





Removing barriers to registration for early childhood development centres



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Background: Early childhood development (ECD) centres play a crucial role in children's well-being. Multifaceted obstacles hinder ECD centres registration. Overcoming these challenges demands a multisectoral approach to ensure quality education for all children.

Aim: This study provides an overview of the quality of ECD centres in South Africa, and then focusses on the specific obstacles ECD centres face in registering their centres with the Department of Social Development (DSD).

Setting: An ECD census was conducted in nine South African provinces.

Methods: This study analysed data from the South Africa ECD Census (2021). The sample size was 42 420; however, this study analysed data for 39 375 for centres who responded to whether they were registered with the DSD across all South Africa's nine provinces. Data were analysed using descriptive and inferential statistics.

Results: Only 16% of ECD centres were in the formal registration process, while 43% were not registered. Barriers included no bank account, a lack of separate classes, and insufficient staff. In multivariate analysis, the absence of a bank account strongly predicted registration barriers (RRR 4.21; CI 6.37–7.62, $p < 0.05$).

Conclusion: This study underscores the critical role of ECD centres in shaping the foundational aspects of children's lives. There is an urgent need to streamline the ECD registration process.

Contribution: The study finds 43% of childcare centres were unregistered, supporting the call for simplified registration to improve access to quality education and reduce educational disparities in South Africa.

Keywords: early childhood development; Department of Social Development; ECD registration; barriers to ECD registration; South Africa.

Introduction

Early childhood development (ECD) centres for children under-5 lay the foundation for children's health and well-being. Early childhood development refers to children's physical, cognitive, linguistic, social, and emotional development from birth to 8 years of age. It is considered a critical phase in a child's development because it sets the foundation for future learning, health, and well-being (Atmore, Van Niekerk & Ashley-Cooper 2012; Bekir 2020). During early childhood, children undergo significant growth and development in all areas, and their experiences can have a lasting impact on their lives (Chattopadhyay 2020). Access to high quality ECD services, including health, nutrition, education and social support can significantly improve a child's well-being outcomes and contribute to long-term social and economic benefits (Black et al. 2017; Van Huizen & Plantenga 2018).

Before the coronavirus disease 2019 (COVID-19) pandemic in 2020–2021, almost 2 million children were in attendance of ECD centres. By 2022, this figure decreased after the pandemic as nearly 1.6 million children attended ECD centres in South Africa (Wills & Kika-Mistry 2021). Among other challenges, South African children face multidimensional poverty. Most black African children suffer from multiple deprivations with water and sanitation, food, nutrition, security, health, protection, home-based and centre-based care (Stats SA 2020; UNICEF 2020). Early childhood development centres in South Africa provide care to children and relief to their caregivers (Karisa et al. 2022; Sello et al. 2023). In an integrative review of studies conducted in sub-Saharan Africa, Ayob and colleagues establish that ECD centres form part of the microsystem where children interact with their peers at school and in the neighbourhoods. The microsystem provides

stimulation, care and nutrition to improve their well-being outcomes (Ayob, Christopher & Naidoo 2021).

The state of ECD centres in South Africa is mixed. There has been significant progress in recent years, following the harsh consequences of the apartheid system. Apartheid enforced racial segregation by place of residence, imposed an inferior education system for black Africans and resulted in unequal opportunities among different races (Ashley-Cooper, Van Niekerk & Atmore 2019; Clark & Worger 2013). However, problems remain in the ECD sector. Among those problems is a lack of registration of ECD centres. In 2022, we saw a significant sign of progress with the recent migration of the ECD sector from the Department of Social Development (DSD) to the Department of Basic Education (DBE) (DBE 2021b). The government's primary motivation for this move was to integrate service delivery that would help ensure all children's equitable access to quality learning, and to give them equal opportunities. Such shifts are common, as can be seen in countries such as Namibia, where the ECD sector moved to the Ministry of Education, Arts and Culture (Republic of Namibia 2017). Nevertheless, South Africa still faces many challenges, such as inequality in service provision and high levels of poverty – and lack of access to quality ECD services, especially for children from disadvantaged communities (Aubrey 2017). A study conducted by Sello et al. (2023) found that more than half of the children aged between 0 and 5 years were cared for at home during the day. Some studies have attributed caregivers' unemployment and a lack of income to their children not attending an ECD (Maharaj & Dunn 2022; Yeleswarapu & Nallapu 2012). Many ECD centres in South Africa are under-resourced. They do not have the necessary facilities, equipment and trained staff to provide a high quality learning experience for young children (Aubrey 2017; Mbarathi, Mthembu & Diga 2016; Visser et al. 2021).

A lack of funding is another challenge ECD centres face; many centres struggle to keep going with their operations and buying educational materials for the children. This is particularly true for centres in low-income setting characterised by informal areas where there are shack dwellings, a lack of basic services, overcrowding and economic challenges. Urban townships and rural areas also face limited funding opportunities. According to Venter (2022), the Basic Education Budget Brief highlighted a lack of funding opportunities, which have promoted interventions from relatives or unregistered non-governmental organisations (NGOs) in providing childcare services to children under-5 in low-income communities. Notably, these services exhibit discernible disparities concerning the allocation of resources, nutritional provisions, and the scope of ECD programmes when juxtaposed with the care accessible to children in affluent communities. Among children of school going age (6–18 years) in South Africa, the School Fee Exemption Policy (SFEP) exempts children from disadvantaged backgrounds from paying fees. There is also provision for

meals such as breakfast and lunch in the low quintal schools provided by the National School Nutrition Programme (NSNP) (Ahmed & Sayed 2009; Hall & Monson 2006). In South Africa, the ECD sector is treated as a private entity because often creches are privately owned (Aubrey 2017). Only registered ECD centres can access the R17-a-day nutrition grant per child for children who are recipients of the child support grant (Kazim & Ally 2023; Wills & Kika Mistry 2023). Overcoming challenges to quality access of ECD centres requires a multisectoral approach and has multiple benefits. It has been demonstrated that investments in ECD have substantial returns for society and children, families, and others (Karisa et al. 2022; Visser et al. 2021). Providing children with the assistance and resources they need early, fosters the development of stronger, more equitable communities. This in turn reduces social and economic inequality, ultimately contributing to sustainable development (Black et al. 2017).

The United Nations' Sustainable Development Goal (SDG) 4, target 4.2 seeks to ensure that all girls and boys around the world have access to inclusive, equitable, quality care and ECD by 2030 (UNESCO 2019). In South Africa, there have been progressive policies to improve the ECD sector. This includes the National Integrated Early Childhood Development Policy implemented in 2015, which identifies the need to provide an extensive, widely accessible and fair ECD system, and the Children's Amendment Bill (2019), which strives to increase the standard of ECD services and tighten regulation of ECD providers (Gazette 2019; Republic of South Africa 2015). These policies form part of the country's commitments to the attainment of SDG 4. Challenges exist in regulating the ECD sector because of it being treated as a private entity by the government (Aubrey 2017; SmartStart 2020). For example, ECD centres come in different forms such as daycare centres, home-based care, pre-schools, and day mothers in informal settings. As a result, the government is unable to hold ECD centres to the same standards as formal schools (Ilifa labantwana 2021; Moussié 2021). Furthermore, ensuring the quality of care and education that children receive is a persistent challenge. This means the country has variations in the quality of childcare and education (Ashley-Cooper et al. 2019). Early Childhood Development centre registration is vital because centres can adhere to safety regulations, undergo inspection to meet quality standards, may be eligible for government support or funding, which can assist with meeting children's nutritional requirements and acquiring educational materials. Unfortunately, some challenges in ECD registration still prevail in South Africa's context. Over a decade ago, a study found difficulties in funding, infrastructure, nutrition, ECD programmes and ECD teacher training to be prominent in South Africa of which some have unfortunately not been resolved even in the present day (Aina & Bipath 2022; Atmore et al. 2012; Visser et al. 2021). In addition, Metelerkamp (2022) and Nganga (2022), argue that challenges faced by ECD centres in today's context, which also serve as barriers to ECD registration include: (1) Deficiencies in building design,

spatial arrangements, safety features, sanitation facilities, and overall infrastructure; (2) A lack of funding. Many ECD centres rely on budget constraint for their daily operations. This mainly comes from school fees or donations, (3) limited knowledge about the registration requirements and processes, and (4) the registration documents are often technical, posing a potential barrier to comprehension for the people on the ground. While there is still a long way to go, the government and other stakeholders are focussing on increasing young children's access to quality services. The government's National Development Plan (NDP) sets a target of ensuring that all children have access to quality ECD services by 2030.

While studies have acknowledged the barriers to ECD services, civil society, NGOs, and the government must work together to address these barriers to support ECD centres in registering and providing services to children (Metelerkamp 2022; Nganga 2022). Unregistered centres are unable to gain from significant benefits such as: (1) funding eligibility, which could help cover operational costs or improve quality of services received, (2) legality, which confirms the centres legitimacy and adherence to regulations, and (3) support and guidance, whereby unregistered centres cannot access training and resources offered by the DSD (Ashley-Cooper et al. 2019; Baloyi & Makhubele 2018; Brooks et al. 2022; Kika Mistry & Wills 2023; Matjokana 2023). This impacts young children's access to quality care and education and negatively impacts their well-being outcomes such as nutrition, psychosocial well-being, and educational attainment (Ashley-Cooper et al. 2019; Thorogood et al. 2020). This article aims to address the barriers to ECD registration. Overall, overcoming the challenges ECD centres face in the registration process is essential for fostering children's development, preserving families and communities, and social and economic advancement of South Africa. This article presents the state of ECD centres in South Africa and shows the barriers preventing ECD centres from being registered.

Research methods and design

This article analyses the cross-sectional data from the 2021 ECD Census in South Africa during which the DBE collected data on all registered and unregistered ECD programmes nationwide. The aim of the census was to get a clear picture of the ECD sector's status nationally. The census surveyed a total of 42 420 ECD centres, representing 1 660 316 enrolled children and 198 361 employed ECD practitioners, of which many of them are volunteers or unpaid staff. However, this study analysed data for 39 375 ECD centres registered with the DSD. Research instruments were developed by the organisation Ikapadata, the Lego Foundation, and the DBE. The 2021 ECD census follows previous ECD audits conducted in 2000 and 2013. The DBE did the ECD audit in 2000 in which 30 101 ECD centres were identified by the National Consortium (Williams & Samuels 2001). However, during the survey, data for only 23 482 ECD sites could be analysed, with the 7845 ECD centres regarded as duplicates, non-

existent or closed, resulting in the sample being lowered (Williams & Samuels 2001). In 2013, the DSD conducted a second national ECD audit, where 19 971 ECD centres were audited; however, only data for 17 846 could be analysed (DSD 2014). While there is a significant difference in the number of ECD centres audited in the year 2000 and 2021 (12 319 increase), it is unknown whether there has been a growth in the availability of ECD centres. It is important to observe the difference between audit (which is a more in-depth examination of a pre-defined criteria) versus survey (which is broader and might aim to gather information on a wider range of topics) as this could account for the comprehensiveness of the data collection.

Sample design

The ECD census was drawn from government-delineated wards, which are specific geographic areas within a larger politically administrative geographic area, such as a municipality or district (South Africa 1996). Wards were chosen over geographical units like census areas because they are more familiar to the public and have designated officials, like ward councillors, responsible for them. These ward councillors are voted for and expected to serve the public's best interests; councillors also serve as government stakeholders. Fieldworkers had the responsibility of identifying ECD centres in each ward. The centres were classified as 'known' or 'unknown' programmes. The known programmes were initially identified through analysis of the Vangasali dataset. The primary objective of the Vangasali dataset was to systematically gather information on established ECD centres, standardise the ECD registration process, and conducting a comprehensive registration initiative for unregistered ECD centres (DBE 2022). A total of 341 field workers conducted face-to-face interviews using a structured questionnaire with ECD practitioners.

The sample for this study was limited to the 39 375 ECD centres that responded to a question on whether they were registered with the DSD or not. At that time, the DSD was responsible for managing the registration of all ECD centres in South Africa.

Variable management

The outcome variable of this study was ECD registration. If the ECD centre was registered with the DSD, it was coded as: 1; if it was in the process of registering, it was coded as 2. Centres that were not registered were coded 3. The selected explanatory variables for the study included the ECD profile and variables that could impact its registration status. The operational definitions for the selected variables are presented in Table 1 and Box 1.

Statistical analysis

Stata version 17 was used to analyse the unit population of 39 913 ECD centres, with a 5% margin error and a 95% confidence level (StataCorp 2021). Data were analysed at

TABLE 1: List of variables used for modelling early childhood development centres' registration with the Department of Social Development in South Africa.

Variables	Operational definition
Opening time	The time that the ECD centre is open to admit learners: 4:00–05:45, 6:00–6:45, 7:00–07:45; 08:00 +
Hours Opened	The number of hours the ECD centre is in operation: 4–6 h, 7 h, 8+ h
Opens during holidays	No or Yes
Offers aftercare	No or Yes
Charges fees	No or Yes
ECD attendance without fees	Children can attend without paying fees: No or Yes
Staff count	The number of staff working at the ECD centre: 1 to 2 staff, 3 to 4 staff, 5 to 7 staff, 8+ staff
Children count	The number of children attending the ECD centre: 1–20 children, 21–40 children, 41+

ECD, early childhood development.

BOX 1: Variables on early childhood development centre registration.

Facility ownership	Ownership of building ECD is operating in: Owned by the ECD centre, school or religious institution, community centre, municipality, privately owned, other
Land ownership	Ownership of land of where ECD is located: ECD centre, school and/or religious institution, community centre, municipality/government institution, privately owned, communal land
Funding	Primary funding source of ECD services: Donations or other, government subsidy, fees
Bank account ownership	No, yes
Separate kitchen	No meals prepared, kitchen available, no kitchen
Separate classes	Does the ECD centre offer separate classes for children in different age groups: No Yes, grouped by age but same space Yes, grouped by age and divided into different rooms
Available indoor space	No or yes
Outdoor play area	No or yes
Access to water	Tap water outside the building Tap water in the building Communal tap off-site Borehole and/or rainwater tank Other
Gate	No or Yes
Fence	No or Yes
Staff had first aid training	No or Yes
Security measures	No or Yes

ECD, early childhood development.

univariate, bivariate, and multivariate levels. At a univariate level, descriptive statistics of frequency tables are shown (see Table 2 and Table 3). At the bivariate level, the results of the chi-square test of association are given to show the strength of the association between the outcome variables and the independent variables. At a multivariate level, the multinomial logistic regression was conducted. The independent variables were selected based on the DSD's criteria for ECD centre registration. The criteria include a clearance certificate from the local municipality to operate the centre in a specific space, compliance with structural and health requirements, a safe environment for children, sufficient space and ventilation, safe drinking water, hygiene and adequate sanitation, safe storage, a separate kitchen for food preparation, separation of children of different groups, and safe disposal of refuse. Based on the results from the

chi-square test, variables with a strong association with the outcome variable and variables with a strong correlation were assessed using the variance inflation factor (VIF). This statistical test measures the extent of multicollinearity, a situation where two or more independent variables are strongly correlated and may reduce the reliability of statistical inferences. Variables with a VIF above four indicated the possibility of multicollinearity and were not included in the final model. In the multivariate model, two models were fitted. The first model had a univariate multinomial logistic regression. In the second model, we conducted a multivariate multinomial logistic regression, including the outcome variable and the selected independent variables. We present results in odds ratios (OR).

Ethical considerations

This study involved only secondary analysis of the ECD Census dataset. Prior to data collection, the fieldworkers administered a written informed consent form to the ECD principals and ensured that they fully understood the study before participating. No ethical clearance was required for the ECD Census as it falls under the purview of the South African Government collecting routine data on early learning programmes, as they do with schools.

Results

Descriptive statistics

Figure 1 shows the distribution of the outcome of ECD registration. In South Africa, 43% of the ECD centres were not registered, followed by 41% registered centres, and only 16% were in process of registration.

The ECD centres' demographic information is reported in Table 2. Of the ECD centres enrolled in the ECD census, 48.79% opened between 07:00 and 07:45 and open for 7 h during weekdays. Nearly half of the centres were opened during public holidays (52.47%), and the majority charged fees (93.70%). However, some centres allowed children in need to attend without paying school fees (61.86%). Most ECD centres (37.02%) had a staff of 3 to 4 people and served 1 to 25 children (47.89%).

Barriers to early childhood development registration

The results in Table 3 indicate that over half (56.23%) of ECD centres' land and facilities were privately owned. Almost 70% relied on school fees for funding; just over a quarter (25.23%) had no bank account and nearly 20% did not have enough indoor space or outdoor play areas. Almost 40% of staff did not have training in first aid.

The results obtained from the chi-square test of independence provide valuable insights into the characteristics of unregistered ECD centres. A significant majority of these centres (73.98%) operate during the early morning hours, specifically between 04:00 and 05:45. In addition, 42.70% of them extend their operational hours to nine or more. Furthermore, 48.10%

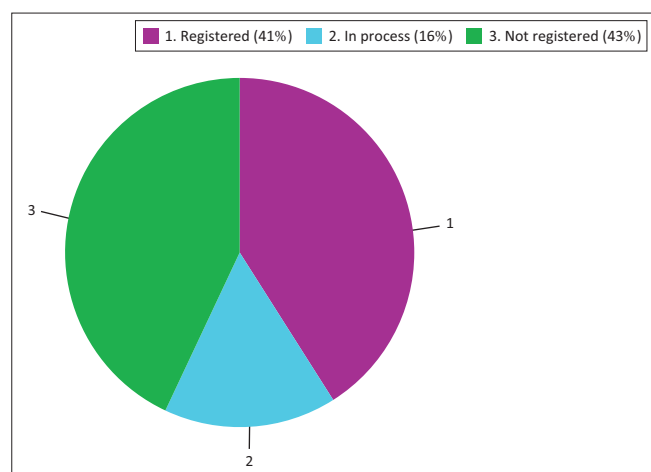


FIGURE 1: Early childhood development centre registration with the Department of Social Development, early childhood development census (2021).

TABLE 2: Characteristics of early childhood development centres, early childhood development census (2021).

Characteristics	N	%
Opening time		
04:00–05:45	1134	2.84
06:00–06:45	12 707	31.84
07:00–07:45	19 473	48.79
08:00+	6599	16.53
Hours opened		
4–6 h	13 841	34.68
7 h	19 473	48.79
8+ h	6599	16.53
Open during school holidays		
No	18 955	47.53
Yes	20 928	52.47
Offers aftercare		
No	30 438	76.28
Yes	9463	23.72
Charged fees		
No	2 513	6.30
Yes	37 395	93.70
Attendance without fees		
No	14 188	38.14
Yes	23 009	61.86
Staff count		
1–2	9890	24.75
3–4	14 792	37.02
5–6	10 085	25.24
8+	5192	12.99
Children count		
1–25	18 930	47.89
26–50	12 988	32.86
51+	7607	19.25

choose to open exclusively during school holidays. Notably, more than half of these centres (50.79%) offer aftercare services to school-going children, and a substantial portion (56.20%) operates without charging any fees. About 41.73% of unregistered centres allow children to attend without paying fees, indicating statistical significance in these relationships.

The study also uncovers a significant association between staff size and unregistered status, with a $p < 0.005$. Specifically, almost 70% of centres with one to two staff

TABLE 3: Characteristics of early childhood development centre registration, early childhood development census (2021).

Variables	N	%
Facility ownership		
ECD centre	5934	14.96
School and/or religious institution	3761	9.48
Community centre	4893	12.34
Municipality	2089	5.27
Privately owned	22 296	56.23
Other entities	681	1.72
Land ownership		
ECD centre	4724	11.92
School and/or religious institution	3675	9.27
Community centre	4358	10.99
Municipality	3290	8.30
Privately owned	20 781	52.43
Other	2811	7.09
Funding		
Donations or other	1564	3.93
Government subsidy	10 648	26.78
School fees	27 547	69.28
Bank account ownership		
No	10 007	25.23
Yes	29 663	74.77
Separate kitchen		
No meal preparation	2941	7.36
Separate kitchen available	34 024	85.19
No kitchen	2975	7.45
Separate classes		
No, all children learning in one class	4854	12.17
Yes, grouped by age but same class	10 160	25.47
Yes, grouped by age divided in different rooms	24 876	62.36
Indoor space		
No	6851	17.17
Yes	33 040	82.83
Outdoor play area		
No	7591	18.99
Yes	32 388	81.01
Access to water		
Tap water outside the building	7390	18.47
Tap water in the building	22 193	55.46
Communal tap off-site	2928	7.32
Borehole and/or rainwater tank	5736	14.33
Other	1770	4.42
Gate		
No	4522	11.31
Yes	35 465	88.69
Fence		
No	2431	6.08
Yes	37 577	93.92
Staff had first aid training		
No	15 469	39.02
Yes	24 178	60.98
Entrance to ECD centre		
No one checking	13 974	34.81
Someone checking	26 169	65.19

ECD, early childhood development.

members and nearly 60% catering to 1–25 children are likely to be unregistered. Furthermore, a considerable number of unregistered centres (75%) do not have a bank account. Unregistered status is prevalent among centres (60%) that group all children in a single classroom. In terms of

TABLE 4: Coefficient, standard errors, relative risk ratio estimates, and *p*-values of the multinomial regression model (comparison for centres in the process of registration versus registered centres), early childhood development census (2021).

Comparison for the registration status with the DSD				
Variable or level of variable	Coefficient (β)	Standard error	Relative risk ratio	<i>P</i>
Opening time				
04:00–05:45 (RC ^a)	-	-	-	-
06:00–06:45	-0.088	0.144	0.916	0.541
07:00–07:45	-0.556	0.144	0.574	0.000
08:00+	-0.429	0.156	0.651	0.006
Opens during school holidays				
No (RC)	-	-	-	-
Yes	0.320	0.045	1.377	0.000
Offers aftercare				
No (RC)	-	-	-	-
Yes	0.480	0.044	1.616	0.000
ECD attendance without fees				
No (RC)	-	-	-	-
Yes	0.226	0.040	1.253	0.000
Staff count				
8+ (RC)	-	-	-	-
1–2	0.644	0.089	1.904	0.000
3–4	0.393	0.069	1.482	0.000
5–7	-0.097	0.063	0.908	0.124
Children count				
51+ (RC)	-	-	-	-
1–25	0.686	0.066	1.985	0.000
26–50	0.342	0.059	1.408	0.000
Facility ownership				
Other (RC)	-	-	-	-
ECD centre	-0.348	0.136	0.706	0.011
School and/or religious institution	0.387	0.140	1.473	0.006
Community centre	-1.183	0.143	0.306	0.000
Municipality and/or government	-0.115	0.150	0.891	0.441
Privately owned	0.140	0.128	1.151	0.271
Funding				
Donations or other (RC)	-	-	-	-
Government subsidy	-2.634	0.126	0.072	0.000
Fees	0.309	0.106	1.362	0.004
Bank account ownership				
Yes (RC)	-	-	-	-
No	0.977	0.057	2.657	0.000
Staff first aid training				
Yes (RC)	-	-	-	-
No	-0.281	0.046	0.755	0.000
Separate kitchen				
No meal preparation (RC)	-	-	-	-
Separate kitchen available	-0.555	0.080	0.574	0.000
No kitchen	-0.163	0.104	0.849	0.115
Separate classes				
Yes, grouped by age divided in different rooms (RC)	-	-	-	-
No, all children learning in one class	0.003	0.081	1.003	0.972
Yes, grouped by age but same class	-0.224	0.051	0.800	0.000
Indoor space				
Yes (RC)	-	-	-	-
No	0.077	0.057	1.080	0.179
Outdoor play area				
Yes (RC)	-	-	-	-
No	0.337	0.058	1.401	0.000
Fence				
Yes (RC)	-	-	-	-
No	0.290	0.099	1.336	0.003
Access security measures				
Someone checking (RC)	-	-	-	-
No one checking	-0.234	0.046	0.791	0.000

Note: This Table demonstrate the categorical comparison for ECD centres that are registered compared to those engaged in the registration process. RC, reference category (or comparison category); ECD, early childhood development; DSD, Department of Social Development.

TABLE 5: Coefficient, standard errors, relative risk ratio estimates, and *p*-values of the multinomial regression model (comparison for unregistered versus registered centres) early childhood development census (2021).

Variable or level of variable	Comparison to the DSD registration status			
	Coefficient	Standard error	Relative risk ratio	<i>P</i>
Opening time				
04:00–05:45 (RC)	-	-	-	-
06:00–6:45	-0.691	0.125	0.501	0.001
07:00– 07:45	-1.208	0.125	0.299	0.001
08:00+	-1.163	0.135	0.312	0.001
Open during school holidays				
No (RC)	-	-	-	-
Yes	0.345	0.040	1.413	0.001
Offers aftercare				
No (RC)	-	-	-	-
Yes	0.349	0.041	1.418	0.001
ECD attendance without fees				
No (RC)	-	-	-	-
Yes	0.110	0.035	1.116	0.002
Staff count				
8+ (RC)	-	-	-	-
1–2	1.543	0.080	4.678	0.001
3–4	0.929	0.064	2.533	0.001
5–7	0.179	0.058	1.196	0.002
Children count				
51+ (RC)	-	-	-	-
1–25	0.464	0.057	1.590	0.001
26–50	0.128	0.052	1.136	0.013
Facility ownership				
Other (RC)	-	-	-	-
ECD centre	-0.013	0.133	0.987	0.921
School and/or religious institution	0.809	0.137	2.246	0.001
Community centre	-0.600	0.135	0.549	0.001
Municipality and/or government owned	0.258	0.145	1.295	0.074
Privately owned	0.623	0.127	1.865	0.001
Funding				
Donations or other (RC)	-	-	-	-
Government subsidy	-2.102	0.110	0.122	0.001
School fees	0.705	0.100	2.023	0.001
Bank account ownership				
Yes (RC)	-	-	-	-
No	1.438	0.051	4.212	0.001
Staff first aid training				
Yes (RC)	-	-	-	-
No	0.122	0.039	1.130	0.002
Separate kitchen				
No meal preparation (RC)	-	-	-	-
Separate kitchen available	-0.343	0.073	0.709	0.001
No kitchen	-0.061	0.094	0.940	0.516
Separate classes				
Yes, grouped by age and divided into different rooms (RC)	-	-	-	-
No, all children learning in one class	0.353	0.069	1.423	0.001
Yes, grouped by age but same class	-0.241	0.045	0.786	0.001
Indoor space				
Yes (RC)	-	-	-	-
No	0.201	0.049	1.223	0.001
Outdoor play area				
Yes (RC)	-	-	-	-
No	0.553	0.051	1.738	0.001
Fence				
Yes (RC)	-	-	-	-
No	0.241	0.087	1.272	0.006
Access security measures				
Someone checking (RC)	-	-	-	-
No one checking	-0.122	0.039	0.885	0.002

Note: This Table demonstrate the categorical comparison for ECD centres who are registered compared to those not registered. RC, reference category (or comparison category); ECD, early childhood development; DSD, Department of Social Development.

infrastructure, just over 50% of unregistered ECD centres lack sufficient indoor space, and over 65% lack adequate outdoor space. Security concerns are highlighted, as nearly half of unregistered centres do not monitor entrances, resulting in an absence of checks on individuals entering and leaving the facility.

Comparison of categories between early childhood development centres in process of registration with Department of Social Development versus early childhood development centres engaged in registration process (Comparison 1)

Table 4 compares in process of registration and registered ECD centers:

- *Open during holidays:* The variable 'open during school holidays' was significant among factors associated with ECD registration. Centres in the registration process have a 37.7% higher likelihood of opening during school holidays compared to registered centres.
- *Offers aftercare:* The 'offers aftercare' variable was significant among factors of ECD registration. Centres in the registration process are 61.6% more likely to offer aftercare compared with registered centres.
- *ECD centre attendance without fees:* The 'attendance without fees' variable was significant among factors contributing to being unregistered. Centres in the registration process have a 25.3% higher chance of allowing attendance without fees compared to registered centres.
- *Staff count:* Centres in the registration process are more likely to have 1–2 staff (90.4% higher likelihood) or 3–4 staff (48.2% higher likelihood) compared to centres with 8 or more staff (reference category)
- *Children count:* Centres in the registration process are more likely to have 1–25 children (98.5% higher likelihood) or 26–50 children (40.8% higher likelihood) compared to centres with 51 or more children (reference category).
- *Funding:* The funding status was significant to centres being in the registration process. We found that 36% of centres in the registration process comparing to registered centres had a higher likelihood of relying on school fees than those who received donations or government subsidy.
- *Bank account:* Centres in registration process had a 2.66 times higher likelihood of not owning a bank account compared to registered centres.
- *Outdoor space:* ECD's in registration process have a 40% higher likelihood of not having enough outdoor space compared to registered centres.

Categorical comparison for unregistered versus registered early childhood development centres (Comparison 2)

Table 5 compares unregistered and registered ECD centers:

- *Open during school holidays:* The variable 'open during school holidays' was significant among factors associated with ECD registration. The probability of the centres being

opened during school holidays was 41% higher among unregistered centres compared to the registered centres.

- *Offers aftercare:* The 'offers aftercare' variable was significant among factors of ECD registration. Centres offering aftercare services are significantly more likely to be unregistered, with the relative risk of 41.8% compared with those who do not offer aftercare. This relationship is statistically significant.
- *ECD attendance without fees:* The 'attendance without fees' variable was significant among factors contributing to being unregistered. Centres allowing children to attend without fees are significantly more likely to be unregistered compared to centres that do allow children who have not paid fees.
- *Staff count:* The relative risk of having between one and two staff members is 4.68 times higher for unregistered centres, compared to centres with eight or more staff who are registered.
- *Children count:* The relative risk of having between one and 25 children is 59% times higher for unregistered centres, compared to registered centres having 51 or more children.
- *Funding:* The variable 'funding' was significant among factors associated with ECD registration. Centres relying on school fees are significantly more likely to be unregistered compared to those relying on donations or other forms of income. We found that there is more than a twofold increase in the likelihood of being unregistered for centres relying on school fees compared to registered centres.
- *Bank account:* The variable 'bank account' was significant among factors associated with ECD registration. There was a fourfold increase in the likelihood of being unregistered for centres without a bank account compared to those with a bank account.
- *Outdoor space:* The study found a significant association between access to outdoor space and ECD registration. Centres lacking outdoor space were 73.8% more likely to be unregistered compared to those with an outdoor play area.

Discussion

This study aimed to assess the state of ECD centres and specifically focusses on the barriers to formal ECD registration with the DSD in South Africa. Our findings show the prevalence of unregistered centres was 43% and 16% of the centres that were in the process of registration. Studies have argued that implications of unregistered ECD centres could affect children's safety, quality of education and children's nutritional outcomes (Aina & Bipath 2022; Chikwanda, Bayat & Madyibi 2022; Ndengo & Richard 2022). The Child Act of 2005 (Act No.38 of 2005), states that all childcare centres need to be registered. This act further states that operating an ECD centre with seven or more children without registration was illegal and a punishable offence by law (Republic of South Africa 2005). Given the child act, our findings demonstrate that there are potential barriers to ECD registration.

Understanding the state and barriers to ECD registration, particularly from ECD practitioners' perspective, is essential in designing appropriate ECD programmes (Ashley-Cooper et al. 2019; Venter 2022).

The objective of the United Nations' SDG target 4.2 is to ensure that all children have access to quality and affordable ECD and care by 2030 (UNESCO 2019). But research has highlighted growing disparities in such access in many sub-Saharan African countries, including South Africa (Atmore et al. 2012; Tekin 2019). For example, our results indicate that 38.14% of ECD centres do not allow children to attend without paying fees. The implication of this finding is that children's development may be delayed. A study in Malawi found low enrolment rates in ECD centres to be associated with parent's inability to pay fees and provide food for their children (Semu et al. 2022). Furthermore, a study by Sello et al. (2023) argued that children in ECD centres present with better nutritional outcomes compared to the children cared for at home during the day. While studies have focussed on the importance of children attending ECD centres and highlighting the barriers faced by parents in sending their children to ECD centres, the findings of this study highlight the challenges that ECD centres face in formal registration, which ultimately affects childcare provision. For example, our finding shows that more than half of the unregistered ECD centres rely on the school fees paid by parents for their operations. In their study, Aina and Bipath (2022), ascertain that among the challenges that ECD owners face is financial management, with many dealing with a lack of timely payments or no payments at all from parents. Our findings show that 75.40% of unregistered ECD centres lacked a bank account. In South Africa, the bank account ownership is among the pre-requisites for ECD registration. A plausible explanation to the challenge of ECD registration is given, highlighting that many community-based centres in South Africa lack financial management, in the form of basic administrative documents such as the cash receipt books or petty cash books (Aina 2023). Our findings show that the majority of ECD centres lack funding. Studies have shown that a lack of funding can affect children's quality of care, nutrition, the ratio of staff to the children (Biersteker et al. 2016; Nampijja et al. 2023). In our study, the relative risk of having between one and two staff members for unregistered centres was 4.68 times higher compared to registered centres.

In other sub-Saharan African countries, challenges to ECD registration have been well documented. The mushrooming of registered and unregistered ECD centres in Zimbabwe has been observed because of the Ministry of Education's inability to cater for all children (Ndengo & Richard 2022). In Zambia, the ECD registration process is lengthy, with municipalities facing backlogs in approving applications for registration (Ndengo & Richard 2022). In Kenya, a study found inadequate infrastructure and a lack of basic amenities to be a barrier in ECD registration (Oloo et al. 2023). In South

Africa, few studies have employed statistics to establish the barriers to ECD registration (DBE 2021a; Stats SA 2018). Our results show that half of the unregistered ECD centres were privately owned. In South Africa, unregistered centres in low-income settings cannot qualify for the nutrition grant subsidy of R17-a-day per child (Sello et al. 2023). The inability to access the nutrition grant is a huge disadvantage in low-income settings, where ECD centres are already struggling financially, with parents who are not able to afford paying fees.

The infrastructural challenges found in some ECD centres in this study were no kitchen, children of different ages in the same class, insufficient indoor space, no outdoor space, no gate or fence. This study findings on the barriers to ECD registration are not surprising given that a previous study in South Africa found the registration process to be strenuous (Atmore et al. 2012). This included consulting multiple departments to get various permissions, such as obtaining the land use certificate, submitting building plans, obtaining a certificate of food preparation acceptability, acquiring the fire and safety certificate, obtaining the health clearance based on the number of children in relation to the number of toilets, indoor and outdoor space (Mbarathi et al. 2016). A similar study in Kenya provides a plausible explanation to the barriers to ECD registration, which found inappropriate infrastructure to be a safety hazard thus prohibited clearance certificates to be granted to the ECD centres (Oloo et al. 2023). Similarly, another study in South Africa found ECD centres in informal settlements or low-income areas to face the most challenges in obtaining the land use and the health clearance certificates (Baloyi & Makhubele 2018). This is because these areas do not adhere to the norms and standards as outlined in section 79 of the Children's Act, which stipulates providing a safe environment with space and ventilation (Republic of South Africa 2005). The structural situation such as limited indoor or outdoor space and a lack of separation of children by age groups by classes makes it difficult for centres to obtain the health certificate. In addition, the health clearance cannot be issued unless the ECD centre is in possession of the original title deed. Unfortunately, in South Africa, the DSD does not provide financial assistance in renovating the structure or issue the title deed (Atmore et al. 2012). A South African study by Peacock (2022) argues that local municipalities have a constitutional obligation to ensure safe physical environments for all children. This, according to the study, translates to a responsibility to provide and build childcare facilities. However, the study also highlights the inexperience of local governments in managing childcare and suggests these functions might be better placed under the DSD. Finally, it emphasises the need for financial resources to be allocated to municipalities if they are to take on this childcare responsibility (Peacock 2022). In addition, the study's findings indicate that 39.02% of staff did not have training in medical aid, making it a health hazard should emergencies occur.

Despite the above-mentioned structural challenges serving as barriers to ECD registration, the study findings show that unregistered ECD centres go beyond the call of duty to provide services. This includes early operating times, opening during school holidays, offering aftercare services to children of school going age and allowing children to attend without paying fees. These findings support the literature which suggests that ECD centres provide continuity of care, support, and relief to working caregivers. This is important for peer interaction and socialisation among children and their overall well-being (Black et al. 2017; WHO 2018).

Limitations of the study

The limitation of this study was that data were collected cross sectionally and provided a snapshot of ECD centres' barriers to registration. Although previous ECD censuses have been collected in South Africa, the data cannot be comparable to the 2021 ECD census, given the differences in the variables collected and the sample size. Furthermore, we could not ascertain whether the ECD centres enrolled in 2021 had previously been registered. The lack of longitudinal data means we cannot assess the state of ECD centres and barriers to ECD registration over a more extended period.

Conclusion and recommendations

In conclusion, the study observed that among the highest barriers to ECD registration is not having a bank account, inadequate number of staff, staff's lack of first aid training, and insufficient indoor or outdoor space.

Considering the benefits of ECD registration in improving quality childhood education and childcare, this study underscores that the country needs improved and efficient processes for ECD registration and the process to be less daunting. To improve ECD registration, the South African government and ECD practitioners need to form a community of practice, which will include ECD practitioners and government officials responsible for various departments responsible for issuing clearance certificates to foster collaborations to effectively address obstacles to ECD registration while still ensuring quality of centres. The following changes are required:

- The registration process needs to be accessible and understandable to people for whom English is an additional language.
- Government officials from relevant departments should be available to offer support through training and information sessions on how to register an ECD centre.
- Early Childhood Development centres in low-income settings require financial support, and funding streams and budgets should be allocated nationally by parliament in the same way as schools, where budgets are allocated.

- Unregistered ECD centres should be regulated by the Social Development department, and flexibility applied in acknowledging their unique circumstances. This includes checking where the centres are located, the size, and available resources.
- Continuous policy reforms are necessary to ensure the ECD sector's alignment with changing demands.

Adopting these changes would potentially go a long way in strengthening the ECD sector. Unregistered centres play a crucial role in providing essential services, underscoring the need to address financial, infrastructural, and regulatory barriers for the effective implementation of ECD programmes and the achievement of UN SDG 4.2. Overcoming the challenges to ECD registration requires a multisectoral approach aimed at delivering multiple benefits, including high quality education and child care, which all young children have a right to.

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Authors' contributions

M.V.S. contributed on the conceptualisation, methodology, formal analysis, investigation, writing of the original draft, visualisation, project administration, software, validation, data curation, resources, writing, review and editing as well as funding acquisition. N.D.W.B. contributed to conceptualisation, investigation and supervision. K.M. contributed to the conceptualisation, resources and writing–review and editing. L.M. contributed to the conceptualisation, methodology, writing, review and editing.

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Data availability

The dataset is made available to the public via DataFirst at the University of Cape Town.

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