invest in training preschool teachers and to reduce the child-staff ratio in preschools. In addition, enrollment rates in high-quality preschool education should be increased so that a larger number of children will benefit from the improvements. If we wait for the kindergarten stage, it may be too late.

It is important to emphasize that the data presented in this study are limited for a number of reasons. First, there has not been any long-term survey in Israel tracking families and young children over time to determine the long-term effects of preschool education on children's lives. The gathering of data on preschoolers in Israel is a crucially important step, which will enable researchers to carry out research based on high-quality data and to provide policy makers with valid, reliable information. The data presented in this survey are theoretical and do not examine in detail the connection between the characteristics of preschool education and children's achievements later on in life. In a future round of the Taub Center's Initiative on Early Childhood Development and Inequality, we intend to determine whether preschool education in Israel is indeed improving the educational achievements in the short and long terms; whether there are differences between social and economic groups in Israel with respect to the age at which young children enter preschool and the type of preschool education they receive; and whether there are differences between the types of preschool frameworks in terms of a statistical connection to children's achievements. This will make it possible to examine these questions in greater depth.

## References

### English

- Barnett, W. S. (1995). Long-term effects of early childhood programs on cognitive and school outcomes. *The Future of Children*, 5(3), 25-50.
- Bauchmüller, R., Gørtz, M., & Rasmussen, A. W. (2014). Long-run benefits from universal high-quality preschooling. *Early Childhood Research Quarterly*, 29(4), 457-470.
- Blass, N., & Cogan, Y. (2014). [The Ministry of Education budget 2000-2014: Trends and issues](#). Policy Paper No. 2014.06. In A. Weiss (Ed.), [State of the nation report: Society, economy and policy in Israel 2018](#) (pp. 271-312). Jerusalem: Taub Center for Social Policy Studies in Israel.
- Blossfeld, H. P., Kulic, N., Skopek, J., & Triventi, M. (Eds.). (2017). *Childcare, early education and social inequality: An international perspective*. Cheltenham, UK: Edward Elgar Publishing.
- Bowers, L., & Fuchs, H. (2016). [Women and parents in the labor market — Israel and the OECD](#). Policy Brief. Jerusalem: Taub Center for Social Policy Studies in Israel.
- Brilli, Y., Kulic N., & Triventi, M. (2017). Who cares for the children? Family social position and childcare arrangements in Italy. In Blossfeld, H. P., Kulic, N., Skopek, J., & Triventi, M. (Eds.), *Childcare, early education and social inequality: An international perspective* (pp. 31-48). Cheltenham, UK: Edward Elgar Publishing.
- Burger, K. (2010). How does early childhood care and education affect cognitive development? An international review of the effects of early interventions for children from different social backgrounds. *Early Childhood Research Quarterly*, 25(2), 140-165.
- Cebolla-Boado, H., Radl, J., & Salazar, L. (2017). Preschool education as the great equalizer? A cross-country study into the sources of inequality in reading competence. *Acta Sociologica*, 60(1), 41-60.
- Chaudry, A., Pedroza, J. M., Sandstrom, H., Danzinger, A., Grosz, M., Scott, M., & Ting, S. (2011). [Child Care Choices of Low-Income Working Families](#). Urban Institute.
- Clarke-Stewart, K. A., Vandell, D. L., Burchinal, M., O'Brien, M., & McCartney, K. (2002). Do regulable features of child-care homes affect children's development? *Early Childhood Research Quarterly*, 17(1), 52-86.

- Cunha, F., & Heckman, J. J. (2007). The technology of skill formation. *American Economic Review*, 97(2), 31-47.
- Dämmrich, J., & Esping-Andersen, G. (2017). Preschool and reading competencies — A cross-national analysis. In Blossfeld, H. P., Kulic, N., Skopek, J., & Triventi, M. (Eds.), *Childcare, early education and social inequality: An international perspective* (pp. 31-48). Cheltenham, UK: Edward Elgar Publishing.
- de Schipper, E. J., Riksen-Walraven, J. M., & Geurts, S. A. (2007). Multiple determinants of caregiver behavior in child care centers. *Early Childhood Research Quarterly*, 22(3), 312-326.
- Early, D. M., & Burchinal, M. R. (2001). Early childhood care: Relations with family characteristics and preferred care characteristics. *Early Childhood Research Quarterly*, 16(4), 475-497.
- European Commission (2014). *Key Data on Early Childhood Education and Care in Europe — 2014 Edition*. Luxembourg: Publications Office of the European Union.
- European Commission (2019). *Key Data on Early Childhood Education and Care in Europe — 2019 Edition*. Luxembourg: Publications Office of the European Union.
- Esping-Andersen, G. (1990). *The three worlds of welfare capitalism*. Princeton, NJ: Princeton University Press.
- Esping-Andersen, G. (2004). Untying the Gordian knot of social inheritance. *Research in Social Stratification and Mobility*, 21(1), 115-138.
- Esping-Andersen, G., Garfinkel, I., Han, W. J., Magnuson, K., Wagner, S., & Waldfogel, J. (2012). Child care and school performance in Denmark and the United States. *Children and Youth Services Review*, 34(3), 576-589.
- Feinstein, L. (2003). Inequality in the early cognitive development of British children in the 1970 cohort. *Economica*, 70(277), 73-97.
- Felfe, C., & Lalive, R. (2013). *Early child care and child development: For whom it works and why*. Working Paper No. 536, SOEP Papers on Multidisciplinary Panel Data Research.
- Fernald, A., Marchman, V. A., & Weisleder, A. (2013). SES differences in language processing skill and vocabulary are evident at 18 months. *Developmental Science*, 16(2), 234-248.

- Fuller, B., Holloway, S. D., & Liang, X. (1996). Family selection of child-care centers: The influence of household support, ethnicity, and parental practices. *Child Development, 67*(6), 3320-3337.
- Gal, J., & Madhala-Brik, S. (2016). [Public spending on social welfare](#). In A. Weiss (Ed.), *State of the nation report: Society, economy and policy in Israel 2016* (pp. 279-313). Jerusalem: Taub Center for Social Policy Studies in Israel.
- Heckman, J. J. (2006). Skill formation and the economics of investing in disadvantaged children. *Science, 312*(5782), 1900-1902.
- Heckman, J. J. (2011). The economics of inequality: The value of early childhood education. *American Educator, 35*(1), 31-35.
- Heckman, J. J., & Karapakula, G. (2019). *Intergenerational and intragenerational externalities of the Perry Preschool Project*. The Heckman Equation Project.
- Hynes, K., & Habasevich-Brooks, T. (2008). The ups and downs of child care: Variations in child care quality and exposure across the early years. *Early Childhood Research Quarterly, 23*(4), 559-574.
- Karhula, A., Erola, J., & Kilpi-Jakonen, E. (2017). Home sweet home? Long-term educational outcomes of childcare arrangements in Finland. In Blossfeld, H. P., Kulic, N., Skopek, J., & Triventi, M. (Eds.), *Childcare, early education and social inequality: An international perspective* (pp. 268-286). Cheltenham, UK: Edward Elgar Publishing.
- Krapf, S. (2014). Who uses public childcare for 2-year-old children? Coherent family policies and usage patterns in Sweden, Finland and Western Germany. *International Journal of Social Welfare, 23*(1), 25-40.
- Kulic, N., Skopek, J., Triventi, M., & Blossfeld, H. P. (2019). Social background and children's cognitive skills: The role of early childhood education and care in a cross-national perspective. *Annual Review of Sociology, 14*(6), 13.1-13.23.
- Magnuson, K., & Duncan, G. J. (2016). Can early childhood interventions decrease inequality of economic opportunity? *RSF: The Russell Sage Foundation Journal of the Social Sciences, 2*(2), 123-141.
- Magnuson, K., & Shager, H. (2010). Early education: Progress and promise for children from low-income families. *Children and Youth Services Review, 32*(9) 1186-1198.

- Moshel, S. (2015). *Early childhood education as a means for reducing inequality: Research, policy and practice*. Literature review prepared for the Committee Studying Inequality in Education: Relationships between Rising Socioeconomic Inequality and Equality of Opportunity. The Initiative for Applied Education Research.
- OECD (2010). *PF2.1: Key characteristics of parental leave systems*.
- OECD (2017). *Starting Strong 2017: Key OECD Indicators on Early Childhood Education and Care*. Paris: OECD Publishing.
- OECD (2018). *OECD family database*. *OECD Families and Children*. Paris: OECD Publishing.
- OECD (2019). *Education at a Glance 2019*. Paris: OECD Publishing.
- OECD (2020). *Fertility rates (indicator)*. Paris: OECD Publishing.
- Phillips, D. A., & Shonkoff, J. P. (Eds.). (2000). *From neurons to neighborhoods: The science of early childhood development*. Washington DC: National Academies Press.
- RAMA (2019). *Teaching and learning international survey (TALIS) 2018 conceptual framework*. Ramat Gan: RAMA, Israeli National Authority for Measurement and Evaluation in Education.
- Schütz, G. (2009). *Does the quality of pre-primary education pay off in secondary school? An international comparison using PISA 2003*. Ifo Working Paper Series, No. 68.
- Shavit, Y., Friedman, I., Gal, J., and Vaknin, D. (2018). *Emerging early childhood inequality: On the relationship between poverty, sensory stimulation, child development, and achievement*. Literature Review. Jerusalem: Taub Center for Social Policy Studies in Israel.
- Skopek, J. & Passaretta, G. (2018). The social stratification of skills from infancy to adolescence—evidence from an accelerated longitudinal design. SocArXiv.
- Smeeding, T., Erikson, R., & Jäntti, M. (Eds.). (2011). *Persistence, privilege, and parenting: The comparative study of intergenerational mobility*. New York: Russell Sage Foundation.
- Sylva, K., Melhuish, E., Sammons, P., Siraj-Blatchford, I., & Taggart, B. (Eds.). (2010). *Early childhood matters: Evidence from the effective pre-school and primary education project*. London: Routledge.
- TALIS (2018). *TALIS 2018 Data*.

- United Nations (2019). *United Nations Department of Economic and Social Affairs, Population Division. World Population Prospects 2019*, custom data acquired via website.
- Vaknin, D., Shavit, Y., & Sasson, I. (2019). [Emerging early Childhood inequality: Poverty and future academic achievement](#). In A. Weiss (Ed.), *State of the nation report: Society, economy and policy in Israel 2019* (pp. 313-359). Jerusalem: Taub Center for Social Policy Studies in Israel.
- Vandell, D. L., Belsky, J., Burchinal, M., Steinberg, L., Vandergrift, N., & NICHD Early Child Care Research Network. (2010). Do effects of early child care extend to age 15 years? Results from the NICHD study of early child care and youth development. *Child development, 81*(3), 737-756.
- Viklund, I., & Duvander, A. Z. (2017). Time on leave, timing of preschool—The role of socio-economic background for preschool start in Sweden. In Blossfeld, H. P., Kulic, N., Skopek, J., & Triventi, M. (Eds.), *Childcare, early education and social inequality: An international perspective* (pp. 67-86). Cheltenham, UK: Edward Elgar Publishing.
- Waldfogel, J. (2006). What do children need? *Public Policy Research 13*(1), 26-34.
- Weinreb, A., Chernichovsky, D., & Brill, A. (2018). [Israel's exceptional fertility](#). In A. Weiss (Ed.), *State of the nation report: Society, economy and policy in Israel 2018* (pp. 271-312). Jerusalem: Taub Center for Social Policy Studies in Israel.
- Wolfe, B., & Scriver, S. (2004). Child care use and parental desire to switch care type among a low-income population. *Journal of Family and Economic Issues, 25*(2), 139-162.
- Zachrisson, H. D., Janson, H., & Nærde, A. (2013). Predicting early center care utilization in a context of universal access. *Early Childhood Research Quarterly, 28*(1), 74-82.

## Hebrew

- Ministry of Labor, Social Affairs and Social Services (2019). *The 2018 international TALIS research study for teaching and learning in early childhood*. Jerusalem: Ministry of Labor, Social Affairs and Social Services, Daycare and Nursery Division.
- National Council for the Child. [Statistical Yearbook 2018](#). Jerusalem: National Council for the Child.

Rabinowitz, M. (2015) [\*The public response to very young children in Israel: A picture of the situation\*](#). Jerusalem: Knesset, Research and Information Center.

Rabinowitz, M. (2019). *Frameworks for very young children*. Jerusalem: Knesset, Research and Information Center.



---

Center address: 15 Ha'ari Street, Jerusalem, Israel  
Telephone: 02 5671818 Fax: 02 5671919  
Email: [info@taubcenter.org.il](mailto:info@taubcenter.org.il) Website: [www.taubcenter.org.il](http://www.taubcenter.org.il)

 Internet edition