WORKING WITH THE THRIVE BY FIVE INDEX 2024:
EXPLORATIONS OF EARLY LEARNING SYSTEMS IN SOUTH AFRICA

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Abstract

This paper analyses the role of government subsidisation [AD1.1]in the early learning sector in South Africa using the 2024 Thrive by Five Index data. Equitable access to quality early learning is a core goal for the Department of Basic Education (DBE) in their effort to provide ECD services in South Africa. Government subsidisation of registered ELPs is the primary policy mechanism for improving the provision of ECD services, and as such, understanding the role of subsidisation towards achieving the dual goals of both expanding access and improving quality of early learning services is paramount.

This paper finds that even with an eroded subsidy value, among low-fee ELP facilities, subsidy receipt is associated with a statistically significantly higher likelihood of waived monthly parental fee payment by ELP principals[AD2.1][GL2.2][AD3.1] in the case of children in the lowest fee bands, which reduces barriers to access for the most vulnerable children. Therefore, supporting ELPs in vulnerable areas towards becoming subsidised is a critical lever for improving access to early learning, and is among the most pro-poor government initiatives.

However, subsidisation does not have a significant association with child ELOM[JH4.1] 4&5 scores in this analysis. There is a tentative positive association between subsidy receipt and ELOM 4&5 scores in higher quintiles, which may be because the subsidy acts together with other resources to improve learning outcomes. This suggests that there are multiple other factors which are required along with subsidisation to improve quality programming.

Therefore, while increasing the value of the subsidy may improve quality[AD5.1][GL5.2], there are many additional complementary inputs that are required for facilities to properly scaffold early learning to realise improved outcomes. If increasing the value of the subsidy reduces the coverage that is possible, it implies that the improvements for the children who currently access early learning comes at the cost of access for the most vulnerable.

1. Introduction and Context

Investments in ECD, and particularly early learning, are widely recognised as fundamental for educational success later in life as well as broader human capital formation. Policymakers and governments view public subsidisation of early learning as a tool to promote equitable access and to improve the quality of early learning programming. However, strong evidence which directly quantifies the causal impact of government subsidies on early learning outcomes remains sparse in the academic literature.

Evidence from both high-income and low- and middle-income contexts suggests that subsidised access to early learning can enhance cognitive development and school readiness for children, and especially those coming from the most vulnerable homes. Critically, this positive impact is heavily contingent on the quality of programming experienced by children [AD7.1](Leach & von Fintel, 2025).

Some secondary analyses and policy reviews indicate that subsidies can reduce financial barriers to access, which enables more children to attend early learning programmes and, by extension, participate in structured cognitive and social stimulation environments. Kika-Misty & Wills (2024) find that the benefit of government subsidies in South Africa is passed onto parents and caregivers in the form of lower user fees. They also find, however, that the regulatory requirements for accessing the subsidy are costly, are not covered by the per-child subsidy, and tend to increase user fees (Kika-Mistry & Wills, 2024). Subsidies also potentially support better process quality, such as staffing, learning materials, and nutrition which are all factors associated with better cognitive development (Cadima et al., 2020).

Equitable access and quality are two pivotal goals for the Department of Basic Education (DBE) in their effort to provide ECD services in South Africa (Department of Basic Education of the Republic of South Africa, 2023). Government subsidisation of registered facilities is the primary policy mechanism for improving the provision of ECD services, and as such, understanding the role of subsidisation for early learning is paramount. With these questions in mind, this paper analyses the role of government subsidisation for early learning in South Africa in 2024.

1.1 Literature on the financial context of early earning in SA

South Africa's recent Thrive by Five Index 2024 provides locally relevant data on child development outcomes, as well as multiple important Early Learning Programme (ELP) characteristics which illuminate the financial context of ELPs, such as fees charged, realised fee payment by parents and subsidy receipt.

While it is well established that children who attend better-off ELPs, that charge higher fees, perform better (van der Berg, 2023), there is a pressing need to understand how universal access to quality early learning can be achieved in South Africa, and what role of public financing is in achieving this goal.

In South Africa, the vast majority of ELPs are run by women as private micro-enterprises (Shai, 2025). For an ELP to access the subsidy, they must first comply with Health and Safety norms and standards, and register with the provincial education department (Kika-Mistry & Wills, 2024). Of the ELPs registered within a province, the province targets the subsidy towards the poorest areas, and children who receive the Child Support Grant. In 2024, the targeting strategy for the subsidy changed from means-based targeting to geographical targeting. Priority Zones were established based on child poverty in an area, where Priority Zone 1 is the poorest, and the subsidy is targeted towards the ELPs in these priority zones, starting from Priority Zone 1. Therefore, subsidy receipt and poverty are closely linked, which inevitably confounds [AD8.1]the statistical relationship between them.

While subsidy receipt is linked to many of factors such as home SES, ELP fee level, child health, nutritional status and parental education that in turn affect early learning, subsidy receipt is also targeted towards ELPs with lower SES. This is a common problem in targeted social assistance programmes (Heckman et al., 1996), and reduces the likelihood of uncovering the true effect of subsidisation outside of a randomised experiment. Additionally, the value of the subsidy has eroded in South Africa, remaining at R17 per child per day for many years, which has rendered it less effective than it might have been if the real value remained constant. This low value makes it less likely to have a large impact. The value of the subsidy has increased to R24 per child per day in April 2025, which is after the date of Thrive by Five data collection.

1.2 Overview of research findings

Overall, this analysis finds that subsidisation does not have a significant association with child ELOM 4&5 scores. This may be due to the eroded value of the subsidy, making the increased subsidy value important and well-timed. This insignificant relationship is supported in the literature (Johnson et al., 2013), and is not unexpected with this type of targeted subsidisation programme.

However, the role of the government subsidisation is both for increasing access to early learning, as well as improving quality. The recent Thrive by Five Index 2024 National Report provides a stark reminder that access to an ELP for children from vulnerable households is highly protective (Dawes et al., 2023; Pettersson Gelander et al., 2025). Therefore, reducing barriers to access for these children is critical to improve child outcomes in South Africa. This paper finds that even with an eroded subsidy value, among low-fee ELPs, subsidy receipt is associated with markedly lower likelihood of monthly fee payment by parents, which reduces barriers to access.
While past research has concluded similarly, this paper makes an important finding that even with a lower real value of the subsidy, it still lowers barriers to access for the most vulnerable children.

The following sections describe the data and methodology used in this paper. Section 4 shows the results, and section 5 provides a discussion of the results and concludes.

2. Data

The 2024 Thrive by Five Index Survey data is used in this analysis. This analysis combined survey information from three different groups of respondents to different interview schedules, including the questionnaires for the facility, the principle, and the parent/caregiver of the child. Observations on the quality of the early learning programming were incorporated from the Learning Programme Quality Assessment (LPQA) data. Finaly, child outcomes from the ELOM 4&5 4&5 Assessment data were included as the child outcome data.
There are 5 001 children in the data, and 1388 unique facilities. A full description of the sample design and survey methodology can be found in the National Report and Technical report for this data (Giese et al., 2025; Pettersson Gelander et al., 2025).

Table 1 shows the primary child-level variables that are used in this analysis. For the 5,001 children in the sample, the mean ELOM 4&5 total score is 44.7 (out of a total possible 100). The child age is shown in months, with the mean age being 54.8 months (~4-and-a-half years of age; SD: 2.5 months). There is a relatively even split between male (N = 2 451) and female (N = 2 550) children in the sample. Two variables have been derived for this analysis: task orientation and a child's household socioeconomic status (SES).

The task orientation is derived as described in the 2024 Thrive by Five National Report, and ranges between 0 to 12 (Giese et al., 2025). Four questions were asked in the survey that focused on whether the child 1) paid attention, 2) stayed focused, 3) worked carefully and 4) showed curiosity. Each of these behaviours was rated by the trained ELOM 4&5 assessor on a four-point scale: Almost Never, Sometimes, Often, and Almost Always. Total Task Orientation Score (the sum of scores from the four items listed above) was shown to be a critical factor which influences a child's ELOM 4&5 score, and was therefore included in this analysis[1].

Finally, a household level SES variable is derived for 3,811 children whose parent/caregiver answered the survey. The SES Index was constructed using principal component analysis of caregiver-reported ownership of nine household assets and internet access. The first principal component, which captures the largest share of common variation across assets, was used as a continuous SES index, with higher values indicating greater household wealth. Children with incomplete asset information were assigned missing values for the SES index.

[1] Note: the Total Task Orientation Score is an index made up of 4 questions, including task attention.

Table 1: Child-level descriptive statistics

Variable	N	Mean	SD	Median	Min	Max
ELOM 4&5 total score	5,001	44.7	13.7	44.4	6.6	92.5
Task orientation score	5,001	7.6	3.1	8.0	0.0	12.0
Child age (months)	5,001	54.8	2.5	54.9	49.7	59.5
Child Sex (Female = 1)	5,001	0.509			0	1
Socioeconomic status (PCA)	3,811	0.0	1.6	0.06	-5.1	3.3

Note. N = 3,841. Unstandardised regression coefficients (b) are reported with cluster-robust standard errors and 95% confidence intervals. Standard errors were adjusted for clustering at the Early Learning Programme (ELP) level (1,318 clusters). Model fit: R^2 = .12; F(6, 1317) = 68.85, p < .001. Higher ELOM scores indicate better early learning outcomes.

Table 2 shows ELP level descriptive statistics which are used in this analysis. The table shows multiple ELP-level characteristics, and reports the number and percentage of ELPs falling each category. In this nationally representative sample of ELPs, 815 ELPs are not subsidised (59%). Of these subsidised ELPs (40%), Table 2 shows that about half (N = 289) of ELPs report being paid the subsidy on time, and about three quarters (N = 422) report being paid the correct amount most of the time or always.

Table 2: ELP-level descriptive statistics

Variable	N (ELPs)	Percent (ELPs)
Not Subsidised	815	59%
Subsidised	555	40%
Missing Subsidy	18	1%
Subsidy not paid on time	262	19%
Subsidy paid on time	289	21%
Subsidy paid on time Missing/not subsidised	837	60%
Subsidy amount **never** correct	13	1%
Subsidy amount **sometimes** correct	111	8%
Subsidy amount correct **most of the time**	78	6%

Variable	N (ELPs)	Percent (ELPs)
Subsidy amount **always** correct	344	25%
Subsidy amount missing/not subsidised	842	61%
No parents paid fees this month	14	1%
Less than half of parents paid fees this month	254	18%
Half of parents paid fees this month	138	10%
More than half of parents paid fees this month	599	43%
All parents paid fees this month	237	17%
Missing answer: parents paid fees this month	146	11%
Q1: Low	159	11%
Q1: High	127	9%
Q2	273	20%
Q3	280	20%
Q4	274	20%
Q5: Low	138	10%
Q5: High	137	10%
Not a Priority zone	228	16%
Priority zone 1	92	7%
Priority zone 2	262	19%
Priority zone 3	202	15%
Priority zone 4	216	16%
Priority zone 5	172	12%
Priority zone 6	216	16%

Monthly fee payment from parents is used as an outcome variable in the analysis. Principles were asked "Last month, out of the parents meant to pay fees how many actually paid?", and could answer that none, less than half, half, more than half or all of the parents paid. This variable does not measure whether a principle offers fee exemptions per se, but it does offer insight into how regularly parents do not pay, but are still allowed to enrol their child, since the parents were "meant to pay fees". Table 2 shows that 29% of ELP practitioners report that of the parents who were meant to pay, half or less than half of them paid.

Finally, the table also presents the number and percentage of ELPs in the derived 7-band fee category variable, as well as priority zones defined by the DBE. The method for deriving the 7-band fee category variable can be found in the technical report (Pettersson Gelander et al., 2025).

3. Methodology

3.1 Descriptive Analysis

Several descriptive tables and figures are analysed. For each fee-band, the minimum, maximum and mean score was calculated and plotted. Wilcoxon rank-sum tests were conducted to assess whether the distribution of ELOM 4&5 total scores differed between subsidised and unsubsidised schools within each fee group. This non-parametric test was chosen because it does not assume normality of the score distribution and is robust to outliers. The test compares the ranks of scores in the two groups and reports a W statistic and an associated p-value for each fee group. Significance levels were indicated with stars (* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$).

3.2 Ordinal regression analysis: the role of subsidy receipt for access

One of the critical barriers to children accessing early learning is parent/caregiver fees. To analyse the effect of receiving the subsidy on whether an ELP principle waives fee payment, ordinal regression analysis was used. This approach preserves the ordered structure of the dependent variable and avoids information loss that would arise from creating a binomial 0/1 for whether the practitioner received fees from parents (which is asked as an ordinal question, as described above).

Two specifications are estimated. The first is a main effects model, which includes subsidy receipt and the derived 7-band fee group variable as explanatory variables, allowing for an assessment of whether subsidised ELPs differ from unsubsidised ELPs in their likelihood of allowing lower levels of fee payments from parents, holding fee levels constant. Second, an interaction model is fit, which includes an interaction between subsidy receipt and fee band to test whether the association between subsidy receipt and parental fee payment differs across fee bands, with particular interest in lower-fee ELPs.

All models are estimated using survey weights to account for the sampling design. Standard errors are clustered at the ELP level to account for intra-ELP correlation in fee-payment outcomes. Estimation is conducted using the svyolr function from the survey package in R, which produces consistent coefficient estimates and robust standard errors under clustering and weighting. Results are reported as odds ratios, with statistical significance assessed using two-sided tests.

3.3 Regression analysis: the role of subsidy receipt for quality

First, to estimate a baseline, associations between subsidy receipt and child outcomes are estimated using weighted ordinary least squares (OLS) regression. The main explanatory variable is a binary indicator for subsidy receipt. Models control for the derived 7-band fee group variable, child characteristics (gender, age in months and task orientation), and the quality of the learning environment (LPQA total score). Observations are weighted using survey weights to ensure representativeness.

To explore whether the timing and correctness of subsidy receipt matter for child outcomes, an extended specification replaces the binary subsidy indicator with a categorical variable distinguishing between unsubsidised ELPs, subsidised ELPs that are not paid on time, and subsidised paid on time. This allows a test of whether delays in subsidy disbursement moderate the effect of subsidies on child outcomes. In all OLS models, standard errors are clustered at ELP level to account for within-ELP correlation in child outcomes.

4. Results

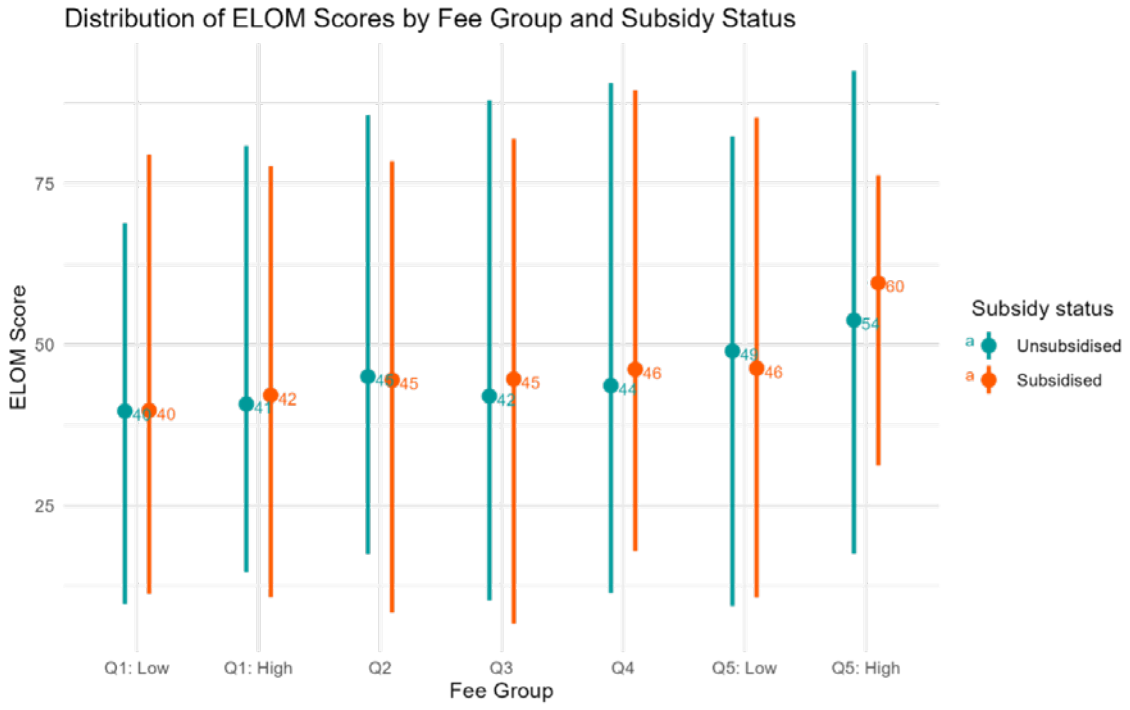
4.1 Descriptive Analysis

Figure 1 shows the difference in ELOM 4&5 scores by fee-band and subsidy receipt. For each fee-band, the minimum, maximum and mean score was calculated and plotted. In general, there is a positive relationship between ELOM 4&5 score and fee-band, with a sharp increase in ELOM 4&5 score in Q5: High ELPs. This sharp uptick is most pronounced in subsidised ELPs in Q5: High. There is no obvious relationship between subsidy receipt and ELOM 4&5 scores across fee-bands.

In the Wilcoxon rank-sum tests across fee groups, there are statistically significant differences between the ELOM 4&5 scores of children in subsidised vs. unsubsidised ELPs in Q3 and Q4, indicating that in these fee categories, subsidised and unsubsidised schools have meaningfully different ELOM 4&5 score distributions, whereas in other groups, no significant differences were observed.

In particular, subsidised ELPs in Q3 and Q4 have higher ELOM 4&5 outcomes on average[2]. This may be due to the fact that they operate above an income threshold that enables higher quality programming. This relationship does not hold in Q5:Low ELPs, however, but the sample sizes are too small to draw meaningful results. Therefore, this result shows a tentative positive relationship between subsidy receipt and ELOM 4&5 outcomes, but only above a certain threshold of income[3].

Figure 1: ELOM 4&5 total scores, fee-band and subsidy receipt.



[2] There are very few subsidised children in Q5: Low and Q5: High (6% and 2% respectively).
[3] While there is no significant relationship in Q5, the sample sizes are small.

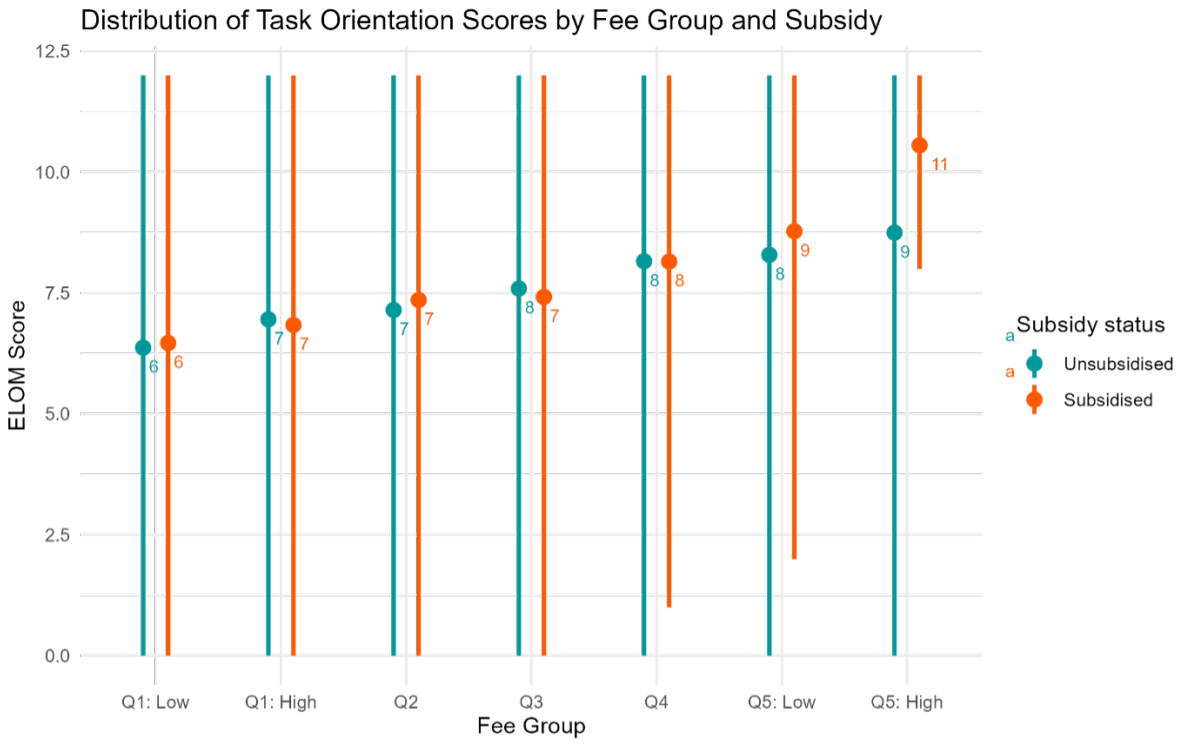
Table 3: Wilcoxon rank-sum test results

Fee group 2-4: Q1 split, Q2–Q4 grouped, Q5 split	W statistic	P value
Fee group: Q1 low	[0.76, 1.25]	0.8551910678
Fee group: Q1 high	[−2.05, 1.15]	0.2626377645
Fee group: Q2	[−0.06, 0.57]	0.7252713997
Fee group: Q3***	[−0.68, −0.25]	0.0007919754
Fee group: Q4***	[1.25, 1.61]	0.0090060323
Fee group: Q5 low	[−4.33, −2.75]	0.3321742845
Fee group: Q5 high	[−42.42, −20.24]	0.1887761553

Notes: Wilcoxon rank-sum tests compare ELOM 4&5 scores between subsidised and unsubsidised ELPs within each fee group. Significance: * p < 0.10, ** p < 0.05, *** p < 0.01.

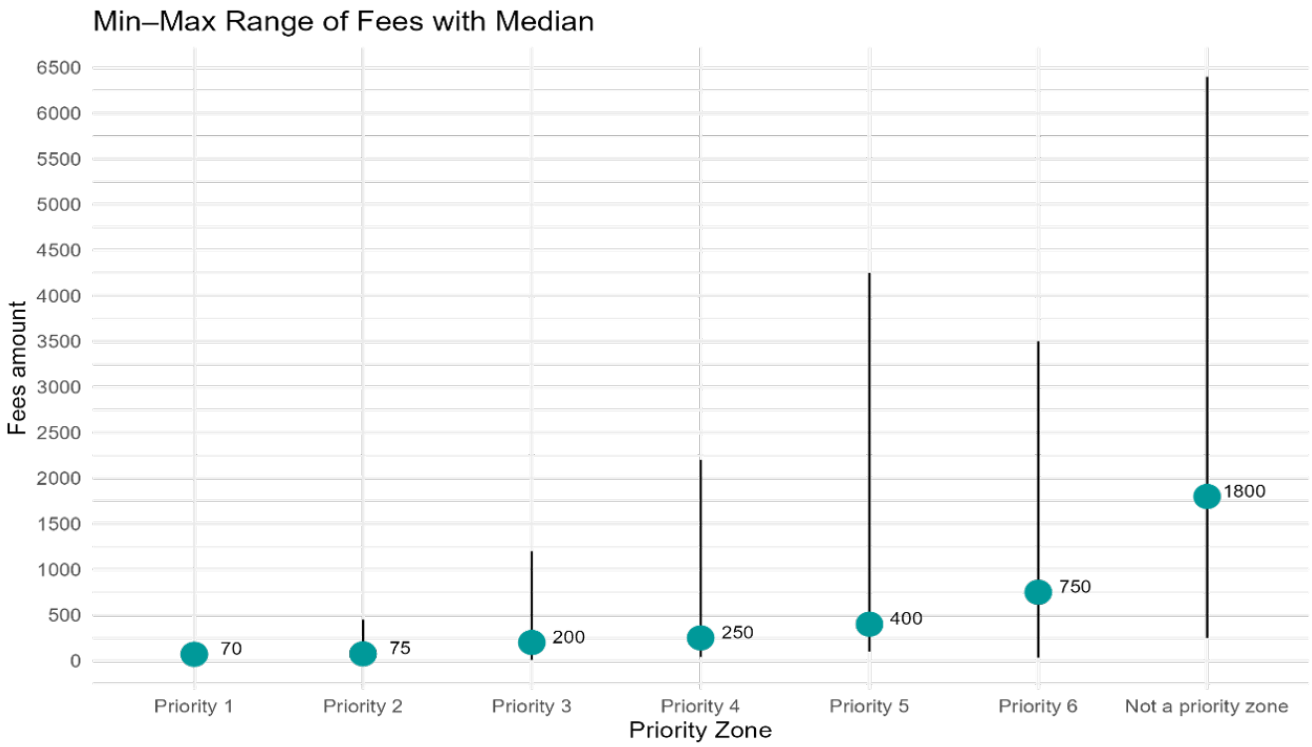
Figure 2 shows the minimum, maximum and mean Task Orientation Score by fee-band in subsidised and unsubsidised ELPs. As fee-band increases, the mean task orientation tends to increase, as found in previous studies (Tredoux et al., 2024). There is little discernible difference between subsidised and unsubsidised ELPs in each fee-band, except for Q5: High where subsidised ELPs tend to have stronger task-oriented children.

Figure 2: Task Orientation, fee-band and subsidy receipt



Finally, figure 3 shows the distribution of fees charged by Priority Zone. Because the targeting of subsidies by Priority Zone was introduced in 2024, it is important to note that fees and Priority Zone are strongly correlated. This figure illustrated that targeting the subsidy towards areas in each Priority Zone has a significant chance of targeting the lowest fee ELPs, and also reduces the administrative barriers for these ELP practitioners to receive the subsidy. It is therefore critical to consider the targeting of subsidies to lower fee ELPs when interpreting the regression results.

Figure 3: Fees charged by Priority Zone



4.2 Regression analysis: the role of the subsidy receipt for access

The "odds" of an event occurring is defined as the probability of an event happening divided by the probability that the event does not happen. Therefore, an odds ratio is the odds of an event happening in one group divided by the odds of the event happening in another group. In these models, coefficients from the ordinal logistic regression models are interpreted as the effect of a control on the odds of an ELP being in a higher category of parental fee payment, conditional on the proportional odds assumption. The results from the ordinal regression analysis are shown in Table 4.

Table 4: Ordinal logistic regression of parental fee payment

	Baseline	Interaction model
Subsidised ELP	0.807 (0.140)	00.348* (0.174)
Fee band	1.696*** (0.105)	1.549*** (0.125)
Subsidy × Fee band		1.263* (0.149)
Num.Obs.	4480	4480

+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

Notes: Odds ratios reported. Survey-weighted ordinal logistic regression with standard errors clustered at ELP level and weighted by ELP weights.

The baseline model in Table 4 shows that receipt of the child subsidy has no effect on the odds of parents paying fees (the relationship between the two is not statistically significant). Holding the fee band constant, subsidised ELPs have lower odds (odds ratio less than 1) of being in higher categories of parental fee payment than unsubsidised ELPs (OR = 0.807).

Since this is not statistically significant, subsidy receipt alone is not associated with a statistically detectable change in fee-payment. However, ELP fee band is significantly related to the likelihood of parents paying fees: parents in higher ELP fee bands are more likely to pay the fees. This means that at higher fee-bands, ELP practitioners are significantly more likely to receive monthly payment from parents more than half of the time or all the time.

The interaction model in table 4 allows for a direct test of whether subsidy receipt is more strongly associated with the likelihood of monthly fee payment by parents in lower-fee ELPs relative to parents in higher-fee ELPs.

At the lowest fee band, which is the reference category for this analysis, subsidised ELPs have significantly lower odds (OR = 0.348, p < 0.05) of having parents pay fees most or all of the time compared to unsubsidised ELPs in the same fee-band (the lowest fee band). This indicates that, among low-fee ELPs, subsidy receipt is associated with markedly lower likelihood of monthly fee payment by all parents.

The statistically significant interaction term, which is above 1, indicates that the negative association between subsidy receipt and regular fee payment from parents weakens as fee bands increase, as would be expected. While subsidised ELPs in the lowest fee bands experience substantially lower parental fee payment, this gap narrows in higher fee bands. Therefore, this analysis indicates that in ELPs that receive the government subsidy, ELP principles are more likely to allow children to attend without parents paying fees each month, reducing the barrier to accessing early learning for the most vulnerable households. This is especially true for the ELPs in lowest-fee bands, which serve the most vulnerable children.

4.3 Regression analysis: the role of subsidy receipt for quality

The result from the OLS regression analysis is displayed in Table 5. The baseline model controls for subsidy receipt, as well as fee group, child characteristics, and programme quality measured by the LPQA observation. The coefficients on fee group and child characteristics (gender, age in months and task orientation) are all positive and statistically significant. This is consistent with the results of the SEM analysis in the 2024 Thrive by Five National Report (Giese et al, 2025). These coefficients remain the same throughout the regression analysis.

The coefficient on subsidy receipt implies that there is no statistically significant relationship between subsidy receipt and ELOM 4&5 outcomes in the baseline model, even after controlling for fee-band. However, this analysis is subject to high levels of endogeneity, with many related variables, such as a child's home SES, the ELP SES, child health, home learning environments, ELP process quality, and cognitive development outcomes all moving in the same direction. This insignificant result is common in these types of analyses. For the remaining models, the relationship between the timing of subsidy receipt, a child's household socioeconomic status and ELOM 4&5 outcomes are investigated.

In the second model, the timing of subsidy receipt is analysed. Here, instead of an indicator variable for subsidy receipt, an ordinal variable is introduced ("subsidy on time"). The reference category is children in ELPs that do not receive the subsidy. The ordinal variable is equal to 1 where the ELP received the subsidy, but it is not received on time, and the ordinal variable is equal to 2 if the subsidy is paid on time. There is no effect of on-time subsidy receipt in this model. The last two columns check the interaction between subsidy receipt and the child's household SES. Here a significant coefficient is seen on the interaction term between SES and subsidy receipt which is not on-time. This implies that, relative to the average SES of households, when subsidies are not paid on time, learning outcomes become more dependent on household SES status. This suggests that timely subsidy payments may reduce reliance on household resources and act as an equalising mechanism, whereas delays disproportionately disadvantage children from lower SES backgrounds.

Table 5: OLS estimates of subsidy effects on child ELOM 4&5 scores

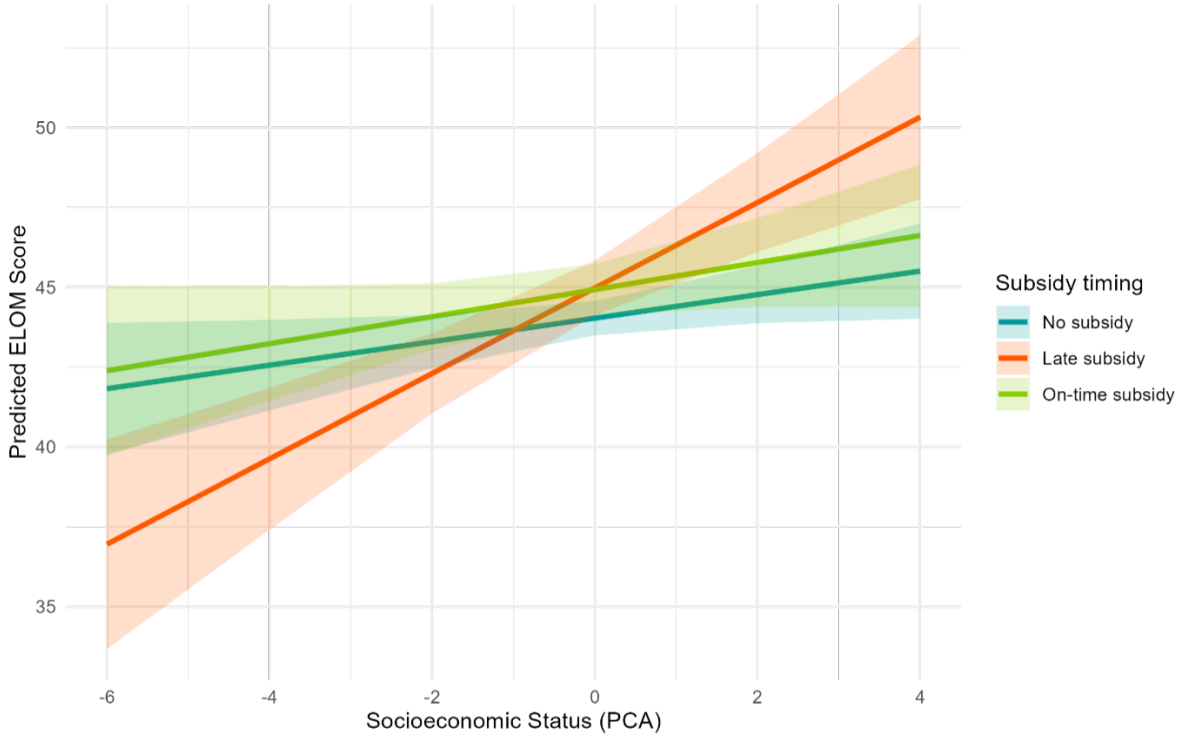
	OLS (Baseline)	Subsidy Timing	Subsidy × SES	Subsidy Timing × SES
Subsidy	0.697 (0.746)		0.935 (0.775)	
Subsidy not on time		1.172 (0.809)		0.945 (0.910)
Subsidy on time		0.823 (0.809)		0.895 (0.900)
Socioeconomic status (PCA)			0.361 (0.256)	0.368 (0.256)
Subsidy × SES			0.424 (0.356)	
Not on-time subsidy × SES				0.970* (0.417)
On-time subsidy × SES				0.055 (0.428)
Fee group	0.749*** (0.223)	0.951*** (0.201)	0.598* (0.249)	0.579* (0.249)
Child age (years)	1.137*** (0.102)	1.259*** (0.093)	1.289*** (0.106)	1.287*** (0.106)
Child sex (female = 1)	2.485*** (0.409)	2.786*** (0.368)	3.078*** (0.422)	3.072*** (0.422)
Task orientation	1.650*** (0.088)	1.658*** (0.082)	1.549*** (0.093)	1.536*** (0.093)
Learning programme quality	0.020 (0.440)	0.267 (0.398)	0.221 (0.432)	0.258 (0.432)
Constant	-35.256*** (5.538)	-43.749*** (5.158)	-42.834*** (5.911)	-42.613*** (5.900)
Num.Obs. R2	4943 0.249	4927 0.263	3769 0.254	3755 0.254
Std.Errors	OLS (Baseline)	Subsidy Timing	Subsidy x SES	Timing x SES

+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

Notes: Clustered standard errors at ECD site level in parentheses.

Figure 4 shows the predicted ELOM 4&5 Total scores across SES, separated by subsidy timing status (no subsidy, late subsidy, on-time subsidy). The lines represent model-predicted outcomes and shaded areas show confidence intervals. The predicted margins indicate that SES is positively associated with ELOM 4&5 scores across all groups, however, the SES gradient is substantially steeper among children attending sites experiencing delayed subsidy payments. This shows the impact of late subsidy payments in amplifying inequality in learning outcomes, whereas timely subsidy payments appear to attenuate SES-related disparities.

Figure 4: Predicted Margins of Model 4.



To address potential selection bias in subsidy receipt, the OLS estimates are complimented with a propensity score matching (PSM) model. This analysis did not find any significant association between subsidy receipt and ELOM 4&5 outcomes. It can be found in the appendix. Similar results are found in this table compared to the OLS regression results table, confirming that there is tentative evidence that late subsidy receipt amplifies the relationship between home SES and ELOM 4&5 outcomes.

5. Discussion and Conclusions

Findings from high-income contexts, such as the US, highlight that subsidies in themselves are not a panacea; their effect on psychomotor development is mediated by the degree to which they improve access to high-quality early learning environments (Herbst & Tekin, 2010). This evidence must be placed in the context of high home and community SES, however. A sub-study of the 2024 Thrive by Five presents a stark picture for children who do not attend an ELP: only 18% of non-enrolled children are on-track to be ready for formal schooling, stunting prevalence is higher among these children relative to enrolled children, and the majority of the home environments these children experience are not conducive to robust early learning (Pettersson Gelander et al., 2025).

While the sample is not nationally representative, the sub-study provides compelling evidence that access to early learning is critical, concluding that *"non-enrolled children are Falling Far Behind on learning and growth, growing up in poverty and food insecurity, and missing out on the protection that ELPs provide - meals, stimulation, and health checks."* (Giese et al., 2025).

Therefore, it is highly likely that access to early learning is protective and improves child outcomes on average, even in the poorest settings (Dawes et al., 2023). The evidence presented here shows that for ELPs in low fee bands (charging below ~R240 per month), an ELP principal is more likely to waive fees for parents who cannot pay, reducing the barrier to accessing early learning. Therefore, the government subsidy in the South African early learning sector plays a pertinent role in increasing access for the most vulnerable children.

While this may contradict evidence from high-income contexts, in a South African context, attending an early learning programme of any quality may work to promote healthier development. Therefore, a critical implication is that the ECD subsidy plays an important role in improving access to early learning in South Africa. As such, every effort should be made to enable low-fee and low SES ELPs access the subsidy on time. This is a critical lever for improving access to early learning, and is among the most pro-poor government initiatives.

The role of government subsidisation in improving ELP quality is less clear. Subsidisation appears to have a positive effect in the Q3 and Q4 fee bands, which is likely because these ELPs operate with budgets that exceed the minimum threshold required for quality provision, which in turn supports the additional complementary inputs required for improved learning outcomes. However, this highlights a broader point: meaningful improvement in the sector requires multiple elements to be strengthened simultaneously.

Alongside adequate funding, improvements in factors such as process quality, and task orientation are all critical and must be addressed in unison. The statistical relationship between subsidisation and ELOM 4&5 presented here is not straightforward or linear, and it is likely that more than increased finances alone are responsible for improved learning outcomes.

The experience of delayed subsidy payments adds an extra layer to the effect of subsidisation on learning outcomes: in ELPs that experience late subsidy payment, children with higher home SES have higher ELOM 4&5 results relative to children in the same ELP with lower home SES. While the lateness of the subsidy is unrelated to the quality of the ELP, it is understandable that unpredictable subsidy receipt may affect elements such as meal provision or staffing stability, which have knock-on effects on ELOM 4&5 results.

These results which analyse the role of the subsidy in improving quality suggest 1) that the subsidy may be too small to meaningfully influence the multiple factors required for quality improvement, especially when combined with low fee levels; 2) improvements in ELOM 4&5 outcomes depend on more than increased funding alone; and 3) subsidy receipt must be regular if it is expected to protect children from poor home environments.

The value of the subsidy was R17 in 2024 when this data sample was taken, and the increase in the subsidy value may change the measurable effect of subsidy receipt on child cognitive scores. This study should be replicated in future waves of Thrive by Five to assess if the tentative positive effect of government subsidisation is stronger with greater subsidy coverage and higher per child per day value.

This analysis reveals that the government subsidisation of ELPs in South Africa plays a role in both increasing access and improving quality in the early learning sector. For low-fee ELPs, subsidy receipt reduces barriers for children from the poorest homes to access early learning. For subsidised ELPs, the timing of subsidy receipt is important for improving quality.

The analysis also reveals an important consideration for public policymakers: while increasing the value of the subsidy may improve quality, there are many complimentary inputs that are required to realise improved learning outcomes which are beyond the subsidy alone. If increasing the value of the subsidy reduces the coverage that is possible, it implies that the improvements for the children who currently access early learning comes at the cost of access for the most vulnerable.

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Appendix: PSM Regression analysis

Propensity scores for children in subsidised and unsubsidised ELPs were estimated using a penalised logistic regression with an elastic net penalty. This approach is well suited to settings with correlated socio-economic covariates and has been shown to improve covariate balance and common support relative to standard logistic regression. In other words, because fee-group is correlated with subsidy receipt, the standard logistic regression PSM model was less appropriate, and an elastic net specification was used.

All PSM models used the ELP level survey weights in the matching step as well as the estimation step, as advised in Ridgeway et al. (2018). This accounts for complex survey design, making the results consistent with population-level representative estimates. Similar results are found in this table compared to the OLS regression results table, confirming that there is tentative evidence that subsidy receipt, even when late, can improve ELOM 4&5 results. This result should be further explored with data that has been collected after the increase in the subsidy value from R17 per child to R24 per child per day.

Table A1: Propensity Score Matching estimates of subsidy effects

	PSM: (Baseline)	PSM: Matching vars	PSM: Full controls	PSM:Full controls, interaction	Outcome: ZHFA	Outcome: Task orient
Subsidy recipient	0.444 (0.715)	0.969 (0.811)	0.292 (0.851)		0.009 (0.057)	0.369 (0.247)
Child age (months)		1.343*** (0.117)	1.191*** (0.116)	1.200*** (0.116)	-0.019* (0.009)	0.168*** (0.032)
Child sex (female = 1)		3.476*** (0.481)	2.808*** (0.483)	2.795*** (0.478)	-0.004 (0.048)	0.660*** (0.128)
Fee group 2		2.757* (1.375)	1.858 (1.385)	1.808 (1.326)	-0.099 (0.092)	0.218 (0.499)
Fee group 3		2.544* (1.061)	0.770 (1.200)	0.456 (1.170)	-0.211** (0.081)	0.515 (0.379)
Fee group 4		2.765* (1.166)	0.382 (1.377)	0.138 (1.345)	-0.192* (0.097)	0.855* (0.381)
Fee group 5		3.199** (1.133)	0.062 (1.337)	-0.038 (1.309)	-0.052 (0.095)	1.272*** (0.382)
Fee group 6		4.632** (1.700)	1.318 (2.154)	1.680 (2.166)	0.087 (0.140)	0.619 (0.526)
Fee group 7		20.665*** (3.076)	13.602*** (2.872)	13.944*** (3.087)	0.629* (0.276)	2.311* (1.128)

	PSM: (Baseline)	PSM: Matching vars	PSM: Full controls	PSM:Full controls, interaction	Outcome: ZHFA	Outcome: Task orient
Learning programme quality		0.563 (0.474)	0.358 (0.513)	-0.315 (0.509)		
Task orientation			1.571*** (0.103)	1.564*** (0.102)		
Socioeconomic status (PCA)			0.465* (0.211)	-0.066 (0.288)	0.054*** (0.016)	0.124* (0.058)
Height-for-age (z-score)			1.110*** (0.296)	1.117*** (0.292)		
Subsidy not on time				0.117 (0.974)		
Subsidy on time				0.974 (1.040)		
NotOn-time subsidy × SES				1.658*** (0.464)		
On-time subsidy × SES				0.4564*** (0.486)		
Constant	43.094*** (0.5160)	-36.119*** (6.590)	-34.163*** (6.328)	-34.549*** (6.312)	0.597 (0.509)	-2.814 (1.765)
Num.Obs.	4240	4240	3293	3279	3293	3293
R2	0.000	0.097	0.255	0.262	0.021	0.053
Std.Errors	PSM: Baseline	PSM: Matching vars	PSM: Full Controls	PSM: Full Controls interaction	Outcome: ZHFA	Outcome: Task orient

+ p < 0.1, * p < 0.05, ** p < 0.01, *** p < 0.001

Notes: All models estimated on propensity-score-matched samples. Nearest-neighbour matching (1:1) with elastic net propensity scores. Standard errors clustered at ECD site level in parentheses.

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