

Childcare choices: What parents want

Technical Appendix

July 2023

Acknowledgement of Country

We acknowledge that Aboriginal and Torres Strait Islander peoples are the First Peoples and Traditional Custodians of Australia, and the oldest continuing culture in human history.

We pay respect to Elders past and present and commit to respecting the lands we walk on, and the communities we walk with.

We celebrate the deep and enduring connection of Aboriginal and Torres Strait Islander peoples to Country and acknowledge their continuing custodianship of the land, seas, and sky.

We acknowledge the ongoing stewardship of Aboriginal and Torres Strait Islander peoples, and the important contribution they make to our communities and economies.

We reflect on the continuing impact of government policies and practices and recognise our responsibility to work together with and for Aboriginal and Torres Strait Islander peoples, families and communities, towards improved economic, social and cultural outcomes.

Artwork:

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Overview

The NSW Productivity Commission designed and conducted a survey of over 2,015 families in New South Wales with children aged 0-5 to investigate the barriers and preferences, for early childhood education and care (ECEC) services.¹ This technical appendix provides an in-depth explanation of the survey design process, survey analysis methods, and presents more detailed survey results. The survey's key findings and policy implications are provided in the NSW Productivity Commission's *Childcare choices: What parents want* paper.

The survey template and raw survey data can be accessed on the Data.NSW website.

The project addresses three key questions regarding ECEC services for non-school aged children (0-5 years): These include:

1. What are the main barriers that parents face when deciding whether and how much to use ECEC?
2. What are the policy levers most valued by parents?
3. Do the barriers and policy preferences differ across varying types of households?

In answering questions one and two we understand which issues are most pressing for parents in using ECEC and what government actions they will find most helpful. Question three is helpful for improving the efficiency of government spending, on the basis that different types of households have different barriers and preferences and that targeted solutions can be more effective in achieving policy objectives.

We use a variety of choice modelling techniques in our survey to capture information on parents' barriers and preferences. While administrative data, such as data on childcare utilisation, can offer some insight into parents' preferences, surveying parents would provide us with richer information to answer our research questions. Administrative data can tell us about who is using ECEC and how much. However, it has little to offer in explaining why this is the case and what changes would be most beneficial. Asking parents about their experiences and preferences allows us to better understand the drivers of household decisions regarding childcare, in turn helping government to craft policies that households want. Surveying also allows us to understand the barriers and preferences of those who are not using childcare. These households are a highly relevant group for policymakers which are not captured in administrative data sets because they are not using the services.

Our research contributes to the broader literature in several ways. These include:

1. This survey analyses a more comprehensive set of ECEC barriers, using a larger, representative sample of households in New South Wales.
2. It provides more direct policy design insights, using a discrete choice experiment (DCE) to capture NSW households' preferences for ECEC policy settings. This is the first study (that we are aware of) that directly compares the value that households place on different policy solutions to address ECEC barriers.
3. We evaluate the relative importance of the barriers to ECEC usage. Previous studies examining the barriers to ECEC observe those that are most common (Beatson et al. 2022;

¹ We recognise the diversity of families, and the range of care arrangements that may exist for children. When we say 'parent' in this document, we are generally referring to biological parents, legal guardians, and any other people who are primary caregivers for children. This includes relative carers, kinship carers, foster carers, and residential carers.

Grace et al. 2014). Using a best-worst scaling (BWS) method, we extend on this literature to determine which barriers are most *influential* in deterring parents from using ECEC.

4. We look at the geographic dimensions of how barriers and preferences for ECEC vary across different *types* of households. We compare barriers and preferences by households' levels of ECEC *usage* and *location*, knowing that households differ significantly along these lines (Beatson et al. 2022; Morda et al. 2000). Our rich dataset also allows us to compare differences across cultures, employment status, work schedule, occupation, education level, and household income within the one survey.
5. The survey results reflect the perceptions of parents in the context of a more mature childcare market. The ECEC market in New South Wales is mature with around 85 per cent of children aged four in New South Wales already attending ECEC. Increasing the uptake of ECEC will rely on overcoming the barriers for families that have limited to no use of ECEC services.
6. The survey was carried out in a post-COVID environment. This allows for the effects of hybrid working to be considered, which enables identification of how preferences and ways of working affect barriers to ECEC use and what policy levers are most valued by parents in the current environment.
7. The survey data will be publicly available to support future research and policy.

The rest of the document is structured as follows:

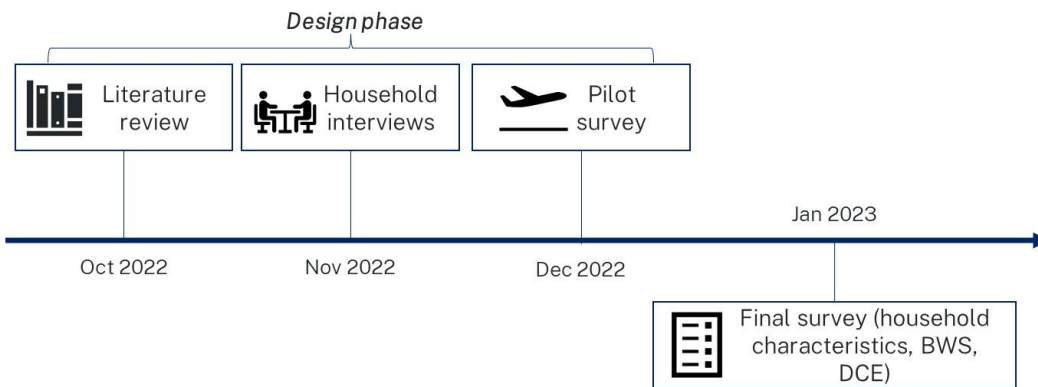
- **Section 1** provides a detailed explanation of the survey design process.
- **Section 2** explains the survey analysis methods used.
- **Section 3 to 6** present the detailed survey results.

1 Survey design process

Considerable effort went into the design, running and analysis of the survey data to help ensure policy insights were supported by a statistically robust and representative survey of NSW households with non-school-aged children. We engaged consultants from Australia Online Research who have expertise in survey design and choice modelling.

The survey was carefully designed and implemented through a four-step process: **literature review**, **structured interviews** with parents, and a **pilot survey** before conducting the **final survey** (Figure 1). Each of the steps are discussed below.

Figure 1: Survey process



Source: NSW Productivity Commission

1.1 Literature review

We undertook a literature review to understand the barriers parents face when trying to access ECEC services and factors that may be preventing some households from engaging with ECEC altogether. This stage was critical in helping ensure the survey identified factors and barriers that align with the factors households consider when deciding when and how much to use ECEC services.

Previous studies have shown a household’s decision to use ECEC is influenced by a range of factors. Concerns most often cited in the literature include cost, accessibility, and quality of services (see Figure 2). Additional factors, like maternal role perceptions and access to specialist ECEC services, are also important.

Figure 2: Barriers faced by parents in accessing ECEC services



Source: NSW Productivity Commission

These studies show that barriers to ECEC usage vary in importance depending on household characteristics. Among families with no or limited ECEC attendance, existing studies show that cost is the most important factor (Beatson et al. 2022). This is especially pronounced for low-skilled parents, with childcare costs taking up a larger proportion of household income (Anderson and Levine 1999). On the other hand, for families whose children attend ECEC at least 15 hours per week, the quality of staff and familiarity with the centre are most influential in their childcare decisions (Beatson et al. 2022). Those in regional areas tend to place greater weight on access and availability of childcare, as they face relatively fewer options compared with metropolitan households (Hand 2005).

The barriers to ECEC usage in Australia also exist elsewhere. A New Zealand study examining the ECEC choices of low-income families finds cost to be the most important factor influencing attendance (Mitchell and Meagher-Lundberg 2017). Like Australia, the location of childcare centres, operating hours, and availability of spaces are among their key concerns. US-based research similarly finds quality, practical concerns (like cost, hours of operation, and location), and preference for specific types of care to be the most important factors in determining ECEC usage.

The rest of this sub-section provides further information on the key barriers identified in the literature.

Cost

There is significant quantitative and qualitative evidence highlighting the importance of out-of-pocket cost in households' ECEC usage decisions. The out-of-pocket cost reflects the cost charged by ECEC providers less any subsidies received. In Australia, subsidies are progressively withdrawn based on household income. Despite the ECEC subsidies, the out-of-pocket cost of ECEC in New South Wales is relatively high by international standards (Tan et al. 2022).

Previous research has found that out-of-pocket cost of ECEC is one of the most important factors parents considered when selecting an ECEC service (Hand et al. 2014). The findings made by Hand et al. (2014) were based on interviews and focus groups with 94 Australian parents with varying levels of ECEC engagement. More recent work by Beatson et al. (2022) reaches similar conclusions, with half of all limited-attendance parents reporting the barrier of service costs as important.

Some studies suggest out-of-pocket ECEC costs appear to be more of a barrier for low-income families despite the progressive nature of ECEC subsidies. In-depth interviews with 61 Australian mothers revealed that service fees were particularly important for mothers on the lowest incomes (Hand 2005). For these families, the cost of childcare was more likely to dictate both the type of care chosen and the number of hours they would use. Studies indicate that low-income households are more sensitive to decreases in costs, leading to greater demand for childcare and increasing workforce participation (Gong and Breunig 2012; Kalb and Lee 2008; The Smith Family 2021).

In contrast, other studies suggest the importance of out-of-pocket ECEC costs on ECEC usage may be overstated. A qualitative survey of families from disadvantaged communities in NSW found:

'Cost was not raised at all by parents who did not have a child enrolled in an ECEC service. This may suggest that, in Australia, government subsidy schemes have been largely effective in resolving cost as a barrier for families, leaving only those families who have other concerns disengaged from ECEC services' (Grace et al. 2014, p. 292)

A large body of literature highlights the strong relationship between out-of-pocket ECEC costs and labour market participation, particularly for mothers who tend to be the primary caregivers. As expected, rising childcare costs have been found to decrease mothers' workforce participation, with larger effects felt by low-income families, single mothers, and mothers of preschool-aged children (Kalb and Lee 2008; Kalb 2009; Gong and Breunig 2012). The progressive nature of government welfare payments and ECEC subsidies — like the Child Care Subsidy (CCS) in Australia — also results in high effective marginal tax rates for parents seeking to increase their hours of employment, particularly for secondary income earners.

'The combination of lower pay, and the withdrawal of benefits, means that secondary income earners — mostly women — can take home as little as 25 cents for each additional (gross) dollar earned from working, which is a significant disincentive to women considering entering the workforce, or taking on more hours' (Tan et al. 2022, p. 32)

Uncertainty about costs — and particularly the complexity of the ECEC subsidies in Australia — is also cited as a barrier to ECEC participation. Based on interviews with disadvantaged communities in New South Wales and Victoria, the Smith Family (2021) highlight the difficulties families face navigating the ECEC system and understanding the interactions between the Commonwealth, State, and Territory systems. Their research also notes that some families are unaware they are even eligible for the CCS. This system-level complexity serves to compound the impacts of disadvantage, as the enrolment and subsidy application process assume high-levels of agency, literacy, and mobility which is beyond the capacity of some families.

Access

ECEC access barriers are also important. These include the availability of ECEC places, the location of services, and the ability to find suitable hours. An evaluation of the New Zealand Ministry of Education's ECE Participation Programme — which targeted local areas with a high proportion of ECEC non-users — found that availability of ECEC provision was the second biggest barrier to ECEC, behind cost (Mitchell and Meagher-Lundberg 2017).

Parents have difficulty finding ECEC services with available places, and many report long waiting times. A research project involving qualitative interviews and focus groups with 94 families in Victoria, South Australia, Western Australia, and Tasmania between July 2012 and April 2013 found '[h]igh demand for ECE places in some areas left parents having to accept options that were not their first preference, or in a small number of cases meant children had not attended an ECE program' (Hand et al. 2014, p. X).

The location of services is also an issue. One study using ABS Census data from 2016 found that around nine million Australians — or 35 per cent of the population — live in 'childcare deserts' (Hurley et al. 2022). These refer to areas with more than three children per childcare place. This is of particular concern in regional and remote areas. In outer regional and remote areas, 61 per cent and 85 per cent of the population, respectively, live in childcare deserts, compared to 29 per cent of the population in major cities (Hurley et al. 2022). Research by Hand (2005) involving interviews with 61 women living in Victoria and South Australia in late 2003 and early 2004 also found mothers in regional and rural areas most often voiced concerns about access to ECEC. Another study using surveys and focus group interviews in the Mallee Region in Victoria had similar findings (Morda et al. 2000).

Many studies also report that a lack of suitable hours prevents access to ECEC services. Hand et al. (2014) found hours of availability was the most frequently noted barrier for families interviewed. This includes the length of days, managing rotating fortnightly timetables, and juggling drop-offs

between ECEC services and school for parents who also had school-aged children. Findings from Beatson et al. (2022) indicate that parents were unable to secure the days and timing they required for their ECEC needs. Parents suggested that greater flexibility in session times, durations, and frequency would motivate them to adopt ECEC services or use them more often (Beatson et al. 2022).

Quality

Parents also consider the quality – or perceived quality – of ECEC services when making ECEC decisions. Quality can be measured along multiple dimensions, including the quality of the program, the quality of the staff, and the quality of the centre itself (Carbone et al. 2004).

The quality of ECEC services appears to be a particular barrier for parents in regional and/or lower socioeconomic areas. Interviews with women in Victoria and South Australia revealed mothers who had never used ECEC services often said this was due to a lack of quality services (Hand 2005). This was particularly evident for women in regional areas, who faced barriers to access and chose not to use ECEC services instead of opting for (what was perceived as) a low-quality centre (Hand 2005). Similarly, an investigation into the views and practices of 101 families from disadvantaged communities in New South Wales found quality of the service was the highest rated barrier to participation in ECEC services, with 73 per cent of respondents raising it as an issue (Grace et al. 2014).

For some parents, the perceived quality of an ECEC service guides their choice of provider. The 2008 Childhood Education and Care Survey found the quality/reputation of the education program was more often given as the main reason for parents choosing preschool for children aged 3-5 years' old, while the quality/reputation of care was the main reason parents chose long day care (Baxter and Hand 2013). The 2009 National Survey of Parents' Child Care Choices (NSPCCC) found that, when asked why they had chosen their ECEC provider for children in the year before full-time schooling, most parents cited the qualities of the staff and the physical attributes of the centre (Baxter and Hand 2013). Peyton et al. (2001) found quality of care to be the most important factor for mothers when selecting a care arrangement. However, low-income families show a greater willingness to trade off quality of care in light of practical constraints to accessing ECEC.

Other barriers

Several other barriers also impact household engagement with ECEC – these include parental role perceptions and unique childcare needs.

Parental role perceptions and expectations are prevalent factors in determining the level of ECEC usage. For example, parents and carers have different beliefs around what the role of a parent is. Beatson et al. (2022) found that 43 per cent of limited-attendance parents – parents who do not use formal ECEC or use it less than 15 hours a week – and 33 per cent of ECEC providers reported 'feeling that it is a mother's role to educate and care for their child' as a barrier to ECEC. Likewise, the 2009 NSPCCC found that the most common reason for non-participation in formal ECEC was 'belief in the importance of home care' (Baxter and Hand 2013). As such, parental perceptions that place value on home-based care can deter engagement with the ECEC sector.

Families may be excluded from ECEC if they cannot find care that meets these needs. Beatson et al. (2022) noted that child health or behavioural issues was a common barrier raised by parents. In New Zealand, accessing culturally appropriate care posed an additional challenge to indigenous communities (Mitchell and Meagher-Lundberg 2017). In the Australian context, Beatson et al. (2022) did not find that concerns around cultural sensitivity to be a barrier. However, this is likely due to small sample size, as the authors also mention the underrepresentation of indigenous children in childcare, indicating that cultural barriers may still be an issue.

1.2 Household interviews

We held structured one-on-one interviews with 20 NSW parents/carers with childcare responsibility for one or more child(ren) aged five and under within the household. The interviews helped us test whether our preliminary list of barriers and policy solutions adequately captured the perceived barriers and policy solutions of parents and that the list was readily understood.

We conducted the interviews online, identifying households that varied in their ECEC usage, household income and location (see Table 1). The interviews took 40 minutes for one parent/carer and 60 minutes if two parents/carers were present. We gave interviewees a small monetary payment for their time to participate in the interview.

Table 1: Number of households selected in each criterion

	Currently not using ECEC services		Currently using ECEC services		Total no. of households
	<i>Metro</i>	<i>Regional</i>	<i>Metro</i>	<i>Regional</i>	
Lower income (<\$100,000)	3	3	2	2	10
Higher income (>=\$100,000)	3	3	2	2	10
Total no. of households	6	6	4	4	20

Source: NSW Productivity Commission.

We asked parents questions about the:

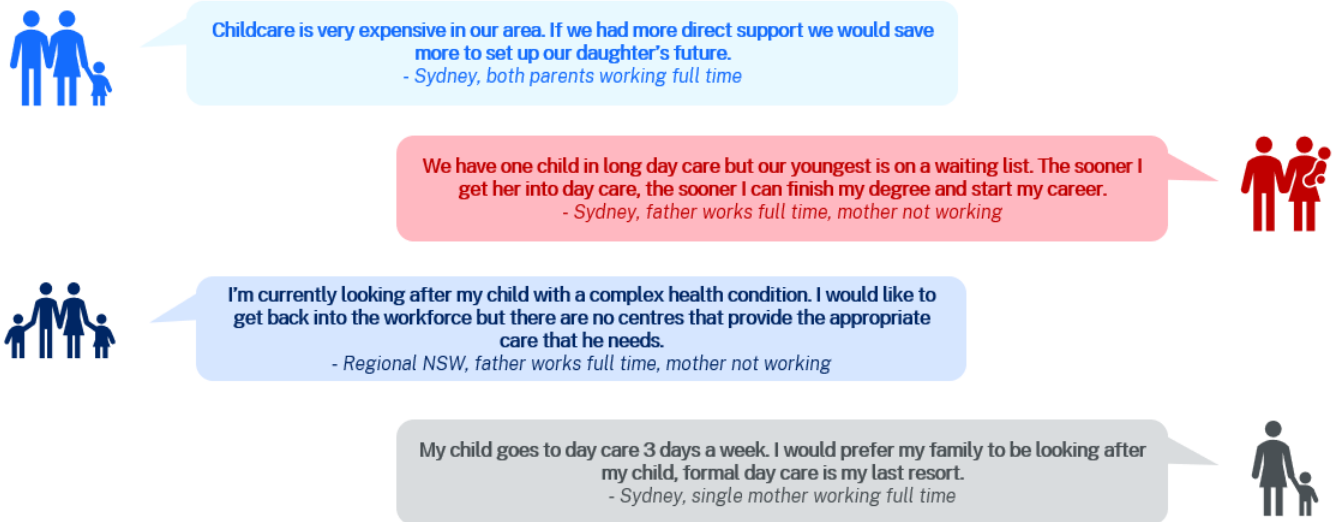
- characteristics of their family, including demographic, cultural, and socio-economic questions
- type(s) of childcare they used – formal or informal – and their attitudes towards these services
- barriers they faced in accessing formal ECEC services
- potential solutions to address barriers.

Common themes identified in the interview process:

- Out-of-pocket cost of childcare was identified as a barrier for some but not all parents.
- Many parents noted significant uncertainty in the out-of-pocket expense of ECEC due to the complexity of subsidies.
- Parents' desire to work and belief in the developmental benefits for their children were the most common reasons motivating ECEC use.
- Parents using ECEC were generally very satisfied with the care their children were receiving.
- Availability of childcare places and difficulty accessing the types of care needed were key barriers. This was the case for parents using ECEC as well as those not using ECEC.

More specific comments from parents are provided in Figure 3.

Figure 3: What parents told us during the household interviews



Source: NSW Productivity Commission

1.3 Pilot survey

We conducted a pilot survey of 332 NSW households with at least one child aged 5 or under living in the household. The survey was completed in November-December 2022. The pilot survey was contracted to online panel companies that distributed the survey to a representative sample of NSW households.

We used the pilot survey's preliminary results to measure how readily participants can interpret the survey questions. The use of a pilot survey is standard practice in robust survey projects, as it provides researchers a valuable opportunity to refine the main survey based on the preliminary results.

Responses from the pilot survey showed:

- it was easy to comprehend. None of the respondents reported issues with the survey in the open-ended feedback section and the average score for the survey's understandability was 5.78 out of 7 (with 7 being "understand very well").
- the relative importance of the ECEC barriers aligned with policy solutions that respondents preferred. This gave us greater confidence that respondents understood the questions.
- the differences in the perceptions of barriers between user groups aligned with those in the existing literature. This gave us greater confidence in the design and content of our survey.
- the barriers and preferred policy solutions differed notably across ECEC user groups (non-users, low users, and high users – defined in Table 2) and by location (Sydney and regional New South Wales).

Table 2: Definition of non, low, and high users

Non-users	Only have children using home-based care.
Low users	Have at least one child using only home-based care and at least one child using more than 0 hours of formal ECEC a week. <i>or</i> Have no children using only home-based care, but at least one child using less than 15 hours of formal ECEC a week.
High users	Only have children using more than 15 hours of formal ECEC a week.

Note: The 15-hour per week threshold is a global benchmark, encouraged by the United Nations Children's Fund, for the use of preschool services (Beatson et al. 2022).

Source: NSW Productivity Commission

We made the following minor changes to improve the comprehensibility of the final survey:

- changed 'formal childcare' to 'formal education and care', and 'partial ECEC users' to 'low users'
- defined 'centre-based' or 'mobile preschools' as: planned education program before starting kindergarten, usually community based and operated generally from 9am to 3:30pm during NSW school terms
- asked respondents: "how satisfied are you with your current childcare arrangements?" and if they were "currently on parental leave" if they were employed
- removed two attributes from the DCE (improve interior and exterior childcare facilities) as they were not significant in the pilot survey.

1.4 Final survey

We conducted the final survey of 2,015 NSW households in January-February 2023. The survey was conducted online using multiple survey companies to reach the target sample size of 2,000. A random sampling approach and screening questions were used to reach the target representative sample. We gave respondents a small monetary payment for their time to participate in the survey. Care was taken to get representation across metropolitan and regional New South Wales. All survey data was de-identified.

The survey results were analysed using a combination of summary statistics and choice modelling described in the chapter below.

The results highlight that parents differ systematically in both their preferred policy options and barriers. The characteristics that define these differences are by the current level of usage of ECEC services and where they live (Sydney versus regional New South Wales).

The survey results were consistent across both the pilot and main survey.

2 Survey analysis methods

The survey consisted of three main components:

- Household characteristics and perceptions – measures ECEC usage and other household factors that may influence ECEC decisions.
- Discrete choice experiment – measures the value households place on policy solutions.
- Best-worst scaling – measures the relative importance of ECEC barriers.

The survey analysis methods used in each of the three key components of the survey are discussed below.

Household characteristics and perceptions

Detailed information was collected on household characteristics, ECEC usage, parental role perceptions, and perceived barriers to ECEC usage and workforce participation. This information was key in helping identify our target sample (families with young children under 5) and to enrich the analysis regarding the perceived ECEC barriers and policy preferences across households. For example, the households' characteristics component of the survey was critical to help us assess how the barriers and preferences of households differ across ECEC users and location.

The household characteristics and perceptions data are analysed using simple summary statistics. In addition, the data was used to help filter the results from the discrete choice experiment and best-worst scaling.

Discrete Choice Experiment

The discrete choice experiment measures the relative value households place on policy solutions. This method is widely used to assess how individuals make choices between different alternatives. The ECEC survey assessed the relative value households place on 17 different policy solutions – identified from the literature review and household interviews as described above – which were categorised into six groups (see Table 3).

Table 3: Policy levers examined in the discrete choice experiment

Group	Policy lever
Affordability	1. Reduction in out-of-pocket costs
Location	2. More ECEC centres close to home 3. More ECEC centres close to work 4. Expanding existing ECEC centres to accommodate more children 5. More ECEC centres close to transport hubs, such as major train stations
Flexibility	6. Longer opening hours 7. Increase ECEC options outside of traditional working hours (e.g. nights, weekends, and on holidays) 8. Increase public transport options close to early childcare services 9. Incentives for nannies/in-home help
Staff	10. Increase formal qualification requirements for staff 11. Increase formal training support for staff
Childcare communication and information	12. Improving transparency of out-of-pocket ECEC costs

Group	Policy lever
	13. Creating and increasing awareness of online tools to identify and compare availabilities, waitlists, or costs of ECEC providers
Increase in different ECEC services	14. More preschools (usually community based and operated generally from 9am to 3:30pm during NSW school terms) 15. More long day care centres (including those that offer preschool programs) 16. More family day care centres 17. More before and after school care centres

Source: NSW Productivity Commission

Parents were presented with three possible ECEC plans, each describing differences in policy offerings such as subsidies, ECEC supply, and ECEC quality (see Figure 4). Parents are then asked to select the best and worst scenario. This exercise was repeated five times, with attributes varying each time. Repeating the exercise helps researchers better understand what policy levers survey participants rely on to help make their decision.

Figure 4: Example of DCE scenario

The following scenario shows three potential government plans intended to improve **Early Childhood Education and Care Services (ECEC)**.

Please compare the three plans on all the dimensions below. Then select the plan that offers the **most help to your family (the “best” plan)** and the plan that **offers the least help to your family (the “worst” plan)**.

AREAS	PLAN A	PLAN B	PLAN C
Help on affordability:			
A reduction in potential out-of-pocket costs	\$40 per day	\$10 per day	\$10 per day
Improving childcare providers:			
Increasing ECEC supply - location	More ECEC centres close to transport hubs, such as major train stations	More ECEC centres close to home	Expanding existing ECEC centres to accommodate more children
Increasing childcare flexibility	Incentives for nannies/in-home help	Longer opening hours	Increase ECEC options outside of traditional working hours (e.g. nights, weekends and on holidays)
Staff	Increase formal qualification requirements for staff	No change	Increase formal training support for staff
Improving information and communication on childcare:			
Better childcare communication / information	Improving transparency of out-of-pocket ECEC costs	No change	Creating and increasing awareness of online tools to identify and compare availabilities/waitlists/costs of ECEC providers
ECEC Supply:			
Increasing ECEC supply - type	More before and after school care centres	More preschools (usually community based and operates generally from 9am to 3:30pm during NSW school terms)	No change

Which plan is the **best** plan? (Please select ONE from the choices below)

PLAN A
 PLAN B
 PLAN C

Which plan is the **worst** plan? (Please select ONE from the choices below)

PLAN B
 PLAN C

Source: ECEC Survey 2023, NSW Productivity Commission

There are several reasons why we assess parents' preferred policy solutions using a DCE rather than directly asking parents what they would be 'willing to pay' for different ECEC services and various policy options. A DCE has several advantages including:

- forcing parents to make trade-offs, which is more realistic and allows us to better understand the relative importance of individual policy options
- providing a systematic approach to understanding how changes in policy settings, such as subsidies, may impact the market
- reducing the mental effort and processing capacity of survey participants relative to other methods of preference elicitation, which enhances the reliability of the collected data
- helping limit parents overstating or understating their willingness to pay, which is common when presented with hypothetical questions.

Evidence suggests that simply asking people to state how much they value something can yield unreliable results (Diamond and Hausman 1994). The DCE approach has been shown to more accurately reflect the choices that people make in a real-world setting (Carlsson et al. 2007; Ryan and Skåtun 2004).

We analysed the DCE results using a multinomial logit model (MNL). MNL models are commonly used to estimate the probability that a survey participant will choose each of the available options in a choice set, based on the characteristics of each option and the individual's preferences. A separate MNL model was used for each of the six segments given that the value they placed on policy levers differed.

The MNL model results show the marginal probability with which ECEC policy levers affect the choice probability. These are difficult to interpret in isolation. The interpretation of the results is helped by transforming the results into a willingness to pay/accept (WTP/WTA). The WTP/WTA shows how much of a subsidy a survey participant is willing to forgo for another policy lever, such as more preschools. This is calculated by dividing the marginal probability of a ECEC policy lever by the coefficient of the subsidy measure in the model.

The sensitivity of survey participants' DCE choice to changes in out-of-pocket cost was also assessed by estimating price elasticities. This measures the probability that survey participants would select a designated option if subsidies offered were increased by one per cent.

Best-worst scaling experiment

We asked parents about 28 ECEC barriers identified through the literature review and household interviews (see Table 4). A best-worst scaling (BWS) experiment was conducted to measure the relative importance of different ECEC usage barriers parents face.

Table 4: Barriers presented in BWS experiments

Group	Barrier
Finding the right type of childcare	<ol style="list-style-type: none"> 1. Cannot find providers of preferred type 2. Cannot find providers with suitable operating hours and/or can accommodate flexibility in required days 3. Cannot find services that enable me to juggle multiple childcare arrangements 4. Size of providers are not right for my child
Unique needs for childcare	<ol style="list-style-type: none"> 5. Cannot access an appropriate centre for a child with special needs 6. Concern child will get sick at service provider 7. Cannot access due to vaccination requirements 8. Lack of access to culturally appropriate care

Group	Barrier
Managing time	<ul style="list-style-type: none"> 9. No care available during holiday periods 10. Time taken to manage different childcare arrangements/centres
Enrolment in childcare	<ul style="list-style-type: none"> 11. Difficulty of enrolment processes 12. Cannot access a place at the service provider of choice
Location of childcare	<ul style="list-style-type: none"> 13. Inconvenient/long travel time 14. No access to suitable transport to/from childcare provider
Quality of provider	<ul style="list-style-type: none"> 15. Understaffed 16. Bad community feedback on services from social media, friends or others 17. Insufficiently clean and/or safe environment 18. Provision of appropriate food choices
Facilities of childcare provider	<ul style="list-style-type: none"> 19. Insufficient indoor space for children's activities 20. Insufficient outdoor space for children's activities 21. Insufficient parking spots at ECEC provider 22. Insufficient educational materials/equipment
Staff and teaching	<ul style="list-style-type: none"> 23. Unqualified carers/educators 24. Lack of bond formed between child and carer 25. High staff turnover/inconsistency in carers 26. Low quality teaching approach/program
Cost of childcare	<ul style="list-style-type: none"> 27. High out-of-pocket costs 28. Uncertainty about the out-of-pocket costs

Source: NSW Productivity Commission

Parents were asked to choose the largest and smallest barrier to using ECEC services from a list of nine barriers (see Figure 5). The survey participants repeated this exercise eight times, each time with a varying list of potential barriers. Repeating the exercise helps researchers assess the relative importance of all potential barriers.

Figure 5: Example of BWS experiment from ECEC survey

The profile below lists 9 potential reasons or barriers that might stop you from sending your child(ren) to a formal Early Childhood Education and Care Services (ECEC) service provider.

From the list below, please choose the items that are – in your experience – the **biggest** and **smallest** barriers to using ECEC.

(Please provide one response for each column)

		Biggest barrier	Smallest barrier
Getting into childcare:			
Finding the right childcare provider	Cannot find provider of preferred type (e.g. want family day care but none are in your preferred area)	<input type="checkbox"/>	<input type="checkbox"/>
Unique needs for childcare	Cannot access an appropriate centre for a child with special needs	<input type="checkbox"/>	<input type="checkbox"/>
Managing time	Time taken to manage different childcare arrangements/centres	<input type="checkbox"/>	<input type="checkbox"/>
Enrolment in childcare	Difficulty of enrolment processes (e.g. paperwork)	<input type="checkbox"/>	<input type="checkbox"/>
Location of childcare	No access to suitable transport to/from child care provider	<input type="checkbox"/>	<input type="checkbox"/>
Service of childcare providers:			
Quality of provider	Insufficiently clean and/or safe environment	<input type="checkbox"/>	<input type="checkbox"/>
Facilities of childcare provider	Insufficient parking spots at ECEC provider	<input type="checkbox"/>	<input type="checkbox"/>
Staff and teaching	High staff turnover / inconsistency in carers	<input type="checkbox"/>	<input type="checkbox"/>
Costs:			
Cost of childcare	High out-of-pocket costs	<input type="checkbox"/>	<input type="checkbox"/>

Source: NSW Productivity Commission

The BWS method is preferred over traditional ranking methods for several reasons including:

- Reducing the mental effort required to evaluate choices as ranking the relative importance of 28 potential factors would be too cumbersome.
- Increasing the robustness of the survey results as they are less susceptible to ordering effects.
- Deepening the policy insights as BWS is more discriminating and flexible given the results can be more readily aggregated into groups.

BWS survey results are analysed using a simple arithmetic method, which calculates a BWS score bound between -100 and 100 (see Box 1). A factor with a higher score indicates the factor is a larger barrier. The BWS scores can be compared across factors and different groups, such as ECEC users and non-users. The BWS scores can also be estimated by barrier groups by summing the scores of each of the individual barriers within it.

Box 1: Recent new funding for ECEC

$$\mathbf{BWS\ SCORE} = \frac{\text{no. of times chosen as best} - \text{no. of times chosen as worst}}{\text{no. of times attribute appeared}} \times 100$$

The BWS survey results can be also analysed using a multinomial logit (MNL) model (Louviere et al. 2015); however, the MNL is more complex and produces similar results to the simple arithmetic method.

3 Summary statistics

This section presents the key summary statistics from the ECEC Survey data.

3.1 Segment overview

Of the 2,015 respondents, 644 (32.0 per cent of respondents) are non-users, 689 (34.2 per cent of respondents) are low users, and 682 (33.8 per cent) are high users (see Table 5).

The segment with the smallest size (234 respondents) is non-users in regional New South Wales. The segment with the largest sample size (419 respondents) is low users in Sydney.

Table 5: Number of respondents by segment

	Non-user			Low user			High user			TOTAL
	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	
No. of respondents	410	234	644	419	270	689	410	272	682	2,015
Proportion of respondents	20.3%	11.6%	32.0%	20.8%	13.4%	34.2%	20.3%	13.5%	33.8%	100%

Source: ECEC Survey 2023, NSW Productivity Commission

3.2 Parent and household characteristics

Gender

Males and female respondents are represented in each of the segments. Overall, 689 respondents (34.2 per cent) are male, 1,323 are female (65.7 per cent) and 3 are non-binary (see Table 6).

Table 6: Gender of respondents, by segment (no. of respondents)

	Non-user			Low user			High user			TOTAL
	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	
Male	199	73	272	152	70	222	140	55	195	689
Female	211	161	372	267	199	466	268	217	485	1,323
Non-binary	0	0	0	0	1	1	2	0	2	3
TOTAL	410	234	644	419	270	689	410	272	682	2,015

Source: ECEC Survey 2023, NSW Productivity Commission

Average age

The average age of respondents is 34 years. There are no significant differences across the segments (see Table 7).

Table 7: Average age of respondents by segment

	Non-user			Low user			High user			AVG.
	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	
Age (years)	33	33	33	34	34	34	36	35	35	34

Source: ECEC Survey 2023, NSW Productivity Commission

Average number of children

Low users have more children than the other segments (2.32 versus 1.89 for the total sample), while non-users have fewer children (1.51 versus 1.89 for the total sample) (see Table 8). The high-user segment is reflective of the total sample (1.80 versus 1.89 for the total sample).

Table 8: Average number of children for each household, by segment (average no. of children)

	Non-user			Low user			High user			AVG.
	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	
Children aged 0-5 years who do not use ECEC	1.14	1.18	1.16	0.41	0.48	0.44	0.00	0.00	0.00	0.52
Children aged 0-5 years who have less than 15 hours ECEC	0.00	0.00	0.00	0.93	0.89	0.92	0.00	0.00	0.00	0.31
Children aged 0-5 years who have 15+ hours ECEC	0.00	0.00	0.00	0.32	0.36	0.33	1.18	1.23	1.20	0.52
Children aged 6-12 years who have some outside school hour care	0.12	0.19	0.15	0.24	0.24	0.24	0.32	0.32	0.32	0.24
Children aged 6-12 years who have no outside school hour care	0.13	0.15	0.14	0.20	0.26	0.22	0.11	0.27	0.18	0.18
School-age children aged 13-17 years	0.07	0.07	0.07	0.17	0.17	0.17	0.11	0.08	0.10	0.11
TOTAL	1.46	1.60	1.51	2.27	2.40	2.32	1.72	1.91	1.80	1.89

Source: ECEC Survey, NSW Productivity Commission

Employment status

Most respondents are employed full-time (1,141 respondents or 56.6 per cent of respondents) (see Table 9). High users are most likely to be employed full-time (59.5 per cent), followed by non-users (55.4 per cent) and low users (54.9 per cent). Non-users are more likely to be unemployed or not working (19.9 per cent) compared to low (12.8 per cent) and high users (6.9 per cent).

Table 9: Employment status by segment (no. of respondents)

	Non-user			Low user			High user			TOTAL
	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	
Employed full-time	252	105	357	274	104	378	276	130	406	1,141
Employed part-time	36	39	75	73	74	147	71	87	158	380
Employed on a fixed-term contract	5	3	8	2	1	3	2	3	5	16
Employed on a casual basis	9	7	16	12	14	26	20	19	39	81
Self-employed – owner	35	12	47	16	20	36	8	14	22	105
Self-employed – freelance contractor	2	5	7	5	3	8	3	1	4	19
Unemployed	17	10	27	2	6	8	4	5	9	44
Not working (e.g. student or home duties)	49	52	101	34	46	80	25	13	38	219
Prefer not to answer	5	1	6	1	2	3	1	0	1	10
TOTAL	410	234	644	419	270	689	410	272	682	2,015

Source: ECEC Survey 2023, NSW Productivity Commission

Work schedule

Of those who are employed, 74.6 per cent of respondents (or 1,300 respondents) work a regular daytime schedule.

High users are more likely to work a regular daytime schedule compared to the other two user segments – 81.7 per cent (518 respondents) of employed high users work a regular daytime schedule, compared to 69.6 per cent (416 respondents) of employed low users and 71.8 per cent (366 respondents) of employed non-users (see Table 10).

Table 10: Work schedule by segment (no. of respondents)

	Non-user			Low user			High user			TOTAL
	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	
Regular daytime schedule	251	115	366	272	144	416	325	193	518	1,300
Regular evening shift	14	3	17	20	7	27	5	3	8	52
Regular night shift	8	7	15	8	9	17	6	4	10	42
Rotating shift	15	19	34	44	24	68	18	27	45	147
Split shift	11	3	14	8	5	13	4	1	5	32
On call	13	1	14	6	3	9	2	5	7	30
Irregular schedule	23	21	44	23	22	45	20	18	38	127
Other	1	0	1	1	2	3	0	2	2	6
Prefer not to answer	3	2	5	0	0	0	0	1	1	6
TOTAL	339	171	510	382	216	598	380	254	634	1,742

Note: Only respondents who were employed answered this question.

Source: ECEC Survey 2023, NSW Productivity Commission

Occupation

Respondents are most likely to be employed as a professional (28.2 per cent or 492 respondents), manager (19.5 per cent or 340 respondents), or clerical and administrative worker (16.6 per cent or 289 respondents) (see Table 11).

Table 11: Occupation of respondents by segment (no. of respondents)

	Non-user			Low user			High user			TOTAL
	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	
Clerical and administrative worker	54	38	92	60	32	92	68	37	105	289
Community and personal service worker	24	9	33	21	7	28	16	25	41	102
Labourer	11	4	15	17	11	28	9	6	15	58

	Non-user			Low user			High user			TOTAL
	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	
Machinery operators and driver	13	7	20	13	3	16	4	5	9	45
Manager	83	23	106	89	46	135	78	21	99	340
Professional	81	40	121	110	47	157	132	82	214	492
Sales worker	28	25	53	31	26	57	25	22	47	157
Technicians and trades worker	20	6	26	11	8	19	18	18	36	81
Other	25	19	44	30	36	66	30	38	68	178
TOTAL	339	171	510	382	216	598	380	254	634	1,742

Note: Only respondents who were employed answered this question.

Source: ECEC Survey 2023, NSW Productivity Commission

Education level

High users in Sydney are the most educated, with 60.5 per cent (248 respondents) graduating university with a bachelor's degree or higher, including 22.9 per cent as postgraduates (see Table 12).

The regional New South Wales segments, regardless of ECEC usage levels, have lower educational attainment, with fewer university graduates and those with postgraduate qualifications.

Table 12: Education levels by segment (no. of respondents)

	Non-user			Low user			High user			TOTAL
	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	
Postgraduate degree or equivalent	55	20	75	63	21	84	94	22	116	275
Graduate Diploma and Graduate Certificate from university or equivalent	38	9	47	42	21	63	26	19	45	155
Bachelor's degree or equivalent	149	56	205	139	53	192	128	61	189	586
Advanced Diploma and Diploma from university/TAFE or equivalent	49	30	79	63	37	100	37	40	77	256

	Non-user			Low user			High user			TOTAL
	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	
Certificate or equivalent (e.g., Certificate III & IV or Certificate I & II)	52	64	116	50	86	136	66	75	141	393
Year 12 or equivalent	42	33	75	40	33	73	43	38	81	229
Year 11 or equivalent	15	6	21	6	4	10	5	6	11	42
Year 10 or below	9	16	25	15	14	29	11	11	22	76
Did not go to school	0	0	0	0	1	1	0	0	0	1
Other	1	0	1	1	0	1	0	0	0	2
TOTAL	410	234	644	419	270	689	410	272	682	2,015

Source: ECEC Survey 2023, NSW Productivity Commission

Household income

The weighted average annual household income for the total sample is \$114,904 (see Table 13).

Non-users and low users have lower incomes at \$101,917 and \$108,913, respectively, compared to high users whose average income is \$133,049. High users in Sydney have the highest household income (\$142,053). Non-users in regional New South Wales have the lowest household income (\$91,869).

Table 13: Household income by segment (weighted average income)

	Non-user			Low user			High user			AVG.
	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	
Weighted average income	\$107,621	\$91,869	\$101,917	\$116,168	\$98,087	\$108,913	\$142,053	\$119,247	\$133,049	\$114,904

Source: ECEC Survey 2023, NSW Productivity Commission

Languages spoken at home

Non-users are the most diverse group in terms of language spoken at home with 80 per cent (516 respondents) speaking English only, compared to 83.9 per cent (578 respondents) of low users and 86.4 per cent (589 respondents) of high users (see Table 14). Households in regional New South Wales are more likely to only speak English at home compared to those in Sydney.

Other than English, the most common languages spoken at home are Hindi, Australian Indigenous Languages, Cantonese, Mandarin, and Arabic.

Table 14: Language spoken at home by segment (no. of respondents)

	Non-user			Low user			High user			TOTAL
	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	
English only	316	200	516	326	252	578	331	258	589	1,683
Arabic	8	3	11	8	6	14	4	0	4	29
Australian Indigenous Languages	17	2	19	9	4	13	0	1	1	33
Cantonese	7	0	7	11	0	11	14	0	14	32
Mandarin	5	2	7	9	1	10	13	0	13	30
Other Chinese	1	0	1	1	0	1	0	0	0	2
Croatian	2	1	3	0	0	0	2	1	3	6
Dutch	1	0	1	1	0	1	0	0	0	2
Filipino (excludes Tagalog)	1	1	2	1	1	2	1	1	2	6
French	1	0	1	0	0	0	0	1	1	2
German	0	2	2	2	0	2	2	2	4	8
Greek	2	0	2	3	0	3	2	1	3	8
Hindi	6	5	11	13	1	14	8	1	9	34
Hungarian	1	0	1	0	0	0	0	0	0	1
Indonesian	2	0	2	0	0	0	2	0	2	4
Persian	1	0	1	0	1	1	3	0	3	5
Italian	1	1	2	2	1	3	3	1	4	9
Japanese	0	1	1	2	0	2	0	0	0	3
Khmer	0	0	0	0	0	0	1	0	1	1
Korean	0	0	0	2	0	2	0	0	0	2
Macedonian	0	0	0	0	0	0	0	1	1	1
Polish	0	0	0	0	0	0	2	0	2	2
Portuguese	2	1	3	1	0	1	0	1	1	5
Russian	1	0	1	0	0	0	1	0	1	2
Samoan	4	1	5	2	0	2	1	2	3	10
Serbian	1	1	2	2	0	2	0	0	0	4

	Non-user			Low user			High user			TOTAL
	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	
Sinhalese	1	0	1	0	0	0	2	0	2	3
Spanish	5	0	5	4	1	5	6	1	7	17
Tagalog	1	0	1	1	1	2	1	0	1	4
Turkish	1	0	1	0	0	0	0	0	0	1
Vietnamese	1	4	5	5	0	5	2	0	2	12
Other languages	21	9	30	14	1	15	9	0	9	54
TOTAL	410	234	644	419	270	689	410	272	682	2,015

Source: ECEC Survey 2023, NSW Productivity Commission

First Nations identification

Non-users and low users are more likely to be Aboriginal and/or Torres Strait Islanders (16.1 per cent and 14.9 per cent respectively) compared to high users (10 per cent) (see Table 15). There are also more Aboriginal and Torres Strait Islander respondents in regional New South Wales compared to Sydney.

Table 15: First Nations identification by segment (no. of respondents)

	Non-user			Low user			High user			TOTAL
	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	
No	336	194	530	358	224	582	373	232	605	1,717
Yes, Aboriginal	53	36	89	52	38	90	31	34	65	244
Yes, Torres Strait Islander	6	2	8	3	3	6	0	0	0	14
Yes, both	7	0	7	5	2	7	2	1	3	17
Prefer not to say	8	2	10	1	3	4	4	5	9	23
Total no. respondents	410	234	644	419	270	689	410	272	682	2,015

Source: ECEC Survey 2023, NSW Productivity Commission

3.3 Child profile

Year of birth

All 2,015 households surveyed have at least one child aged 0-5 years old (born between 2017 and 2022). Of course, some households have multiple children, some of whom may be older than five years old. Table 16 shows the number of children aged 17 or younger by year of birth within each of the segments.

The results show that across the three cohorts, high users are more likely to have older children (born in 2017 and 2018), while non-users are more likely to have younger children (born between 2020 and 2022). Low users have children of varying ages.

Table 16: Children by year of birth

Year	Non-user			Low user			High user			TOTAL
	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	
2022	97	93	190	87	84	171	38	36	74	435
2021	82	55	137	102	69	171	79	54	133	441
2020	101	55	156	102	65	167	69	63	132	455
2019	90	35	125	147	80	227	125	81	206	558
2018	60	24	84	110	73	183	117	64	181	448
2017	35	20	55	64	56	120	65	55	120	295
2016	24	13	37	29	35	64	47	30	77	178
2015	23	16	39	37	37	74	42	28	70	183
2014	14	17	31	37	23	60	44	34	78	169
2013	12	10	22	22	10	32	12	15	27	81
2012	10	5	15	23	11	34	18	14	32	81
2011	4	8	12	15	4	19	6	12	18	49
2010	12	3	15	27	12	39	10	7	17	71
2009	4	5	9	17	11	28	6	11	17	54
2008	6	7	13	21	9	30	12	4	16	59
2007	7	2	9	16	6	22	4	5	9	40
2006	5	0	5	9	8	17	5	2	7	29
2005	3	2	5	11	4	15	7	2	9	29
2004	1	3	4	10	2	12	1	0	1	17
TOTAL	590	373	963	886	599	1,485	707	517	1,224	3,672

Source: ECEC Survey 2023, NSW Productivity Commission

Gender

Of the 2,605 children born in 2017 onwards, 1,227 (47.1 per cent of children) are female and 1,372 (52.7 per cent of children) are male (see Table 17).

Table 17: Gender of children by segment (no. of children, born on or after 2017)

	Non-user			Low user			High user			TOTAL
	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	
Female	200	123	323	277	230	507	239	158	397	1,227
Male	259	153	412	322	199	521	245	194	439	1,372
Other	0	1	1	3	0	3	2	0	2	6
TOTAL	459	277	736	602	429	1,031	486	352	838	2,605

Note: Data is only for children born in 2017 or later. Gender information not supplied for 27 children born on or after 2017.

Source: ECEC Survey 2023, NSW Productivity Commission

Health issues and financial support

Most children aged 0-5 in the sample are reported as being free of major health issues (see Table 18). Children in the high user segments are the healthiest. There are more children in the non-user and low user segments with major health issues.

About 34 per cent of children aged 0-5 live in households receiving financial support from the government (other than the Child Care Subsidy). More children in the non-user segments and the low user segments are receiving financial support, especially for those families not living in Sydney.

Table 18: Health issues and financial support by segment (no. of children)

	Non-user			Low user			High user			TOTAL
	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	
Has major health issue	54	28	82	58	39	97	30	21	51	230
Receives financial support for child	170	113	283	204	174	378	134	88	222	883

Note: Data is only for children born in 2017 or later.

Source: ECEC Survey 2023, NSW Productivity Commission

3.4 Parental role perceptions

Non-users are more likely to agree that preschool children are likely to suffer if both or only parent work full-time and to hold traditional views around gender roles (see Table 19). High users are more likely to agree that ECEC will aid the development of children.

Table 19: Parental role perceptions by segment

	Non-user			Low user			High user			AVG.
	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	
Working parents provide good role models children	5.2	5.2	5.2	5.3	5.2	5.2	5.5	5.6	5.5	5.3
A preschool child is likely to suffer if both or only parent work full-time	4.8	4.0	4.5	4.3	3.5	4.0	3.6	3.1	3.4	3.9
It is fine for children under 3 years of age to attend formal childcare	4.9	5.0	5.0	4.9	5.1	5.0	5.7	5.9	5.8	5.2
It is better for everyone involved if the man earns the money and the woman takes care of the home and children	4.4	3.7	4.1	3.8	3.0	3.5	2.9	2.2	2.7	3.4
I find that taking care of my child(ren) is more work than pleasure	4.4	3.9	4.2	4.2	3.5	3.9	3.9	3.6	3.8	4.0
Attending formal childcare can aid the social and development outcomes of children	5.3	5.4	5.3	5.6	5.6	5.6	6.0	6.3	6.1	5.7
Preference is for family to look after child(ren)	5.3	5.1	5.3	4.9	4.7	4.8	4.4	3.9	4.2	4.7
I and/or partner prefer to look after child(ren)	5.5	5.6	5.5	5.2	5.3	5.2	4.7	4.7	4.7	5.1
Preference is for friends to look after child(ren)	3.9	3.6	3.8	3.6	2.8	3.3	2.9	2.5	2.7	3.3
Preference to have a nanny/live-in help	3.9	3.1	3.6	3.5	3.0	3.3	3.2	2.6	3.0	3.3

Note: The numbers reported in the table correspond to the mean agreement rating for each statement, where 1 = strongly disagree, 7 = strongly agree.

Source: ECEC Survey 2023, NSW Productivity Commission

3.5 Reporting access and affordability as an issue by segment

Low users are most likely to report access and/or affordability as barriers to ECEC use (see Table 20). More than half of low users also view these as barriers to employment. High users are least likely to cite that either access or affordability were deterring them from seeking more employment.

Table 20: Access and affordability issues as barriers to ECEC use and employment

	Non-user			Low user			High user			AVG.
	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	
Access and/or affordability as barrier for accessing ECEC services	56.8%	61.5%	58.5%	67.8%	67.0%	67.5%	57.1%	61.8%	58.9%	61.7%
Access and/or affordability as barrier for seeking more employment*	45.9%	52.1%	48.1%	52.5%	53.7%	53.0%	41.0%	40.4%	40.8%	47.3%

Note: This question was only asked to respondents who previously stated that access and/or affordability issues were a barrier to ECEC services. The percentages reported in the bottom row reflect the percent of the total segment.

Source: ECEC Survey 2023, NSW Productivity Commission

3.6 Barriers to workforce participation

Interpretation

We asked respondents to select which barriers, if sufficiently addressed, would impact their willingness to work or work more hours. We then calculated the percentage of respondents that selected each barrier. The percentages can be interpreted as follows:

- Higher percentage indicates the barrier was reported more frequently as impacting respondents' willingness to work.
- Lower percentage indicates the barrier was reported less frequently as impacting respondents' willingness to work.

Policy solutions aimed at addressing barriers cited more frequently are likely to have larger impacts on workforce participation and hours worked. It is important to not derive causal links between policy solutions and workforce participation and hours worked, as the data is indicative and may overstate actual workforce decisions. This is because people's decisions about working depend on other factors such as labour market conditions, and people tend to overstate what they intend to do. However, this method provides insights into the relative importance of ECEC barriers on workforce participation.

Results

All user segments

High out-of-pocket costs are the biggest barrier, indicating it will have the largest impact on willingness to work. High users report costs are a bigger drag on workforce decisions than for low or non-users.

Aside from addressing cost-related barriers, the factor that will have the biggest impact on willingness to work for non-users is alleviating concerns that their child will get sick at service providers (30.4 per cent) (see Table 21). For low and high users, aside from cost-related barriers, addressing barriers to finding providers with suitable operating hours and/or can accommodate flexibility in required days will be most impactful (34.0 and 34.3 per cent, respectively).

Addressing access to suitable transport to/from childcare provider will have the smallest impact for all three usage groups (6.4 per cent, 6.0 per cent, and 5.9 per cent, respectively).

Table 21: Impact of barriers on ability or willingness to work more hours

	Non-user	Low user	High user
Finding the right type of childcare			
Cannot find provider of preferred type (e.g. want family day care but none are in your preferred area)	21.9%	23.9%	21.3%
Cannot find providers with suitable operating hours and/or can accommodate flexibility in required days	23.9%	34.0%	34.3%
Cannot find services that enable me to juggle multiple childcare arrangements	15.1%	14.5%	10.7%
Size of providers are not right for my child	13.2%	13.6%	7.9%
Unique needs for childcare			
Cannot access an appropriate centre for a child with special needs	12.3%	9.0%	7.2%
Concern child will get sick at service provider	30.4%	27.6%	25.5%
Cannot access due to vaccination requirements	9.3%	7.7%	4.0%
Lack of access to culturally appropriate care	13.8%	10.2%	5.6%
Managing time			
No care available during holiday periods	15.2%	17.9%	19.8%
Time taken to manage different childcare arrangements/centres	11.3%	9.4%	7.2%
Enrolment in childcare			
Difficulty of enrolment processes (e.g. paperwork)	10.9%	9.9%	8.8%
Cannot access a place at the service provider of choice (i.e. long waiting list)	21.0%	22.9%	29.8%
Location of childcare			
Inconvenient/long travel time	12.3%	11.6%	14.8%
No access to suitable transport to/from childcare provider	6.4%	6.0%	5.9%

	Non-user	Low user	High user
Quality of provider			
Understaffed	26.6%	32.8%	32.7%
Bad community feedback on service from social media, friends or others	21.3%	22.4%	21.0%
Insufficiently clean and/or safe environment	23.4%	23.8%	22.7%
Provision of appropriate food choices	20.7%	14.8%	15.4%
Facilities of childcare provider			
Insufficient indoor space for children's activities	16.5%	17.4%	18.9%
Insufficient outdoor space for children's activities	18.0%	20.9%	22.3%
Insufficient parking spots at ECEC provider	10.1%	9.6%	8.8%
Insufficient educational materials/equipment	18.2%	13.8%	16.0%
Staff and teaching			
Unqualified carers/educators	24.5%	24.2%	25.4%
Lack of bond formed between child and carer	23.0%	25.1%	22.9%
High staff turnover / inconsistency in carers	20.8%	27.7%	31.5%
Low quality teaching approach/program	17.5%	19.6%	22.4%
Cost of childcare			
High out-of-pocket costs	51.2%	60.2%	68.8%
Uncertainty about the out-of-pocket costs	31.1%	31.3%	30.9%

Source: ECEC Survey 2023, NSW Productivity Commission

Non-users

Addressing concerns that child will get sick at service provider has the biggest impact on willingness to work for non-users in both Sydney and regional New South Wales (27.3 per cent and 35.9 per cent respectively) (see Table 22). Improving access to suitable transport to/from childcare provider will have the smallest impact (6.8 per cent and 5.6 per cent respectively).

Compared to non-users in Sydney, non-users in regional New South Wales are more responsive to addressing understaffing, waiting lists, and suitable operating hours. Non-users in regional New South Wales are less responsive to addressing access barriers for children with special needs and insufficient parking spots.

Table 22: Impact of barriers on ability or willingness to work more hours for non-users in Sydney and Regional New South Wales

	Overall	Sydney	Regional NSW
Finding the right type of childcare			
Cannot find provider of preferred type (e.g. want family day care but none are in your preferred area)	21.9%	19.8%	25.6%

	Overall	Sydney	Regional NSW
Cannot find providers with suitable operating hours and/or can accommodate flexibility in required days	23.9%	19.8%	31.2%
Cannot find services that enable me to juggle multiple childcare arrangements	15.1%	16.6%	12.4%
Size of providers are not right for my child	13.2%	14.4%	11.1%
Unique needs for childcare			
Cannot access an appropriate centre for a child with special needs	12.3%	14.9%	7.7%
Concern child will get sick at service provider	30.4%	27.3%	35.9%
Cannot access due to vaccination requirements	9.3%	9.8%	8.5%
Lack of access to culturally appropriate care	13.8%	15.6%	10.7%
Managing time			
No care available during holiday periods	15.2%	15.6%	14.5%
Time taken to manage different childcare arrangements/centres	11.3%	11.5%	11.1%
Enrolment in childcare			
Difficulty of enrolment processes (e.g. paperwork)	10.9%	11.0%	10.7%
Cannot access a place at the service provider of choice (i.e. long waiting list)	21.0%	16.6%	28.6%
Location of childcare			
Inconvenient/long travel time	12.3%	12.0%	12.8%
No access to suitable transport to/from childcare provider	6.4%	6.8%	5.6%
Quality of provider			
Understaffed	26.6%	21.7%	35.0%
Bad community feedback on service from social media, friends or others	21.3%	18.8%	25.6%
Insufficiently clean and/or safe environment	23.4%	23.7%	23.1%
Provision of appropriate food choices	20.7%	22.0%	18.4%
Facilities of childcare provider			
Insufficient indoor space for children's activities	16.5%	17.3%	15.0%
Insufficient outdoor space for children's activities	18.0%	17.1%	19.7%
Insufficient parking spots at ECEC provider	10.1%	12.4%	6.0%
Insufficient educational materials/equipment	18.2%	16.6%	20.9%
Staff and teaching			
Unqualified carers/educators	24.5%	22.7%	27.8%

	Overall	Sydney	Regional NSW
Lack of bond formed between child and carer	23.0%	21.7%	25.2%
High staff turnover / inconsistency in carers	20.8%	18.3%	25.2%
Low quality teaching approach/program	17.5%	15.1%	21.8%
Cost of childcare			
High out-of-pocket costs	51.2%	47.6%	57.7%
Uncertainty about the out-of-pocket costs	31.1%	26.6%	38.9%

Source: ECEC Survey 2023, NSW Productivity Commission

Low users

Aside from cost, addressing access to providers with suitable operating hours will have the biggest impact on willingness to work for low users in Sydney (32.5 per cent), while resolving understaffing will make the most difference in regional New South Wales (38.9 per cent) (see Table 23). Improving access to suitable transport to/from childcare provider will have the smallest impact (7.2 per cent and 4.1 per cent respectively).

Compared to non-users in Sydney, non-users in regional New South Wales are more responsive to addressing understaffing and staff turnover. Non-users in regional New South Wales are less responsive to addressing provider size and access to culturally appropriate care.

Table 23: Impact of barriers on ability or willingness to work more hours for low users in Sydney and Regional New South Wales

	Overall	Sydney	Regional NSW
Finding the right type of childcare			
Cannot find provider of preferred type (e.g. want family day care but none are in your preferred area)	23.9%	24.6%	23.0%
Cannot find providers with suitable operating hours and/or can accommodate flexibility in required days	34.0%	32.5%	36.3%
Cannot find services that enable me to juggle multiple childcare arrangements	14.5%	16.0%	12.2%
Size of providers are not right for my child	13.6%	16.5%	9.3%
Unique needs for childcare			
Cannot access an appropriate centre for a child with special needs	9.0%	10.5%	6.7%
Concern child will get sick at service provider	27.6%	25.8%	30.4%
Cannot access due to vaccination requirements	7.7%	8.6%	6.3%
Lack of access to culturally appropriate care	10.2%	12.9%	5.9%
Managing time			
No care available during holiday periods	17.9%	17.7%	18.1%
Time taken to manage different childcare arrangements/centres	9.4%	11.0%	7.0%

	Overall	Sydney	Regional NSW
Enrolment in childcare			
Difficulty of enrolment processes (e.g. paperwork)	9.9%	10.5%	8.9%
Cannot access a place at the service provider of choice (i.e. long waiting list)	22.9%	21.5%	25.2%
Location of childcare			
Inconvenient/long travel time	11.6%	13.1%	9.3%
No access to suitable transport to/from childcare provider	6.0%	7.2%	4.1%
Quality of provider			
Understaffed	32.8%	28.9%	38.9%
Bad community feedback on service from social media, friends or others	22.4%	20.3%	25.6%
Insufficiently clean and/or safe environment	23.8%	24.1%	23.3%
Provision of appropriate food choices	14.8%	15.5%	13.7%
Facilities of childcare provider			
Insufficient indoor space for children's activities	17.4%	17.2%	17.8%
Insufficient outdoor space for children's activities	20.9%	21.7%	19.6%
Insufficient parking spots at ECEC provider	9.6%	11.0%	7.4%
Insufficient educational materials/equipment	13.8%	12.9%	15.2%
Staff and teaching			
Unqualified carers/educators	24.2%	25.8%	21.9%
Lack of bond formed between child and carer	25.1%	24.3%	26.3%
High staff turnover / inconsistency in carers	27.7%	24.1%	33.3%
Low quality teaching approach/program	19.6%	18.9%	20.7%
Cost of childcare			
High out-of-pocket costs	60.2%	56.1%	66.7%
Uncertainty about the out-of-pocket costs	31.3%	30.3%	33.0%

Source: ECEC Survey 2023, NSW Productivity Commission

High users

Addressing access to providers with suitable operating hours will have the biggest impact on willingness to work for high users in Sydney (31.7 per cent), while resolving understaffing will make the most difference in regional New South Wales (40.8 per cent) (see Table 24). Removing barriers to access due to vaccination requirements will have the smallest impact (5.1 per cent and 2.2 per cent respectively).

Compared to non-users in Sydney, non-users in regional New South Wales are more responsive to addressing understaffing and providers with suitable operating hours. Non-users in regional New South Wales are less responsive to addressing insufficient educational materials/equipment and accessing an appropriate centre for a child with special needs.

Table 24: Impact of barriers on ability or willingness to work more hours for high users in Sydney and Regional New South Wales

	Overall	Sydney	Regional NSW
Finding the right type of childcare			
Cannot find provider of preferred type (e.g. want family day care but none are in your preferred area)	21.3%	22.4%	19.5%
Cannot find providers with suitable operating hours and/or can accommodate flexibility in required days	34.3%	31.7%	38.2%
Cannot find services that enable me to juggle multiple childcare arrangements	10.7%	10.2%	11.4%
Size of providers are not right for my child	7.9%	9.0%	6.3%
Unique needs for childcare			
Cannot access an appropriate centre for a child with special needs	7.2%	9.5%	3.7%
Concern child will get sick at service provider	25.5%	24.1%	27.6%
Cannot access due to vaccination requirements	4.0%	5.1%	2.2%
Lack of access to culturally appropriate care	5.6%	7.3%	2.9%
Managing time			
No care available during holiday periods	19.8%	17.6%	23.2%
Time taken to manage different childcare arrangements/centres	7.2%	7.1%	7.4%
Enrolment in childcare			
Difficulty of enrolment processes (e.g. paperwork)	8.8%	9.5%	7.7%
Cannot access a place at the service provider of choice (i.e. long waiting list)	29.8%	26.8%	34.2%
Location of childcare			
Inconvenient/long travel time	14.8%	15.9%	13.2%
No access to suitable transport to/from childcare provider	5.9%	7.3%	3.7%
Quality of provider			
Understaffed	32.7%	27.3%	40.8%
Bad community feedback on service from social media, friends or others	21.0%	20.5%	21.7%
Insufficiently clean and/or safe environment	22.7%	22.9%	22.4%

Provision of appropriate food choices	15.4%	15.4%	15.4%
Facilities of childcare provider			
Insufficient indoor space for children's activities	18.9%	21.2%	15.4%
Insufficient outdoor space for children's activities	22.3%	24.4%	19.1%
Insufficient parking spots at ECEC provider	8.8%	9.3%	8.1%
Insufficient educational materials/equipment	16.0%	19.5%	10.7%
Staff and teaching			
Unqualified carers/educators	25.4%	23.9%	27.6%
Lack of bond formed between child and carer	22.9%	21.7%	24.6%
High staff turnover / inconsistency in carers	31.5%	28.8%	35.7%
Low quality teaching approach/program	22.4%	23.9%	20.2%
Cost of childcare			
High out-of-pocket costs	68.8%	65.9%	73.2%
Uncertainty about the out-of-pocket costs	30.9%	29.8%	32.7%

Source: ECEC Survey 2023, NSW Productivity Commission

3.7 Satisfaction with childcare arrangements

Parents were asked to rate how satisfied they are with each type of childcare arrangement their children participated in, on a scale of 1 (not at all satisfied) to 7 (very much satisfied). There are no significant differences in satisfaction of childcare arrangements across non-users, low users, and high users (Table 25).

Table 25: Average satisfaction scores of households' childcare arrangements

	Non-user			Low user			High user			AVG.
	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	
Home-based care for children aged 0-5	5.16	5.09	5.14	4.84	5.04	4.92	0.0	0.0	0.0	5.07
ECEC less than 15 hours for children aged 0-5	0.0	0.0	0.0	4.96	5.10	5.01	0.0	0.0	0.0	5.01
ECEC more than 15 hours for children aged 0-5	0.0	0.0	0.0	4.93	5.29	5.08	5.32	5.55	5.41	5.34
Using outside school care for children aged 6-12	5.23	4.81	5.05	5.01	5.02	5.02	5.35	5.50	5.41	5.21

	Non-user			Low user			High user			AVG.
	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	
Not using outside school care for children aged 6-12	5.44	4.93	5.22	5.02	5.18	5.09	5.59	5.55	5.57	5.28

Note: Respondents were asked to rate their satisfaction of each type of childcare arrangement their children participated in. The numbers reported in the table correspond to the mean satisfaction rating, where 1 = not at all satisfied, 7 = very much satisfied.

Source: ECEC Survey 2023, NSW Productivity Commission

4 Discrete Choice Experiment

4.1 Interpretation

The DCE results are assessed by estimating:

- the impact of how changes in the level of out-of-pocket cost affect the choices parents make (estimate a price elasticity)
- the value parents place on each policy lever (WTP).

The elasticity measures the probability that survey participants would select a designated option if subsidies offered were increased by one per cent. If households continuously selected policy options that provided the highest subsidies, this would be reflected by a larger positive price elasticity. A negative price elasticity indicates that parents will be less likely to select a designated option if subsidies offered were increased by one per cent.

Box 2 provides an example of how to interpret price elasticity values.

Box 2: Interpreting price elasticity values

Example: high users in Sydney have a price elasticity of 0.09.

Interpretation: high users in Sydney are 0.09 per cent more likely to prefer a given ECEC plan when the out-of-pocket costs are reduced by 1 per cent.

The value parents place on each policy lever is assessed by estimating the willingness to pay/accept (WTP/WTA). The WTP/WTA shows how much of a subsidy a survey participant is willing to forgo for another policy lever, such as more preschools. These are estimated using multinomial logit models.

We can directly compare WTP/WTA values both within and between segments to understand differences in valuations.

Box 2 provides an example of how to interpret WTP/WTA values.

Box 2: Interpreting WTP/WTA values

Example: non-users in Sydney have a WTP of \$36.97 to have more ECEC centres close to home.

Interpretation: non-users in Sydney would be willing to forego \$36.97 in daily reduced out-of-pocket costs in exchange for having more ECEC centres close to home.

Note that the WTP/WTA valuations reflect the value households place on a *general* improvement in an attribute rather than a *specific* change. For example, the WTP/WTA measure estimates the value parents place on 'more centres close to home', not a specific increase in the number of local centres.

The baseline multinomial logit models account for the diminishing returns to reductions in out-of-pocket cost. This means that the value respondents placed on a reduction in out-of-pocket costs decreased as the price of the subsidy increased. A diminishing return was incorporated into the model by including two cost parameters – one for reductions in out-of-pocket costs of less than \$20 per day and the other for reductions greater than \$20 per day.

4.2 Results

Price elasticity

Non-users have the lowest elasticities among each of the user segments. In other words, a change in price has the least impact on the preferred ECEC options (see Table 26). In fact, the negative value for the elasticity of non-users in Sydney, -0.06, indicates that non-users in Sydney are, if anything, marginally less likely to select an ECEC plan when the value of subsidies increases. These users regard additional subsidies as a cost rather than a benefit and would prefer better quality of services instead of reduced costs.

By contrast, regional non-users have a positive elasticity at 0.061. However, this measure is quite low indicating that while these non-users would value lower out-of-pocket costs, their preferences are mainly shaped by non-price improvements to ECEC services.

Low users in both Sydney and regional New South Wales have comparatively high price elasticities, at 0.252 and 0.238, respectively. These households are most responsive to ECEC subsidies. High users also show a preference for plans that offer higher levels of subsidies, though to a lesser extent than low users.

Table 26: Estimated price elasticities

	Non-user		Low user		High user	
	Sydney	Regional NSW	Sydney	Regional NSW	Sydney	Regional NSW
Estimated price elasticity	-0.060	0.061	0.252	0.238	0.090	0.134

Source: ECEC Survey 2023, NSW Productivity Commission

Willingness to Pay/Accept

The results show that addressing barriers would change people's decisions. This is reflected by a positive coefficient for all the barriers for all the user segments. What this means is that if the barrier was addressed, the probability they choose that option increases.

Non-users are willing to accept the most for more preschools in Sydney (\$64.1) and for ECEC options outside of traditional working hours in regional New South Wales (\$80.7) (see Table 27). They are WTP the least for more ECEC centres close to transport hubs (\$12.2 and \$0.5 respectively).

Low users have the lowest WTP out of the segments. They are willing to pay the most for more centres close to home in Sydney (\$11.8) and for more long day care centres in regional New South Wales (\$16.3). They are willing to pay the least for incentives for nannies/in-home help in Sydney (\$2.6) and more ECEC centres close to transport hubs in regional New South Wales (\$1.0).

High users are willing to pay the most for more family day care centres in Sydney (\$45.0) and for ECEC options outside of traditional working hours in regional New South Wales (\$38.6). They are willing to pay the least for more ECEC centres close to transport hubs in Sydney (\$19.8) and improved transparency of out-of-pocket ECEC costs in regional New South Wales (\$9.6).

Table 27: Willingness to Pay/Accept by segment

	Non-user		Low user		High user	
	Sydney	Regional NSW	Sydney	Regional NSW	Sydney	Regional NSW
Location						
More ECEC centres close to home	\$37.0	\$33.5	\$11.8	\$6.6	\$40.0	\$26.0
More ECEC centres close to work	\$30.7	\$29.3	\$9.2	\$5.2	\$28.1	\$18.9
Expanding ECEC centres to accommodate more children	\$26.2	\$42.7	\$11.1	\$5.5	\$28.7	\$23.1
More ECEC centres close to transport hubs, such as major train stations	\$12.2	\$0.5	\$6.7	\$1.0	\$19.8	\$13.3
Flexibility						
Longer opening hours	\$19.7	\$55.1	\$8.9	\$9.9	\$37.4	\$29.7
Increase ECEC options outside of traditional working hours	\$47.9	\$80.7	\$10.2	\$11.3	\$37.2	\$38.6
Increase public transport options close to early childcare services	\$13.8	\$31.0	\$8.1	\$8.7	\$41.0	\$19.8
Incentives for nannies/in-home help	\$36.8	\$51.5	\$2.6	\$4.1	\$26.2	\$11.6
Staff						
Increase formal qualification requirements for staff	\$28.3	\$23.8	\$8.0	\$7.8	\$23.2	\$27.2
Increase formal training support for staff	\$26.5	\$30.7	\$11.0	\$11.8	\$29.5	\$34.0
Childcare communication and information						
Improving transparency of out-of-pocket ECEC costs	\$30.9	\$14.0	\$9.0	\$9.2	\$28.5	\$9.6
Creating and increasing awareness of online tools to identify and compare availabilities, waitlists, or costs of ECEC providers	\$49.0	\$22.9	\$7.5	\$5.4	\$34.4	\$12.9
Increase in different ECEC services						
More preschools (usually community based and operated generally from 9am to 3:30pm during NSW school terms)	\$64.1	\$62.2	\$9.6	\$15.8	\$43.9	\$24.0
More long day care centres (including those that offer preschool programs)	\$58.8	\$41.7	\$6.9	\$16.3	\$44.2	\$33.1
More family day care centres	\$46.0	\$64.6	\$5.7	\$13.9	\$45.0	\$25.6
More before and after school care centres	\$35.6	\$25.9	\$10.4	\$14.0	\$42.3	\$35.8

Source: ECEC Survey 2023, NSW Productivity Commission

5 Best-Worst Scaling

5.1 Interpretation

BWS scores for a given barrier and user segment are bound between -100 and 100. The scores can be interpreted as follows:

- A positive score indicates the barrier was selected as the ‘biggest barrier’ more often than it was selected as the ‘smallest barrier’.
- A negative score means the barrier was selected as the ‘smallest barrier’ more often than it was selected as the ‘biggest barrier’.
- Scores closer to zero can arise for two reasons:
 - the barrier was selected few times as either the ‘biggest barrier’ or ‘smallest barrier’
 - the barrier was selected evenly as both the ‘biggest barrier’ and the ‘smallest barrier’.

We can compare scores across and within user segments to understand the *relative* importance of barriers on ECEC use – that is, the scores tell us which barriers are relatively more and less important (see Box 3).

Box 3: Interpreting BWS scores across and within user segments

Comparing within user segments

- **Example:** the non-user segment scored 5 on a barrier A and 10 on barrier B.
- **Interpretation:** barrier B is twice as important as barrier A regarding its impact on ECEC usage for non-users.

Comparing across user segments

- **Example:** the non-user segment scored 5 on a barrier A and the low user segment scored 10 on barrier A.
- **Interpretation:** barrier A is *relatively* more important for low users than non-users. However, we cannot say that barrier A is more important for low users in absolute terms, as different user groups may have different baselines for their experiences using ECEC.

5.2 Results

Across user segments

Each of the user segments rank the two biggest barriers as high out-of-pocket costs and uncertainty about these costs (see Table 28). The next biggest barrier for each segment is finding providers of preferred type or with suitable operating hours.

The smallest barriers for non- and low users relate to the location of childcare, including inconvenient/long travel time and no access to suitable transport to/from childcare provider. For high users the smallest barriers are vaccination requirements and a lack of access to culturally appropriate care.

Relative to high users, barriers relating to unique needs for childcare are bigger for non- and low users.

Table 28: Best-Worst Scaling scores for non-users, low users, and high users

	Non-user	Low user	High user
Finding the right type of childcare			
Cannot find provider of preferred type (e.g. want family day care but none are in your preferred area)	6.99	7.18	6.23
Cannot find providers with suitable operating hours and/or can accommodate flexibility in required days	7.38	8.13	9.82
Cannot find services that enable me to juggle multiple childcare arrangements	5.43	6.53	1.76
Size of providers are not right for my child	4.97	5.66	1.47
Unique needs for childcare			
Cannot access an appropriate centre for a child with special needs	-3.11	-3.41	-11.36
Concern child will get sick at service provider	1.32	-1.52	-6.89
Cannot access due to vaccination requirements	-4.04	-7.11	-16.50
Lack of access to culturally appropriate care	-3.26	-6.10	-15.32
Managing time			
No care available during holiday periods	-3.53	-4.79	-6.09
Time taken to manage different childcare arrangements/centres	-2.95	-3.74	-5.10
Enrolment in childcare			
Difficulty of enrolment processes (e.g. paperwork)	-6.17	-9.36	-13.12
Cannot access a place at the service provider of choice (i.e. long waiting list)	2.95	2.87	4.07
Location of childcare			
Inconvenient/long travel time	-11.10	-14.11	-13.42
No access to suitable transport to/from childcare provider	-10.17	-12.59	-13.56
Quality of provider			
Understaffed	1.01	2.18	3.15
Bad community feedback on service from social media, friends or others	0.78	3.56	2.05
Insufficiently clean and/or safe environment	2.95	2.61	2.79
Provision of appropriate food choices	-2.56	-1.52	-2.79
Facilities of childcare provider			
Insufficient indoor space for children's activities	-2.64	-4.43	-4.11

	Non-user	Low user	High user
Insufficient outdoor space for children's activities	-4.04	-5.15	-5.28
Insufficient parking spots at ECEC provider	-8.62	-8.85	-10.48
Insufficient educational materials/equipment	-4.19	-2.69	-3.45
Staff and teaching			
Unqualified carers/educators	-0.39	-0.07	0.44
Lack of bond formed between child and carer	-2.87	-0.73	-0.73
High staff turnover / inconsistency in carers	-2.87	1.16	2.05
Low quality teaching approach/program	-1.32	0.73	0.22
Cost of childcare			
High out-of-pocket costs	18.67	21.08	37.94
Uncertainty about the out-of-pocket costs	16.85	22.57	32.73

Source: ECEC Survey 2023, NSW Productivity Commission

Within user segments

Non-users

Relative to non-users in Sydney, non-users in regional New South Wales rate finding providers with suitable operating hours and/or can accommodate flexibility in required days and accessing a place at the service provider of choice as *bigger* barriers (see Table 29). They rate finding services that enable them to juggle multiple childcare arrangements and inconvenient/long travel time as *smaller* barriers.

Table 29: Best-worst scaling for non-user segment

	Overall	Sydney	Regional NSW
Finding the right type of childcare			
Cannot find provider of preferred type (e.g. want family day care but none are in your preferred area)	6.99	7.44	6.20
Cannot find providers with suitable operating hours and/or can accommodate flexibility in required days	7.38	5.61	10.47
Cannot find services that enable me to juggle multiple childcare arrangements	5.43	7.56	1.71
Size of providers are not right for my child	4.97	5.61	3.85
Unique needs for childcare			
Cannot access an appropriate centre for a child with special needs	-3.11	-2.93	-3.42
Concern child will get sick at service provider	1.32	0.12	3.42
Cannot access due to vaccination requirements	-4.04	-2.32	-7.05

	Overall	Sydney	Regional NSW
Lack of access to culturally appropriate care	-3.26	-3.41	-2.99
Managing time			
No care available during holiday periods	-3.53	-2.13	-5.98
Time taken to manage different childcare arrangements/centres	-2.95	-3.11	-2.67
Enrolment in childcare			
Difficulty of enrolment processes (e.g. paperwork)	-6.17	-7.44	-3.95
Cannot access a place at the service provider of choice (i.e. long waiting list)	2.95	-0.55	9.08
Location of childcare			
Inconvenient/long travel time	-11.10	-8.84	-15.06
No access to suitable transport to/from childcare provider	-10.17	-8.60	-12.93
Quality of provider			
Understaffed	1.01	1.83	-0.43
Bad community feedback on service from social media, friends or others	0.78	0.49	1.28
Insufficiently clean and/or safe environment	2.95	2.56	3.63
Provision of appropriate food choices	-2.56	-3.17	-1.50
Facilities of childcare provider			
Insufficient indoor space for children's activities	-2.64	-2.32	-3.21
Insufficient outdoor space for children's activities	-4.04	-4.63	-2.99
Insufficient parking spots at ECEC provider	-8.62	-6.95	-11.54
Insufficient educational materials/equipment	-4.19	-3.66	-5.13
Staff and teaching			
Unqualified carers/educators	-0.39	0.00	-1.07
Lack of bond formed between child and carer	-2.87	-1.71	-4.91
High staff turnover / inconsistency in carers	-2.87	-1.71	-4.91
Low quality teaching approach/program	-1.32	-0.49	-2.78
Cost of childcare			
High out-of-pocket costs	18.67	16.71	22.12
Uncertainty about the out-of-pocket costs	16.85	15.00	20.09

Source: ECEC Survey 2023, NSW Productivity Commission

Low users

Relative to low users in Sydney, low users in regional New South Wales rate accessing a place at the service provider of choice, understaffing, and a lack of bond between child and carer as *bigger* barriers (see Table 30). They rate barriers associated with the location of childcare as *smaller* barriers.

Table 30: Best-worst scaling for low-user segment

	Overall	Sydney	Regional NSW
Finding the right type of childcare			
Cannot find provider of preferred type (e.g. want family day care but none are in your preferred area)	7.18	8.35	5.37
Cannot find providers with suitable operating hours and/or can accommodate flexibility in required days	8.13	8.83	7.04
Cannot find services that enable me to juggle multiple childcare arrangements	6.53	6.21	7.04
Size of providers are not right for my child	5.66	6.21	4.81
Unique needs for childcare			
Cannot access an appropriate centre for a child with special needs	-3.41	-2.98	-4.07
Concern child will get sick at service provider	-1.52	-0.84	-2.59
Cannot access due to vaccination requirements	-7.11	-7.16	-7.04
Lack of access to culturally appropriate care	-6.10	-5.25	-7.41
Managing time			
No care available during holiday periods	-4.79	-4.71	-4.91
Time taken to manage different childcare arrangements/centres	-3.74	-4.53	-2.50
Enrolment in childcare			
Difficulty of enrolment processes (e.g. paperwork)	-9.36	-8.95	-10.00
Cannot access a place at the service provider of choice (i.e. long waiting list)	2.87	0.30	6.85
Location of childcare			
Inconvenient/long travel time	-14.11	-11.69	-17.87
No access to suitable transport to/from childcare provider	-12.59	-10.32	-16.11
Quality of provider			
Understaffed	2.18	-0.24	5.93
Bad community feedback on service from social media, friends or others	3.56	2.74	4.81
Insufficiently clean and/or safe environment	2.61	2.51	2.78
Provision of appropriate food choices	-1.52	-0.60	-2.96

	Overall	Sydney	Regional NSW
Facilities of childcare provider			
Insufficient indoor space for children's activities	-4.43	-4.65	-4.07
Insufficient outdoor space for children's activities	-5.15	-4.53	-6.11
Insufficient parking spots at ECEC provider	-8.85	-8.35	-9.63
Insufficient educational materials/equipment	-2.69	-2.27	-3.33
Staff and teaching			
Unqualified carers/educators	-0.07	0.84	-1.48
Lack of bond formed between child and carer	-0.73	-4.18	4.63
High staff turnover / inconsistency in carers	1.16	0.36	2.41
Low quality teaching approach/program	0.73	0.12	1.67
Cost of childcare			
High out-of-pocket costs	21.08	20.82	21.48
Uncertainty about the out-of-pocket costs	22.57	21.54	24.17

Source: ECEC Survey 2023, NSW Productivity Commission

High users

Relative to high users in Sydney, high users in regional New South Wales rate accessing a place at the service provider of choice and low-quality teaching approach/program as *bigger* barriers (see Table 31). Regional New South Wales high users rate finding providers of preferred type and with suitable operating hours and/or can accommodate flexibility in required days as *smaller* barriers.

Table 31: Best-worst scaling for high-user segment

	Overall	Sydney	Regional NSW
Finding the right type of childcare			
Cannot find provider of preferred type (e.g. want family day care but none are in your preferred area)	6.23	8.66	2.57
Cannot find providers with suitable operating hours and/or can accommodate flexibility in required days	9.82	13.41	4.41
Cannot find services that enable me to juggle multiple childcare arrangements	1.76	4.27	-2.02
Size of providers are not right for my child	1.47	3.54	-1.65
Unique needs for childcare			
Cannot access an appropriate centre for a child with special needs	-11.36	-12.20	-10.11
Concern child will get sick at service provider	-6.89	-6.95	-6.80
Cannot access due to vaccination requirements	-16.50	-17.32	-15.26

	Overall	Sydney	Regional NSW
Lack of access to culturally appropriate care	-15.32	-17.44	-12.13
Managing time			
No care available during holiday periods	-6.09	-6.59	-5.33
Time taken to manage different childcare arrangements/centres	-5.10	-3.90	-6.89
Enrolment in childcare			
Difficulty of enrolment processes (e.g. paperwork)	-13.12	-12.93	-13.42
Cannot access a place at the service provider of choice (i.e. long waiting list)	4.07	2.62	6.25
Location of childcare			
Inconvenient/long travel time	-13.42	-10.37	-18.01
No access to suitable transport to/from childcare provider	-13.56	-12.26	-15.53
Quality of provider			
Understaffed	3.15	2.20	4.60
Bad community feedback on service from social media, friends or others	2.05	2.20	1.84
Insufficiently clean and/or safe environment	2.79	2.68	2.94
Provision of appropriate food choices	-2.79	-3.54	-1.65
Facilities of childcare provider			
Insufficient indoor space for children's activities	-4.11	-4.15	-4.04
Insufficient outdoor space for children's activities	-5.28	-4.76	-6.07
Insufficient parking spots at ECEC provider	-10.48	-10.98	-9.74
Insufficient educational materials/equipment	-3.45	-5.24	-0.74
Staff and teaching			
Unqualified carers/educators	0.44	-1.22	2.94
Lack of bond formed between child and carer	-0.73	-1.95	1.10
High staff turnover / inconsistency in carers	2.05	1.46	2.94
Low quality teaching approach/program	0.22	-2.20	3.86
Cost of childcare			
High out-of-pocket costs	37.94	36.34	40.35
Uncertainty about the out-of-pocket costs	32.73	31.83	34.10

Source: ECEC Survey 2023, NSW Productivity Commission

6 Additional analysis

Previous chapters presented the headline results for the three survey techniques separately. However, we can use the summary statistics to resample the data and recalculate how the DCE and BWS vary for different cohorts. For example, we captured detailed information on income and age of kids and we can rerun the analysis to assess whether barriers are different depending on these factors.

In this chapter we provide a flavour of the analysis that can be conducted by further analysing the following questions:

- How does the number of children for low users impact their sensitivity to changes in out-of-pocket costs?
- Why do non-users in Sydney perceive additional subsidies as a cost rather than benefit?
- How do ECEC barriers differ for minority groups, such as First National households?

There are many more extensions that could be examined using the survey data. We have made the survey data publicly available on Data.NSW so that interested policy makers and researchers can conduct further analysis and examine factors that may be most relevant to their needs.

6.1 Sensitivity of non-users in Sydney to subsidies

One of the most striking results of the survey was that non-users in Sydney perceive additional subsidies as a cost rather than a benefit (see *Childcare choices: What parents want*, Chapter 2). To unpack this result further, we can assess what types of non-user households were the most and least responsive to out-of-pocket cost reductions in the DCE. This approach allows us to understand whether policy preferences are being driven by differences in ECEC barriers or different sociodemographic characteristics, such as household income.

Recall that the DCE task results in five selections of respondents' most preferred plans and five of their least preferred (see Section 2). We categorised non-users in Sydney into two groups based on the number of times they preferred the option with the highest cost saving:

- Selected the ECEC plan with the highest cost saving once or less
- Selected the ECEC plan with the highest cost saving 2-5 times

Non-users that were the least responsive to out-of-pocket cost reductions are relatively more disadvantaged. This is reflected by lower income levels, lower parental educational attainment levels and being less likely to be employed (see Table 32).

Table 32: Key summary statistics for non-users in Sydney by number of times ECEC plan with highest cost saving was selected

	Non-user, Sydney		Overall
	Selected high cost saving once or less	Selected high cost saving 2-5 times	
No. of respondents	200	210	410
Proportion of respondents	48.8%	51.2%	100%
Weighted average income	\$98,255	\$116,658	\$107,621
Education			

	Non-user, Sydney		Overall
	Selected high cost saving once or less	Selected high cost saving 2-5 times	
Postgraduate degree or equivalent	11.0%	15.7%	13.4%
Graduate Diploma and Graduate Certificate from university or equivalent	11.0%	7.6%	9.3%
Bachelor's degree or equivalent	32.5%	40.0%	36.3%
Advanced Diploma and Diploma from university/TAFE or equivalent	17.5%	6.7%	12.0%
Certificate or equivalent (e.g., Certificate III & IV or Certificate I & II)	13.0%	12.4%	12.7%
Year 12 or equivalent	9.5%	11.0%	10.2%
Year 11 or equivalent	3.0%	4.3%	3.7%
Year 10 or below	2.5%	1.9%	2.2%
Other	0.0%	0.5%	0.2%
Employment status			
Employed full-time	59.5%	63.3%	61.5%
Employed part-time	8.5%	9.0%	8.8%
Unemployed	5.5%	2.9%	4.1%

Source: ECEC Survey 2023, NSW Productivity Commission

6.2 Impact of the number of children for low users

Low ECEC users tended to have more children than non- and high users. In this section we unpack to what extent the key results for low users – that is, that they tend to be more sensitive to changes in out-of-pocket cost reductions – is being driven by this result. We assessed whether the preferences and barriers differed within the low user groups for households with one child compared to those with multiple children.

Table 33: Key summary statistics for low users by number of children aged below 18

	Low user		Overall
	One child only	More than one child	
No. of respondents	181	508	689
Proportion of respondents	26.3%	73.7%	100%
No. average children	1.00	2.61	2.19

Note: The overall average number of children differs from Table 8 as these figures are based on different survey questions.

Source: ECEC Survey 2023, NSW Productivity Commission.

As expected, low ECEC users with multiple children experience a greater range of barriers to ECEC (see Table 34). This includes difficulty finding providers with suitable operating hours and being unable to find services that enable them to juggle multiple childcare arrangements.

Table 34: Best-Worst Scaling scores for low users by number of children aged below 18

	Low user	
	<i>One child only</i>	<i>More than one child</i>
Finding the right type of childcare		
Cannot find provider of preferred type (e.g. want family day care but none are in your preferred area)	6.63	7.38
Cannot find providers with suitable operating hours and/or can accommodate flexibility in required days	5.25	9.15
Cannot find services that enable me to juggle multiple childcare arrangements	5.80	6.79
Size of providers are not right for my child	3.04	6.59
Unique needs for childcare		
Cannot access an appropriate centre for a child with special needs	-1.93	-3.94
Concern child will get sick at service provider	0.83	-2.36
Cannot access due to vaccination requirements	-8.29	-6.69
Lack of access to culturally appropriate care	-6.91	-5.81
Managing time		
No care available during holiday periods	-5.52	-4.53
Time taken to manage different childcare arrangements/centres	-3.45	-3.84
Enrolment in childcare		
Difficulty of enrolment processes (e.g. paperwork)	-6.35	-10.43
Cannot access a place at the service provider of choice (i.e. long waiting list)	4.14	2.41
Location of childcare		
Inconvenient/long travel time	-16.57	-13.24
No access to suitable transport to/from childcare provider	-10.64	-13.29
Quality of provider		
Understaffed	1.66	2.36
Bad community feedback on service from social media, friends or others	4.70	3.15
Insufficiently clean and/or safe environment	1.93	2.85
Provision of appropriate food choices	-1.38	-1.57

	Low user	
	One child only	More than one child
Facilities of childcare provider		
Insufficient indoor space for children's activities	-1.93	-5.31
Insufficient outdoor space for children's activities	-2.76	-6.00
Insufficient parking spots at ECEC provider	-9.12	-8.76
Insufficient educational materials/equipment	0.00	-3.64
Staff and teaching		
Unqualified carers/educators	-1.10	0.30
Lack of bond formed between child and carer	-1.66	-0.39
High staff turnover / inconsistency in carers	0.83	1.28
Low quality teaching approach/program	1.66	0.39
Cost of childcare		
High out-of-pocket costs	17.96	22.19
Uncertainty about the out-of-pocket costs	21.82	22.83

Source: ECEC Survey 2023, NSW Productivity Commission

Given the larger array of barriers for low users with multiple children, they are less sensitive to out-of-pocket reductions. Low users with multiple children place greater value on policy options that alleviate ECEC access challenges, reflected by the consistently higher willingness to pay relative to low users with one child (see Table 35).

Table 35: Willingness to Pay/Accept for low users by number of total children aged below 18

	Low user	
	One child only	More than one child
Location		
More ECEC centres close to home	\$6.7	\$17.7
More ECEC centres close to work	\$5.8	\$14.0
Expanding ECEC centres to accommodate more children	\$8.4	\$14.6
More ECEC centres close to transport hubs, such as major train stations	\$3.6	\$7.7
Flexibility		
Longer opening hours	\$4.2	\$19.2
Increase ECEC options outside of traditional working hours	\$3.2	\$22.8
Increase public transport options close to early childcare services	\$6.0	\$14.3

	Low user	
	One child only	More than one child
Incentives for nannies/in-home help	-\$0.6	\$8.8
Staff		
Increase formal qualification requirements for staff	\$4.5	\$15.0
Increase formal training support for staff	\$6.5	\$20.9
Childcare communication and information		
Improving transparency of out-of-pocket ECEC costs	\$7.9	\$14.8
Creating and increasing awareness of online tools to identify and compare availabilities, waitlists, or costs of ECEC providers	\$6.7	\$10.6
Increase in different ECEC services		
More preschools (usually community based and operated generally from 9am to 3:30pm during NSW school terms)	\$2.9	\$27.0
More long day care centres (including those that offer preschool programs)	\$2.8	\$23.8
More family day care centres	\$3.7	\$18.3
More before and after school care centres	\$5.8	\$23.2

Source: ECEC Survey 2023, NSW Productivity Commission

6.3 Barriers experienced by First Nations households

First Nations households have different characteristics to other households, which may affect the relative barriers to ECEC they face compared to non-Indigenous households. In particular, First Nation households have lower levels of ECEC participation, more children with major health conditions and have lower household incomes (see Table 36).

Table 36: Key summary statistics of First Nations respondents

	Non-user			Low user			High user			TOTAL
	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	Sydney	Regional NSW	Overall	
No. of respondents	66	38	104	60	43	103	33	35	68	275
Proportion of respondents	24.0%	13.8%	37.8%	21.8%	15.6%	37.5%	12.0%	12.7%	24.7%	100%
Proportion of children with a major health condition	44.7%	20.0%	35.5%	28.1%	23.1%	26.0%	34.2%	20.8%	26.7%	29.1%
Weighted average income	\$92,992	\$82,162	\$89,102	\$116,625	\$85,952	\$103,995	\$98,125	\$84,470	\$91,192	\$95,231

Source: ECEC Survey 2023, NSW Productivity Commission

First Nation households experience greater difficulty in finding the right type of childcare and this is far more important than high out-of-pocket costs (see Table 37). First Nations households also have more specific needs when it comes to childcare, most notably access to care for children with special needs. While the literature suggests that access to culturally appropriate care is a key barrier for First Nations parents (Baxter and Hand 2013; Grace et al. 2014), we do not find this to be a central issue.

Table 37: Best-worst scaling by First Nations status

	First Nations	Non-Indigenous
Finding the right type of childcare		
Cannot find provider of preferred type (e.g. want family day care but none are in your preferred area)	10.73	6.26
Cannot find providers with suitable operating hours and/or can accommodate flexibility in required days	8.18	8.59
Cannot find services that enable me to juggle multiple childcare arrangements	9.45	3.90
Size of providers are not right for my child	8.00	3.47
Unique needs for childcare		
Cannot access an appropriate centre for a child with special needs	5.82	-8.01
Concern child will get sick at service provider	4.55	-3.64
Cannot access due to vaccination requirements	3.82	-11.68
Lack of access to culturally appropriate care	2.18	-10.16
Managing time		
No care available during holiday periods	-1.36	-5.46
Time taken to manage different childcare arrangements/centres	0.27	-4.60
Enrolment in childcare		
Difficulty of enrolment processes (e.g. paperwork)	-8.36	-9.90
Cannot access a place at the service provider of choice (i.e. long waiting list)	-1.27	4.05
Location of childcare		
Inconvenient/long travel time	-10.91	-13.31
No access to suitable transport to/from childcare provider	-7.09	-12.90
Quality of provider		
Understaffed	-2.00	2.82
Bad community feedback on service from social media, friends or others	-2.18	2.82
Insufficiently clean and/or safe environment	1.09	2.91
Provision of appropriate food choices	-7.82	-1.49

	First Nations	Non-Indigenous
Facilities of childcare provider		
Insufficient indoor space for children's activities	-4.00	-3.67
Insufficient outdoor space for children's activities	-6.91	-4.54
Insufficient parking spots at ECEC provider	-8.55	-9.58
Insufficient educational materials/equipment	-4.55	-3.44
Staff and teaching		
Unqualified carers/educators	-0.73	0.15
Lack of bond formed between child and carer	-3.64	-0.99
High staff turnover / inconsistency in carers	-0.18	0.20
Low quality teaching approach/program	0.36	-0.32
Cost of childcare		
High out-of-pocket costs	11.18	28.68
Uncertainty about the out-of-pocket costs	10.73	26.63

Source: ECEC Survey 2023, NSW Productivity Commission

The literature points to additional factors which may pose difficulties for First Nations families, such as parents' trust in ECEC services and their own experience with education services (Baxter and Hand 2013). While these factors were not captured directly in our BWS choice experiment, they may be partly driving the stronger preferences of First Nations parents to provide home-based care (see Table 38). Though, interestingly First Nations respondents were just as likely to see the developmental benefits of ECEC as non-Indigenous parents.

Table 38: Parental role perceptions by First Nations status

	First Nations	Non-Indigenous	Overall
Working parents provide good role models for children	5.4	5.3	5.3
A preschool child is likely to suffer if both or only parent work full-time	4.4	3.8	3.9
It is fine for children under 3 years of age to attend formal childcare	5.2	5.3	5.3
It is better for everyone involved if the man earns the money and the woman takes care of the home and children	4.3	3.3	3.4
I find that taking care of my child(ren) is more work than pleasure	4.5	3.9	4.0
Attending formal childcare can aid the social and development outcomes of children	5.7	5.7	5.7

	First Nations	Non-Indigenous	Overall
Preference is for family to look after child(ren)	5.0	4.7	4.7
I and/or partner prefer to look after child(ren)	5.5	5.1	5.1
Preference is for friends to look after child(ren)	4.2	3.1	3.3
Preference to have a nanny/live-in help	4.1	3.2	3.3

Source: ECEC Survey 2023, NSW Productivity Commission

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