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Unequal Schools, Unequal Retention:

Patterns of Educator Mobility in South Africa

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Unequal Schools, Unequal Retention: Patterns of Educator Mobility in South Africa

Eldridge Moses

Abstract

This paper examines the extent, direction and correlates of educator school switching in South Africa's unequal education system. It uses anonymised Personnel and Salary System (PERSAL) administrative records for the period 2012–2021, linked to school characteristics and ward-level measures of affluence. Approximately 4 per cent of educators switched schools annually. Approximately half of all switches occurred between schools in the same quintile, and more than 95 per cent of switches were lateral rather than promotional. Switching schools is most likely among educators aged 30–39, with declining probabilities as educators age. Black African and Coloured educators were more likely to switch than White educators, whereas women were less likely to move than men. Educators in secondary and combined schools, quintile 5 schools and the most affluent wards exhibited lower switching probabilities. The presence of a principal or deputy principal and receipt of an above-average remuneration increase were associated with lower mobility, while formal qualification levels were not statistically significant predictors of school switching. The findings suggest that educator retention is shaped by leadership, remuneration and socioeconomic context, with implications for staffing stability and educational inequality.

1. Introduction

The persistently unequal distribution of education quality across South African schools provides a compelling reason for studying educator mobility across schools. Approximately 80 per cent of South African learners attend under-resourced schools located predominantly in historically Black townships and rural areas (Mlachila and Moeletsi, 2019). These schools are frequently characterised by high learner–educator ratios, inadequately qualified educators, educator absenteeism, shortages of textbooks, deteriorating infrastructure, and high levels of household poverty (Carrim, 2007; Spaull, 2019). Collectively, these conditions contribute to elevated rates of grade repetition and school dropout (Spaull, 2013; Van der Berg *et al.*, 2019).

In contrast, learners from more affluent households generally attend private schools or comparatively well-functioning public schools, many of which are former White schools, where educational resources and outcomes are closer to those observed in developed countries. These learners are more likely to come from English- or Afrikaans-speaking

households with more highly educated parents, have access to their own textbooks, receive homework regularly, experience lower levels of educator absenteeism, and repeat grades less frequently (Spaull, 2013). These persistent disparities in educational inputs and outcomes reinforce South Africa's "bimodal education system" (Mlachila and Moeletsi, 2019; Van der Berg, 2015). In this system, inequalities in both the quantity and quality of education constrain intergenerational mobility by limiting access to favourable labour-market opportunities (Moses *et al.*, 2017; Sulla and Zikhali, 2018).

International evidence suggests that the most disadvantaged schools face difficulties in attracting educators, as well as the highest rates of educator turnover and attrition (Ingersoll, 2001; Boyd *et al.*, 2011; Ronfeldt, Loeb and Wyckoff, 2013; Wills, 2016). Educator turnover is also costly to schools since educators who leave may also take with them their specific institutional and environmental knowledge. A compelling case can therefore be made for research into the retention of educators, and particularly educator mobility. Educators are likely not distributed randomly across schools, and their movements could disrupt curriculum delivery continuity, weaken relationships between colleagues and negatively affect institutional memory and community relationships (Hanushek, Rivking and Schiman, 2016; Sorensen and Ladd, 2020). While the impact of educators leaving schools depend on the quality of teachers leaving and the teachers replacing them, studies find a pattern of high turnover in poorer schools and reduced student achievement as measured by test scores (Ronfeldt *et al.*, 2013; Henry and Redding, 2018).

It is important, however, to distinguish between two forms of educator mobility. Attrition, or macro mobility, occurs when an educator leaves the profession or public education system entirely. School switching, or micro mobility, occurs when an educator remains within the system but moves from one school to another. This distinction has important distributional implications. A country may have an adequate aggregate supply of educators while simultaneously experiencing acute staffing shortages, skill mismatches or leadership gaps in particular schools, subjects and geographical areas. School switching therefore represents more than individual occupational movement: it reallocates educational capacity across schools and communities.

This paper provides a national account of educator school switching using anonymised Personnel and Salary System (PERSAL) records covering 2012–2021. These administrative records are linked to school characteristics and ward-level measures of relative affluence to examine the extent, direction and correlates of educator mobility. The descriptive analysis considers movements across school quintiles, occupational ranks and geographical boundaries. Logistic regression models then assess whether educator,

school and surrounding-area characteristics are associated with the probability of switching schools in the following year in a multivariate context.

These exploratory findings suggest that educator retention is shaped by the interaction of individual characteristics, institutional stability, remuneration and the socioeconomic environments in which schools operate. Understanding school switching is therefore essential to determining whether educator mobility reproduces or alleviates inequalities within South Africa's education system.

The remainder of this paper proceeds as follows. Section 2 describes the PERSAL administrative records and the school- and ward-level data used in the analysis, as well as the construction of the school-switching measure. Section 3 situates educator mobility within the South African context and presents national patterns in educator age, qualifications and school switching. Section 4 examines potential incentives for switching, including occupational advancement, remuneration, school leadership, administrative support and surrounding socioeconomic conditions. Section 5 estimates the associations between educator, school and geographical characteristics and the probability of switching schools. Section 6 discusses the principal findings, their policy implications and the limitations of the analysis. Section 7 concludes and identifies priorities for further research.

2. Data

The primary data set used to examine the factors associated with school switching is comprised of anonymised Personnel and Salary System (PERSAL) records covering the period 2012 to 2021. Obtained from the Department of Basic Education (DBE), these administrative data contain information on staff demographic characteristics, as well as educator qualifications and the school where the educator is placed in a particular year. The PERSAL data used in this study was generally collated from data from November of each year.

The PERSAL 2012 to 2021 data are merged with the Masterlist 2022 Quarter 2 (Department of Basic Education, 2025) data using each school's unique Education Management Information System (EMIS) number. The provincial Masterlist 2022 Quarter 2 data were combined to produce an additional national-level dataset on schools, which included their GIS coordinates and school quintile information. This year was chosen firstly because of the challenges related to missing GIS and ward information for earlier and later Masterlist years, and secondly because of the temporal proximity to the last year of the PERSAL data. The Masterlist 2022 GIS data is used to locate schools within wards, which allows for

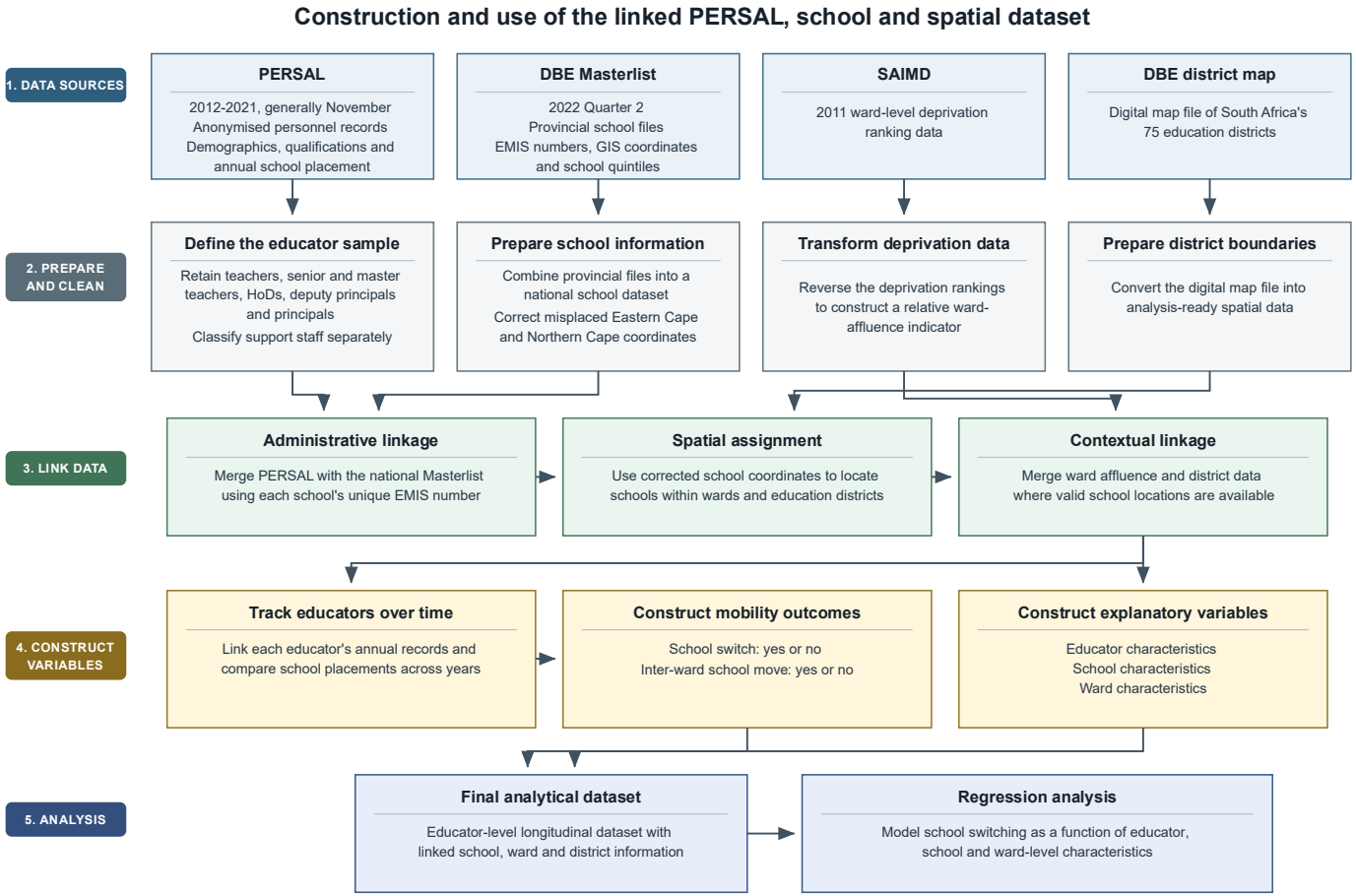
analysis of inter-ward school mobility as well. However, there were some challenges that prevented convenient analysis using this data. In the initial analysis process, it was discovered that most of the Eastern Cape and Northern Cape schools had latitude and longitude values in the wrong places. This has been rectified for the purposes of this paper.

Where locational data of each school are available, the data are then merged with the South African Index of Multiple Deprivation (SAIMD) 2011 ward-level deprivation ranking data[1] (Noble *et al.*, 2013). The deprivation data (described in more detail in Section 4.6) are converted into relative affluence indicators to determine whether area-specific factors external to the school are associated with school switching. A digital map file of the 75 South African education districts (provided by the DBE) is used to map various factors associated with school switching.

In this paper educators are all individuals with the job title of teacher (including senior and master teachers), department heads, deputy principals and principals. Support staff are defined as all individuals who work alongside teachers. For this paper, school switchers are identified as those educators whose school's EMIS[2] numbers differed between a given year and the year immediately preceding it. Stayers are defined as those educators who remain at the same school between a given year and the year immediately preceding it. Factors associated with switching schools are presented in Section 4. In Section 5 the decision to switch schools or not is modeled as a function of educator, school and ward-level characteristics. The flow chart in Figure 1 summarises the management of data and methods used to analyse the data.

[1] The ward-level South African Index of Multiple Deprivation (SAIMD) 2011 data was graciously provided by the Southern African Social Policy Research Institute.
[2] Each school is assigned a unique EMIS (Education Information Management System) number.

Figure 1: Construction and use of the merged PERSAL, school and spatial data sets



Note: DBE = Department of Basic Education; EMIS = Education Management Information System; HoD = head of department; PERSAL = Personnel and Salary System; SAIMD = South African Index of Multiple Deprivation.

Source: Constructed using a combination of PERSAL data (DBE, 2024) and Masterlist 2022 data (DBE, 2025).

3. Teacher School switching in the South African context

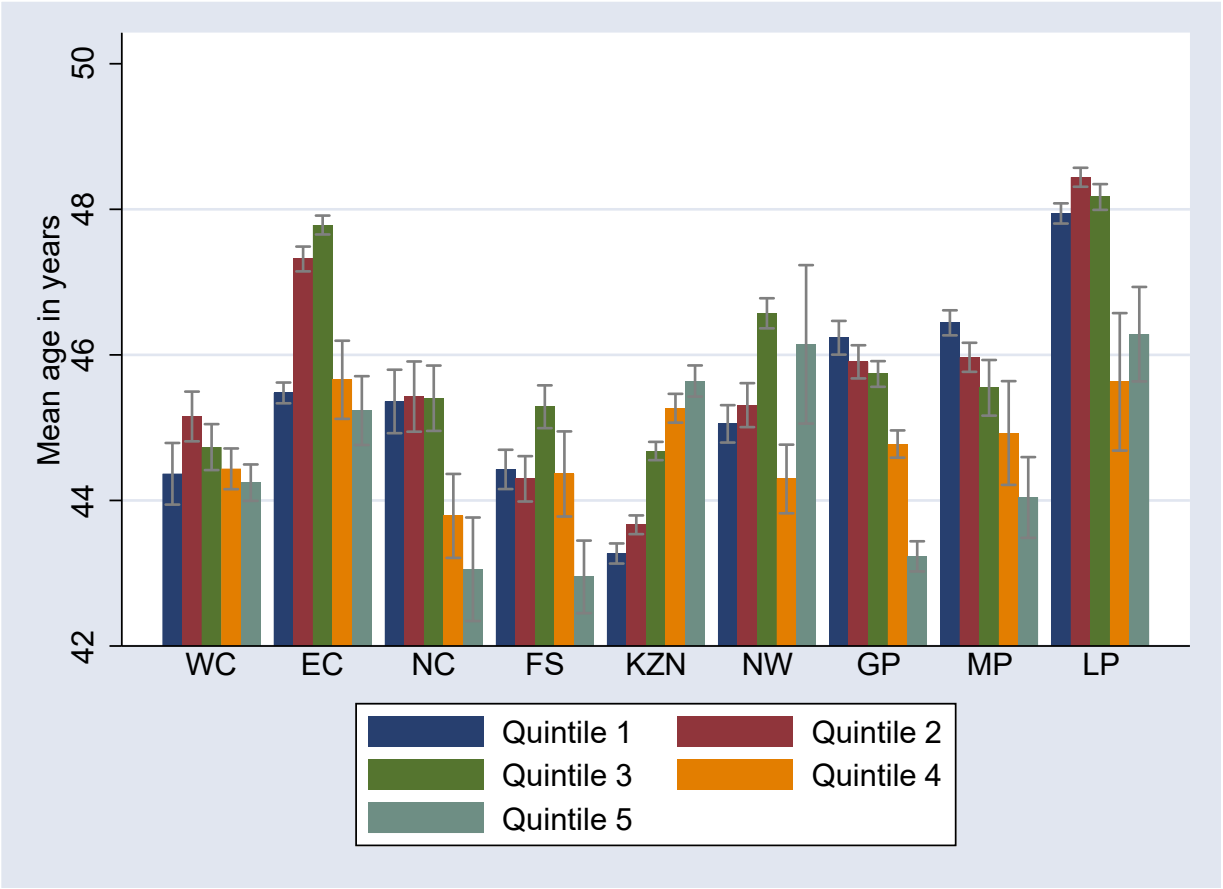
The study of teacher school switching is particularly relevant in the South African context because mobility interacts with age and the distribution of educational resources that may exacerbate or alleviate pre-existing inequalities in education quality. Approximately half of South Africa's public-school teachers are 50 years or older, raising concerns about recruitment and retention (Van der Berg *et al.*, 2024). School switching, combined with high rates of attrition for younger teachers, impacts whether schools in rural and urban disadvantaged areas with relatively older teacher populations retain younger, more educated teachers, or whether those teachers instead migrate to more affluent schools in urban areas once they have gained some experience.

The difficulties in attracting and retaining younger educators in less affluent provinces are somewhat evident when considering the age distributions of South Africa's educators by province and school quintile[3] (as shown in Figure 2). In 2019[4] there were striking differences between the average ages of the teaching staff by school quintile and province. In the Western Cape the average age of teaching staff in years is between 44 and 45 for all quintiles, while in the Eastern Cape the average age of teaching staff is approximately 48 years in quintiles 1 to 3, and approximately 46 years in quintiles 4 and 5. KwaZulu-Natal's teaching population is relatively young in the lower quintiles, with average age increasing in the higher quintiles. In contrast, the Northern Cape's lower three quintiles have older educators on average than quintiles 4 and 5.

[3] The Department of Basic Education assigns schools to quintiles, which are based primarily on the surrounding community's socio-economic status. Schools are ranked from the poorest 20% (Quintile 1) to most affluent 20% (Quintile 5), with quintile classification determining state funding allocated to the school. Schools in poorer quintiles receive more funding per learner than less poor schools do.

[4] The 2019 year is chosen as 2020 COVID mortality may have affected age distributions.

Figure 2: Mean ages of teaching staff, by province and quintile (2019)



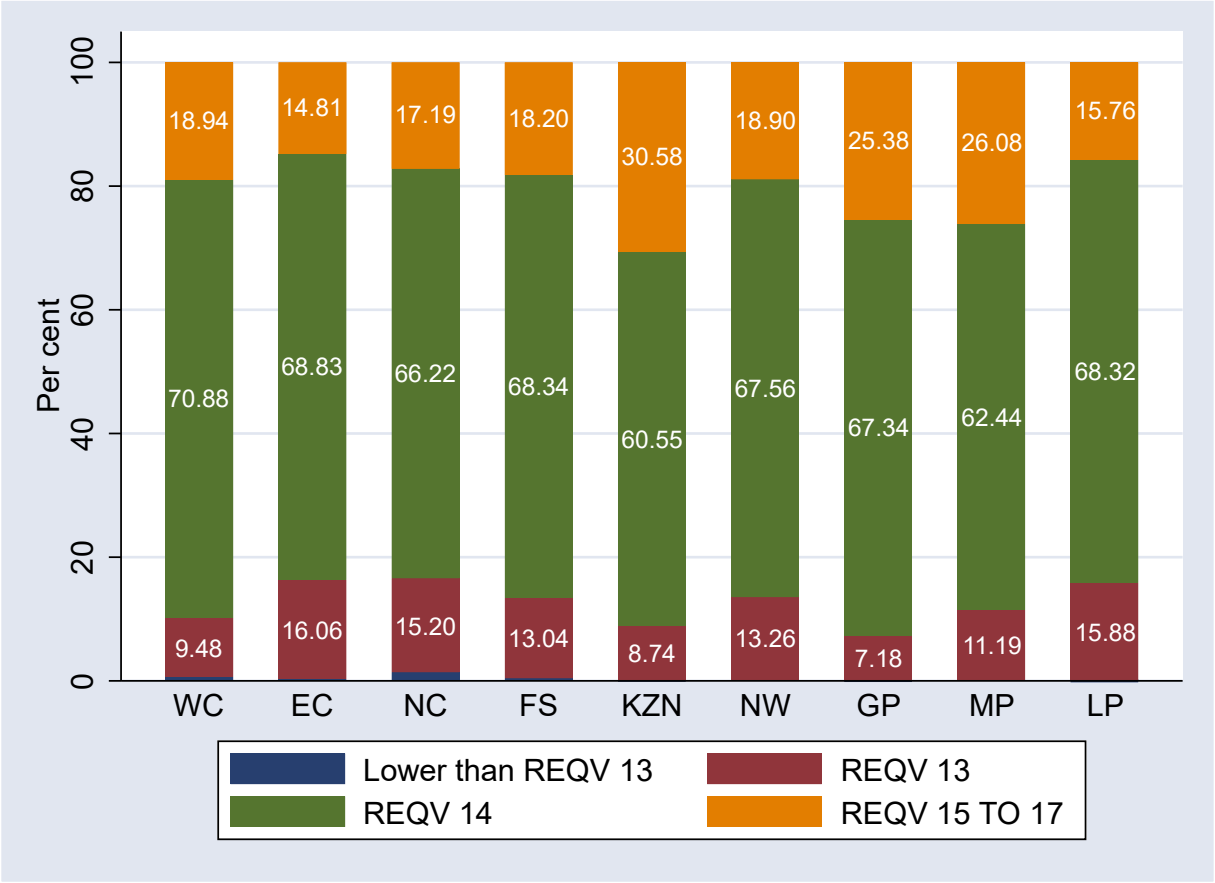
Source: Constructed using PERSAL data (DBE, 2024) and Masterlist 2022 data (DBE, 2025).

The educational profiles of movers compared to stayers are also of some consequence, if teacher qualifications is indicative of educator quality. While formal qualifications do not provide a complete measure of effectiveness in the classroom, they are the only indicator of educator quality in the PERSAL data. The Relative Education Qualification Value (REQV) is a value assigned to educators based on their qualification type and number of years of study. REQV 13 is equivalent to three years of tertiary education (such as a three-year undergraduate degree or diploma), which includes training as an educator. REQV 14 is equivalent to a 4-year Bachelor of Education degree or a three-year degree plus a one-year Postgraduate Certificate in Education (PGCE). A higher REQV is generally rewarded with a higher salary. REQV 14 is generally the minimum standard of education expected of newly trained educators, although there are still educators in the system with REQV 13 or below (the historical minimum qualification to be a qualified teacher, although under

apartheid teachers were allowed to teach with lower qualifications). [5]Because the REQV data was only available for 2021, it is assumed that the REQV value remains the same across all years. Any analysis including this variable is therefore limit to the sample of individuals who were present in the PERSAL data in 2021.

Figure 3 shows the qualifications of educators across provinces. The percentages of educators with REQV levels of 14 and higher are highest in Gauteng, KwaZulu-Natal and the Western Cape, and lowest in the Eastern Cape, Limpopo and the Northern Cape.

Figure 3: Educator qualifications, by province (2019)



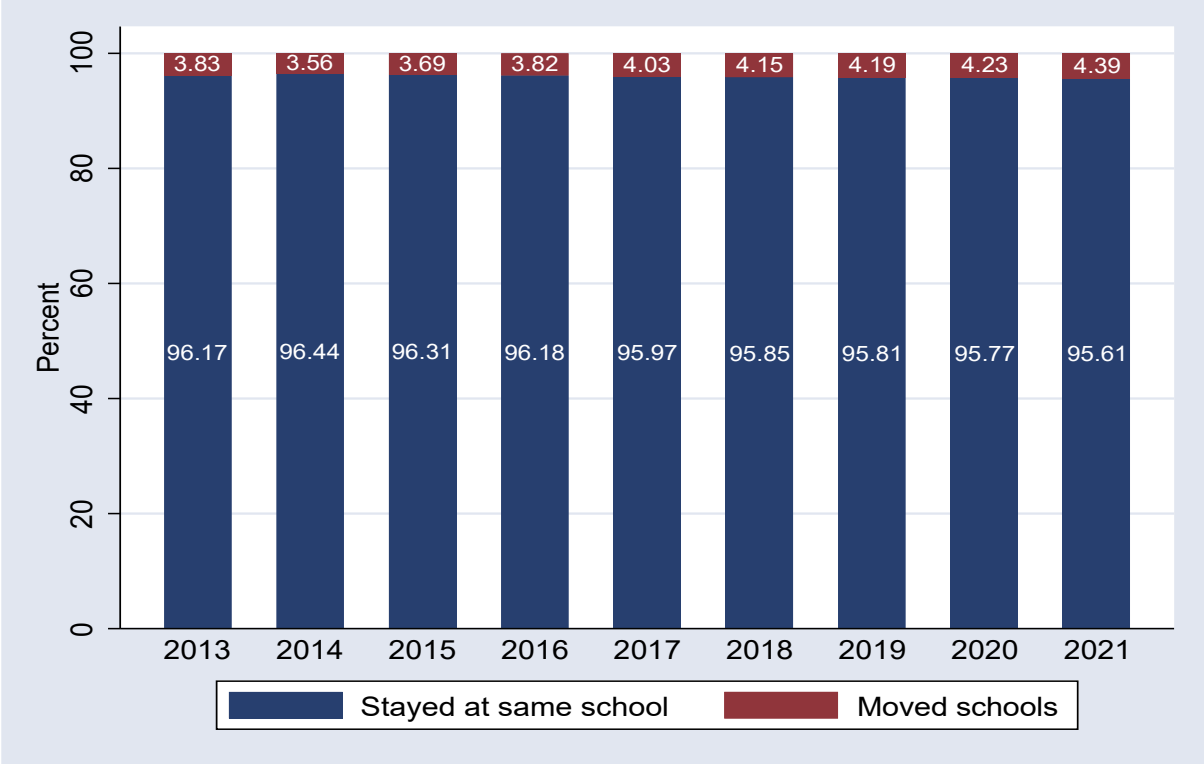
Source: Constructed using PERSAL data (DBE, 2024).

Figure 4 shows, for the period 2013[6] to 2021, the percentage of teaching staff who switched schools (measured annually) ranged from 3.56% to 4.39%. While the percentages

[6] 2012 is not included as it is the base year in this data set.

seem modest, this equates to anything between 11 484 and 14 426 school switches annually.

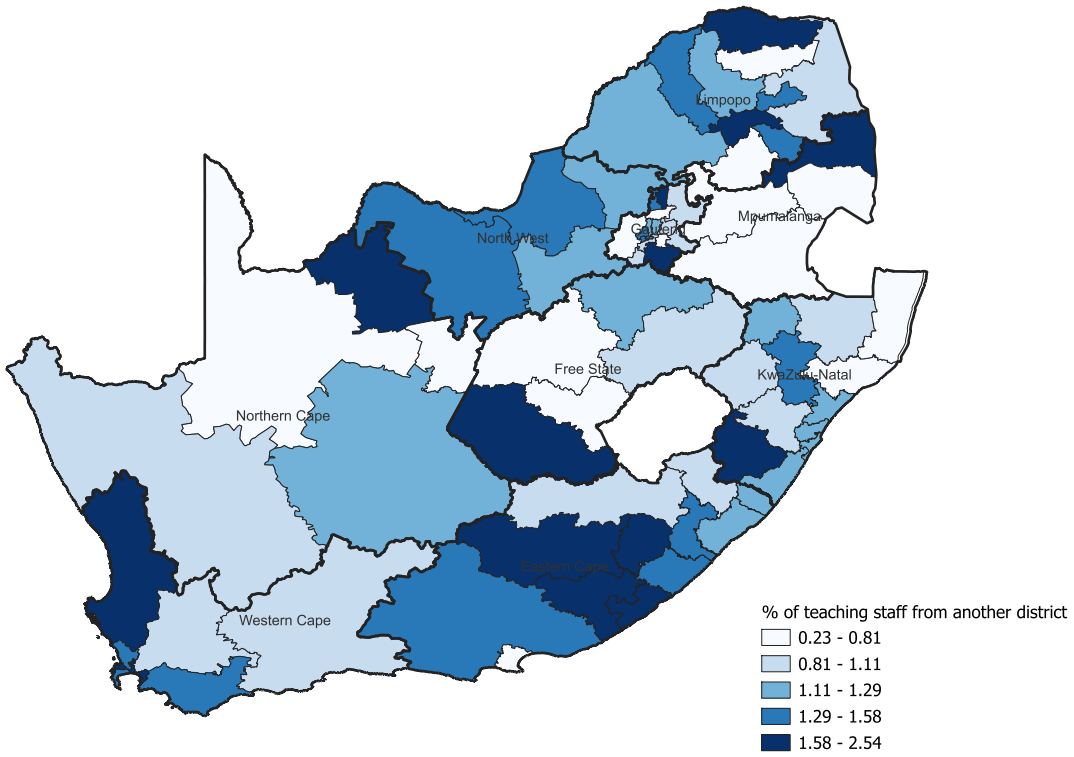
Figure 4: Inter-school mobility for educators, 2013 to 2021



Source: Constructed using PERSAL data (DBE, 2024).

Figure 5 shows the percentage of educators who had moved from another district between a given year and the year immediately preceding it. Based on the percentage of educators who are recent inter-district migrants, districts within Mpumalanga, the Free State and KwaZulu-Natal are amongst the least attractive destinations (least likely to attract new migrants) for inter-district movers. In contrast, large parts of the Eastern Cape and the Western Cape's West Coast region have larger percentages of their teaching staff who were from other districts the year before.

Figure 5: Mean percentage of teaching staff who moved from another district in previous year (2013 to 2021)



Source: Constructed using a combination of PERSAL data (DBE, 2024) and Masterlist 2022 data (DBE, 2025).

4. Factors associated with school switching

The analysis in Section 3 shows that the annual school switching rates for educators hover around the 4% level between 2013 and 2021. While school switching could have negative consequences for certain schools, it may have positive consequences for teachers who may move to get promoted, have better job security, or have access to better career development opportunities.

Where wages are relatively rigid across the school system, non-pecuniary factors may also influence educators' decision to switch schools (Falch and Strøm, 2005). Non-pecuniary factors identified in the international literature include the proportion of minority students in mostly-white countries, administrative support, leadership and career progression possibilities (Sims, 2019; Nguyen *et al.*, 2021). While most educators in the TALIS 2024 country report cite good professional relationships with their respective school principals,

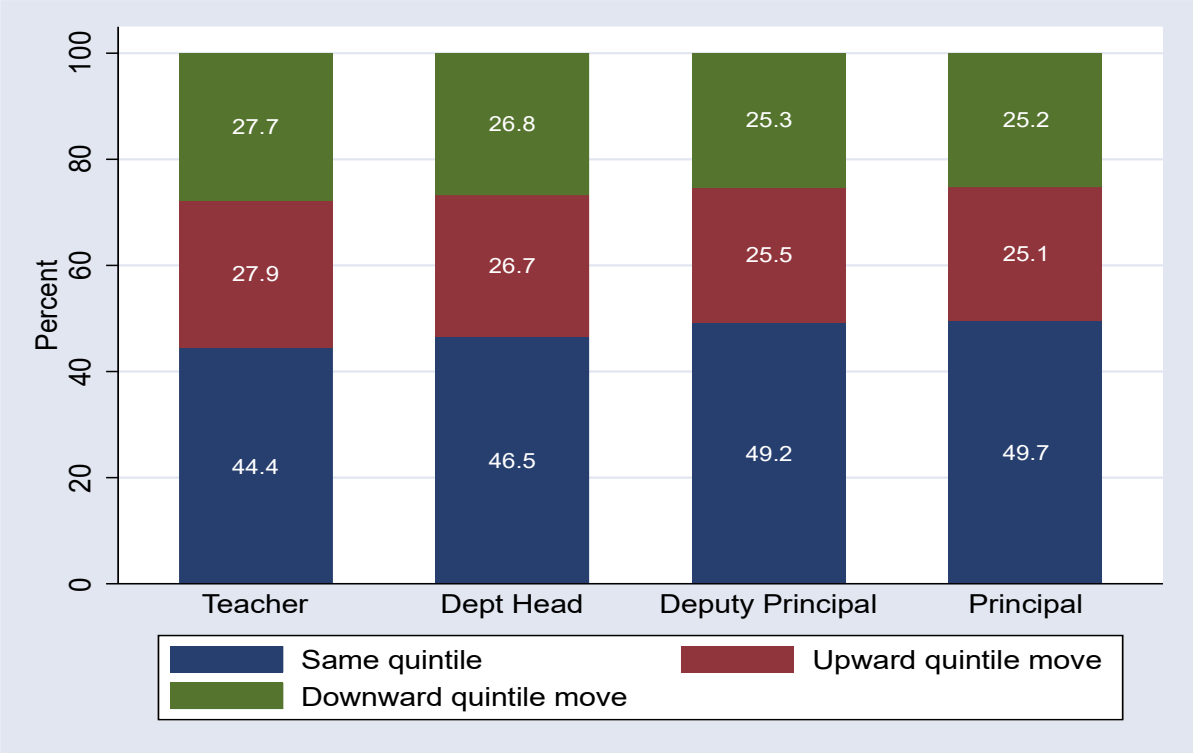
approximately 60% of them report significant levels of work-related stress. Administrative workloads and the burden of being responsible for student performance are among the chief contributors to work-related stress, which could contribute to educator mobility.

Given the uneven distributions of educator age and qualifications across provinces and school quintiles discussed in Section 3, Section 4 discusses the factors observable in the available data that could plausibly incentivise school switching. A summary table is presented in the Appendix in Table A1.

4.1 School quintile and rank mobility

Educators may be motivated to switch schools to improve working conditions (Johnson *et al.*, 2012). Working conditions in South African schools are likely associated with the assigned school quintile, thus we may expect to see switches to higher quintile schools This is investigated in Figure 6. Interestingly, the PERSAL data provides limited evidence to support this hypothesis. Just less than half of all switches between 2013 and 2021 to schools of the same quintile as that of the previous school. Approximately a quarter of all school moves were to lower-quintile schools and another quarter of moves were to schools that had a higher quintile than the previous school had. As Figure 6 shows, these quintile mobility patterns were relatively similar across all positions from 2013 to 2021.

Figure 6: Quintile mobility for all school switches, 2013 to 2021



Source: Constructed using a combination of PERSAL data (DBE, 2024) and Masterlist 2022 data

Table 1 shows the move-position-change combination possibilities by year between 2013 and 2021. "Switch and Promotion", for example, refers to educators who switched schools between one year and the next, and were appointed to a higher rank in their new school. At the opposite end of the mobility spectrum "Stay and Lateral" refers to educators who stayed at the same school and retained their rank. Promotions are defined as having a more senior position than the year before. Demotions are defined as having a lower-ranked position than the one held in the previous year. Because the data is collected once per year (generally in November), the change in rank could have occurred upon moving or any time after, but within the first year of moving.

The results in Table 1 show that most educators do not switch schools, nor change positions annually. When educators do switch schools, the move is almost always lateral (in more than 93% of cases across years). Stayers are more likely to be promoted than switchers, possibly due to schools having more productivity information about stayers than new arrivals. From an educator perspective, switching schools may therefore be responsive to factors other than promotions that are not directly observable in the data, such as school working conditions or partner location considerations.

Table 1: Move type, by year (percentages 2013 to 2021)

	2013	2014	2015	2016	2017	2018	2019	2020	2021	Total
1. Switch and Promotion	0.11	0.09	0.12	0.12	0.18	0.19	0.13	0.09	0.11	0.13
2. Switch and Demotion	0.01	0.03	0.06	0.06	0.05	0.04	0.03	0.02	0.01	0.03
3. Switch and Lateral	3.69	3.43	3.49	3.62	3.79	3.91	4.01	4.11	4.26	3.82
4. Stay and Promotion	1.58	1.42	2.05	1.95	2.72	2.7	1.87	1.12	1.53	1.88
5. Stay and Demotion	0.17	0.18	0.35	0.36	0.24	0.18	0.16	0.12	0.09	0.21
6. Stay and Lateral	94.44	94.85	93.93	93.88	93.02	92.98	93.8	94.54	93.99	93.94
	100	100	100	100	100	100	100	100	100	100

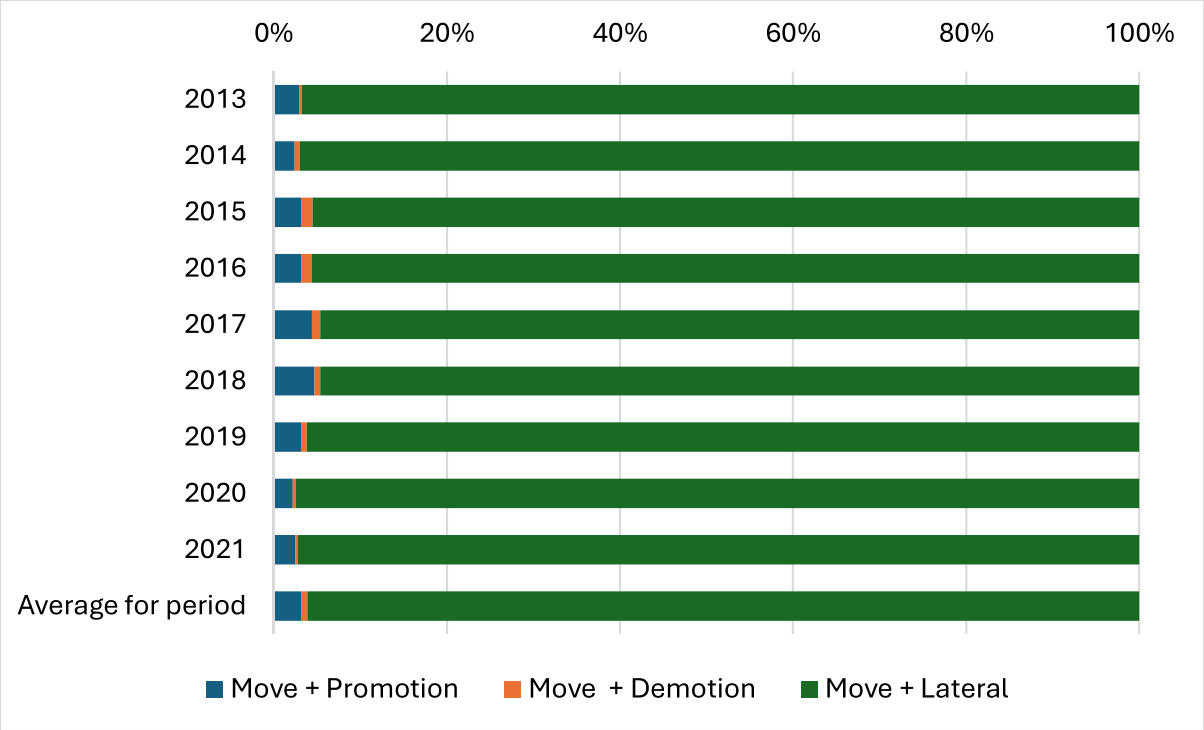
Source: Author's own calculations using PERSAL data (DBE, 2024).

Figure 8 reveals that amongst *switchers only*[7], the vast majority of moves were not motivated by (or resulted in) a promotion. On average for the period, more than 95% of moves were lateral, compared with 3.18% involving promotion and 0.69% involving

[7] Approximately 116 100 switches were observable between 2013 and 2021 (3.98% of total educator sample).

movement to a lower-ranked position. Some years were characterised by a higher proportion of promotions for movers (2015 and 2016) than others, when moving to a lower-ranked position was more likely (2017 and 2018, for example).

Figure 7: Position changes for movers only, 2013 to 2021



Source: Constructed using PERSAL data (DBE, 2024).

Table 2 shows the position transitions for movers for the period 2013 to 2021. Green shaded areas in the table indicate promotions or upward mobility, and red shaded areas indicate demotions. The bold letters on the diagonal indicate no change in rank. The most upwardly mobile educators between 2013 and 2021 were those in deputy principal and department head positions. On average for the period, 97.5% of teachers who switched schools moved laterally. For this group of switchers, the most common promotion when switching was from teacher to department head (2.13%). 9.1% of deputy principals and 7.1% of department heads were promoted when moving. An interesting pattern of demotions also emerges from the data: just over 2% of principals and deputy principals who changed schools moved to the position of teacher, and 4% of department heads became teachers upon moving.

Table 2: Detailed position transitions for movers, 2013 to 2021

		Position after move				
		Teacher	Dept Head	Deputy Principal	Principal	Total
Position before move	Teacher	97.47	2.13	0.13	0.27	100
	Dept Head	3.95	88.97	4.42	2.66	100
	Deputy Principal	2.36	0.05	88.45	9.14	100
	Principal	2.3	0.4	0.46	96.84	100
	Total	78.87	12.06	3.83	5.24	100

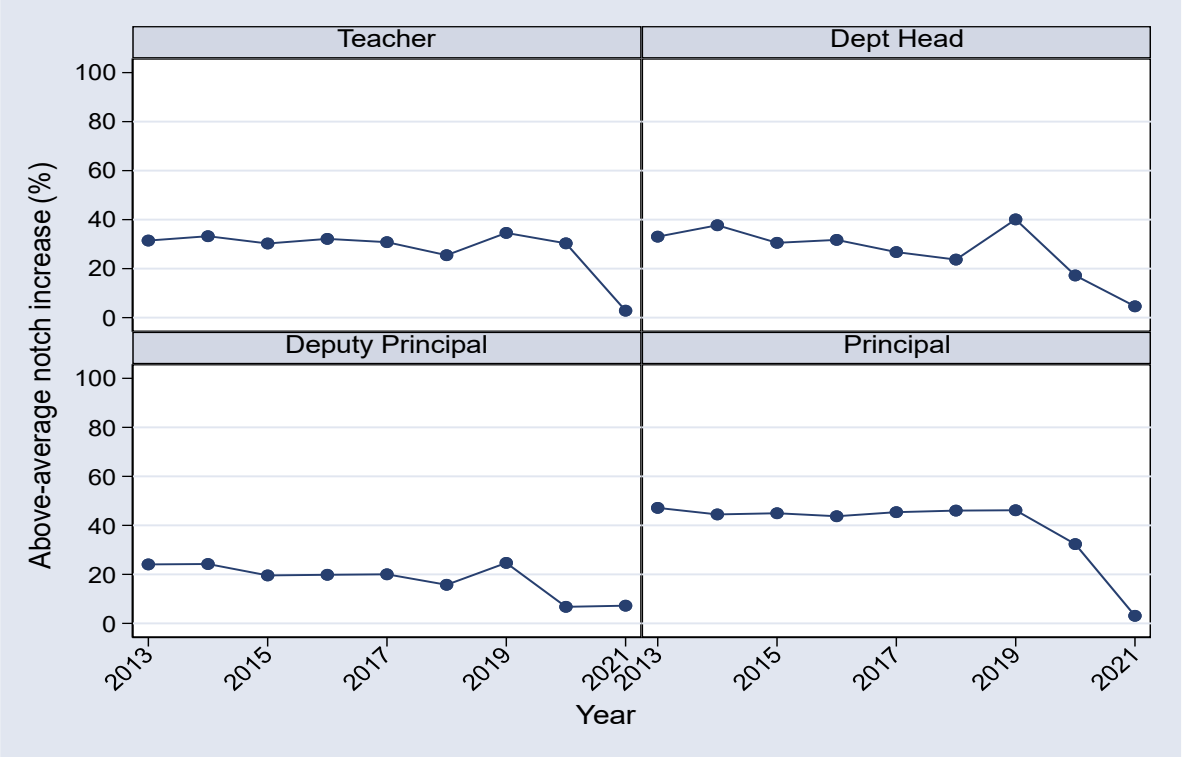
Source: Author's own calculations using PERSAL data (DBE, 2024).

4.2 Remuneration changes

Educators may also be motivated to switch schools if they expect to receive an increase in remuneration (Hanushek *et al*., 2004). The proxy for remuneration used in this paper is the notch variable, which refers to a specific salary level in a standardised remuneration structure used by the DBE. The notch is determined by an educator's education level, their position and their years of service, dependent on meeting minimum performance standards (Pampallis, 2022). Since the notch may be influenced by a number of factors, the approach used to determine the relationship between remuneration change and educator mobility in this paper is to create a variable that reflects whether teaching staff get an increase that is above the average for a specific year and for their position. The above-average increase in remuneration may be because of promotions or qualification upgrading, but also because of other factors such as recognition for more responsibilities such as management duties beyond the usual scope of duties. It is thus an alternative proxy for the pecuniary improvements that may incentivise educators to switch schools.

The percentage of staff receiving annual notch increases above the average for their positions are shown in Figure 8 below. The percentage of staff receiving above-average notch increases remains relatively stable between 2013 and 2019. On average, between 2013 and 2021, 28.1% of teaching staff received notch increases that were above the mean for the position they held in the previous year.

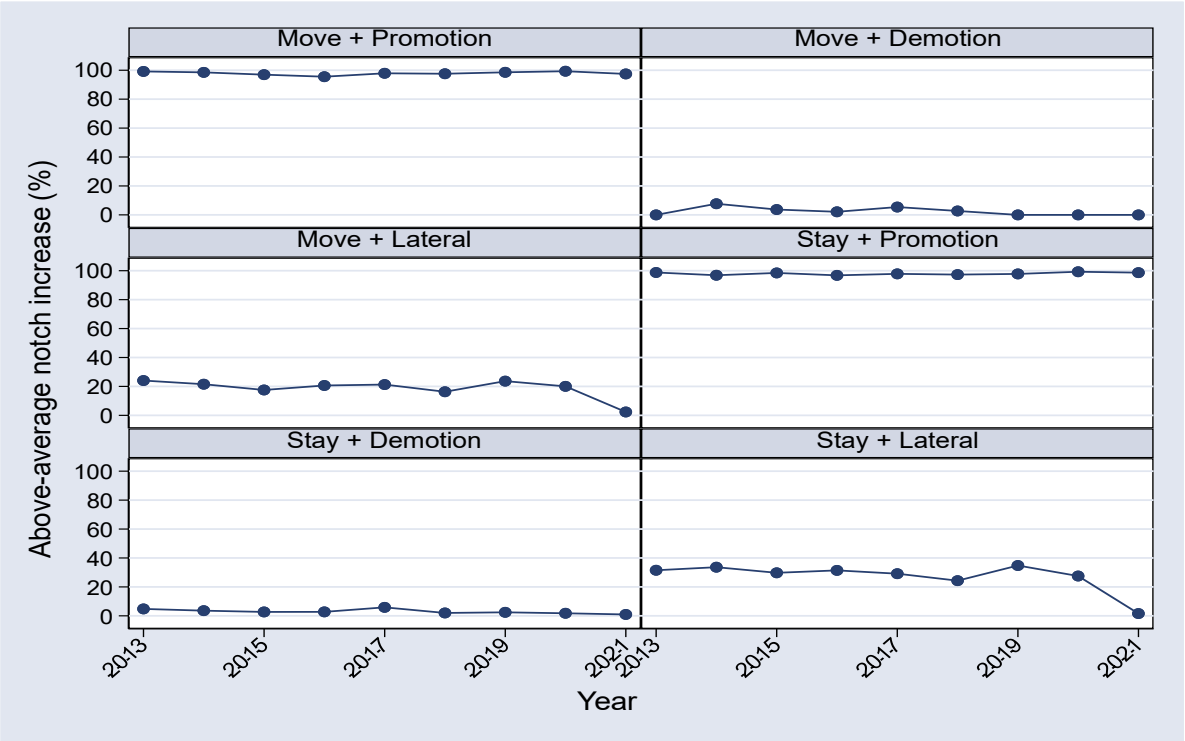
Figure 8: Above-average notch increases by position in previous year, 2013–2021



Source: Constructed using PERSAL data (DBE, 2024).

The move type-notch increase combinations in Figure 9 show that promotion is strongly tied to above-average notch increases. Switching schools and being promoted simultaneously is almost synonymous with above-average notch increases. The same is true for stayers who are promoted, which is consistent with the expectation that promotion would be rewarded most. Approximately 20 percent of lateral movers, and between 30 and 40 percent of lateral stayers, were recipients of above-average annual notch increases. The combination of evidence suggests that there are factors other than the observable move-promotion type (such as experience) that influence notch increases, but also that promotion essentially guarantees an above-average remuneration increase.

Figure 9: Above-average increases by move type, 2013 to 2021



Source: Constructed using PERSAL data (DBE, 2024).

4.3 Educator education levels

A key determinant of education quality is educator quality. As mentioned before, the PERSAL dataset does not contain any indicators of educator quality, other than the educator's REQV qualification. In addition, the PERSAL data only contains this information for 2021, limiting the analysis possibilities somewhat. Encouragingly, the majority of educators in each quintile have qualifications equivalent to REQV 14 and higher, but Quintiles 4 and 5 have higher percentages of teaching staff with REQV 14 and higher (Table 3 below).

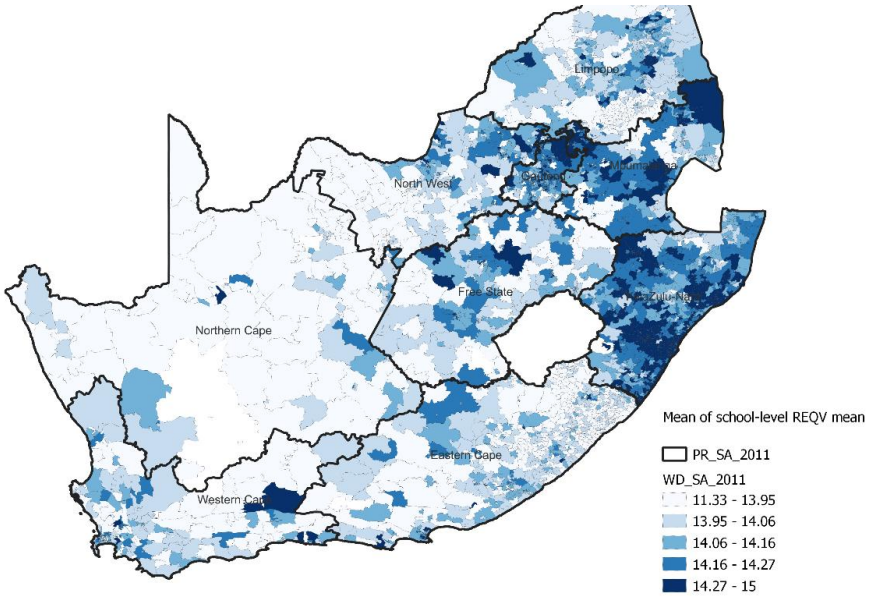
Table 3 REQV qualification by school quintile, in 2021 (in percentages)

	School quintile					
	1	2	3	4	5	Total
Lower than REQV 13	0.34	0.22	0.19	0.39	0.15	0.25
REQV 13	14.21	12.85	11.34	8.77	4.49	11.25
REQV 14	67.54	66.27	64.25	67.11	73.08	66.98
REQV 15 TO 17	17.91	20.66	24.22	23.72	22.29	21.51
Total	100	100	100	100	100	100

Source: Constructed using PERSAL data (DBE, 2024).

The educator qualification differences between schools may be of some concern to policymakers if the relative differences remain or intensify because of pull or push factors associated with school-level educator qualifications. Applying the school-level average REQV in 2021 to a ward-level map of South Africa (Figure 10) suggests that KwaZulu-Natal, Mpumalanga and Gauteng have the highest concentrations of schools where the average REQV is 14 and higher. In contrast, many wards in the Eastern Cape, Northern Cape and large parts of the North West and Western Cape provinces appear to have the lowest-qualified educators on average.

Figure 10: Mean school-level REQV, by ward (2021)

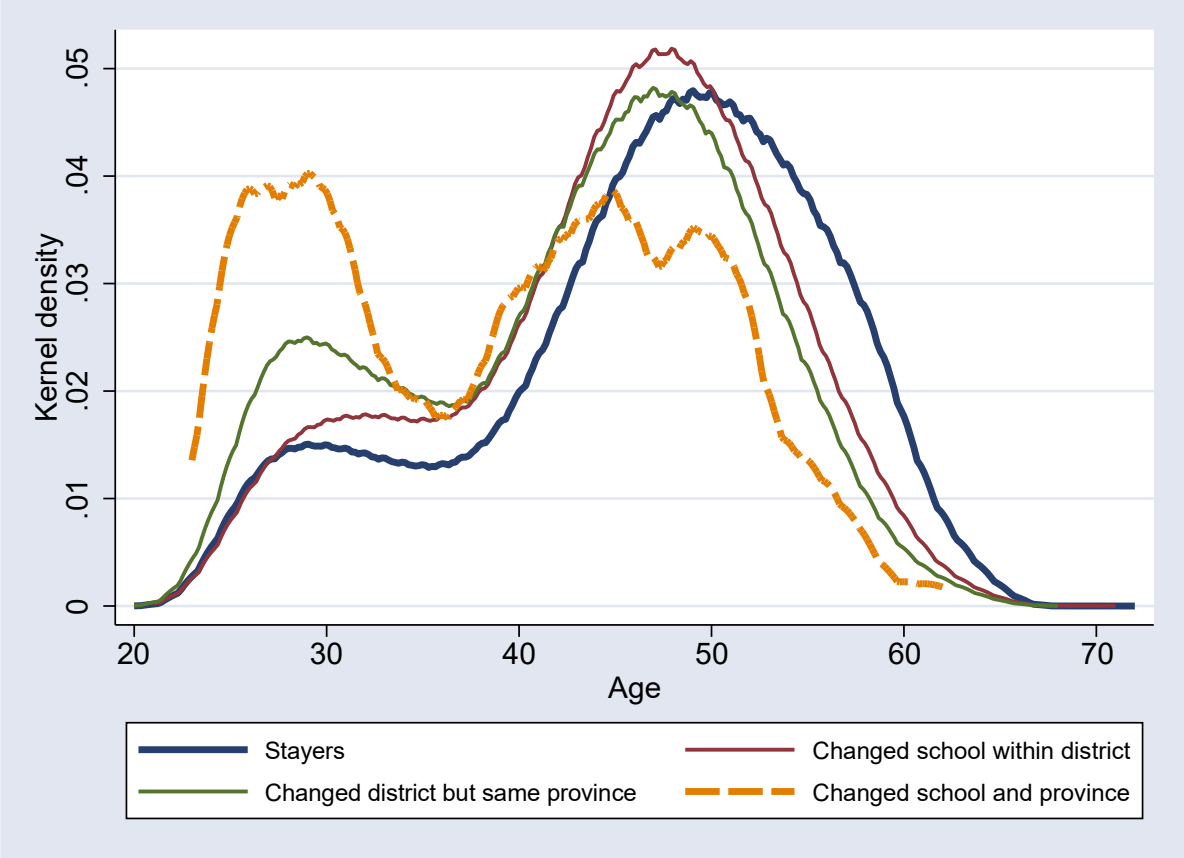


Source: Constructed using a combination of PERSAL data (DBE, 2024) and Masterlist 2022 data (DBE, 2025).

4.4 Educator age, race and gender

Of some interest to education and migration researchers are the age distributions of educators who move compared to those who do not, and how the age profiles differ depending on how far educators move (whether it is within or across district or provincial boundaries). Mobility is generally highest amongst younger educators, possibly because of initial mismatches with schools due to inexperience or lower skills levels at the beginning of their careers (Boyd *et al.*, 2011) The age kernel densities by move type in Figure 11 shows that school stayer age profiles differ, depending on whether an administrative boundary (district or provincial) is crossed or not. School stayers (the blue line in Figure 11) are generally older on average than school movers, with those crossing provincial boundaries being much younger than the other groups on average (indicated in the yellow dashed line in Figure 11).

Figure 11: Kernel densities of age for school stayers and school movers 2013 to 2021 (by administrative boundary crossed)



Source: Constructed using a combination of PERSAL data (DBE, 2024) and Masterlist 2022 data (DBE, 2025).

Race and gender dummies will also be added to the regression analysis to determine whether there are differences in switching propensities.

4.5 Leadership and support staff presence

The TALIS 2024 South Africa report reveals that one of the factors affecting teacher retention at their respective schools is supportive leadership (Department of Basic Education, 2025). Since the available data is strictly administrative, we cannot determine whether leadership is perceived to be supportive or not. In the absence of a more nuanced indicator of leadership support, the presence of a principal or deputy principal is included as a proxy for leadership presence. The assumption is that the presence of a leader is better for school working conditions than the absence of one. Table 4 shows that approximately two-thirds of teachers work in schools where there are both a principal and deputy principal present, and between 3 and 4% of educators worked in schools where there was no deputy principal or principal recorded. The possible reasons include the possibility that there is an acting principal who performs the principal's duties, even though they may have a lower rank recorded on PERSAL. There could also be difficulties filling posts in remote schools or freezing or cancellation of principal posts because of impending school mergers or closures.

Table 4: Number of teachers with a principal or deputy principal present at school, by year (2012 to 2021)

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
No deputy and no principal	9 262	9 029	11 229	12 827	14 054	12 089	8 418	10 632	12 490	12 584
	3.14%	3.06%	3.82%	4.37%	4.71%	4.04%	2.84%	3.53%	4.07%	4.06%
Only deputy principal	11 463	11 766	14 248	17 296	18 484	17 586	13 870	16 912	19 958	23 585
	3.89%	3.99%	4.85%	5.89%	6.20%	5.87%	4.68%	5.62%	6.51%	7.62%
Principal, no deputy	82 442	82 489	80 081	79 624	83 396	79 361	77 992	77 459	80 394	83 874
	27.96%	27.96%	27.24%	27.12%	27.96%	26.50%	26.29%	25.72%	26.22%	27.09%
Both principal and deputy	191 647	191 724	188 414	183 848	182 314	190 421	196 396	196 127	193 794	189 596
	65.01%	64.99%	64.09%	62.62%	61.13%	63.59%	66.20%	65.13%	63.20%	61.23%
Total	294 814	295 008	293 972	293 595	298 248	299 457	296 676	301 130	306 636	309 639
	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Source: Author's own calculations using PERSAL data (DBE, 2024).

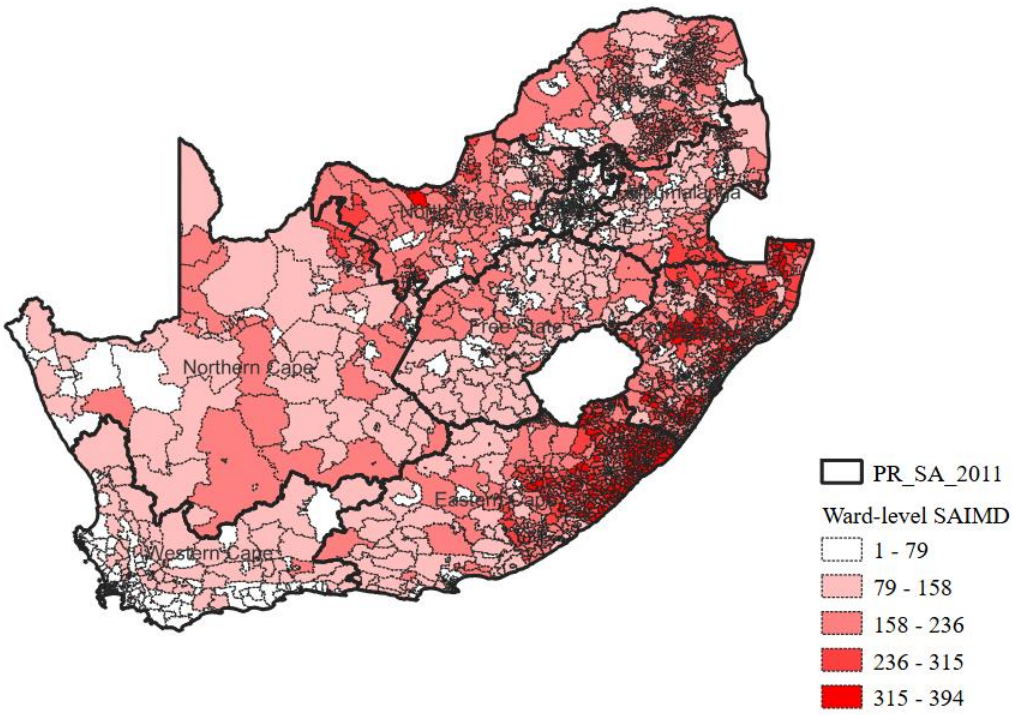
South African teachers also report high levels of stress because of administrative duties (Department of Basic Education, 2025). The PERSAL data contains very little information about the level of academic support as it is in reality, where effort and relationships matter. However, a simple support-to-academic-staff ratio will be included in the regression analyses as a proxy for support to teaching staff. Support staff are defined as all staff at a school who are not teachers, department heads, deputy principals or principals.

4.6 Ward-level conditions

Using an exploratory mixed-methods design, Hofmeyr *et al.* (2024) find that teachers have strong preferences to teach in metropolitan areas, and widespread aversions to teaching in rural areas. Amongst the reasons provided for not wanting to teach at rural schools are poor resource levels and poor access to basic such as running water and electricity, as well as other amenities. To determine whether actual educator mobility is affected by ward-level conditions external to the school, the ward-level South African Index of Multiple Deprivation (SAIMD) 2011 as constructed by Noble *et al.* (2013) is combined with the PERSAL data on school location.

The SAIMD 2011 is a composite deprivation indicator composed of the four domains material, employment, education and employment deprivation. The map in Figure 12 below shows the SAIMD 2011 deprivation score at ward level. Darker shades of red indicate higher levels of deprivation. Consistent with expectations, the Eastern Cape and KwaZulu-Natal are home to most of the deprived wards in South Africa. The least deprived wards are concentrated largely in the Western Cape and Gauteng.

Figure 12: SAIMD 2011 score, by ward level



Source: Constructed using a combination of PERSAL data (DBE, 2024), Masterlist 2022 data (DBE, 2025) and SAIMD data (Noble et al., 2013).

For this paper, the SAIMD ward rank is converted to a **relative affluence indicator** by reversing the deprivation ranking. Therefore, of the 4 276 wards covered by the index, the most deprived ward would now be ranked 4 276, and the least deprived ward would be ranked 1. Since this paper uses the SAIMD rankings rather than the actual SAIMD scores, the numerical distance between ward ranks should not be interpreted directly. However, it is still useful in this context to determine whether educators are using ward-level conditions in their decision to move from one school to the next. A later version of the SAIMD using Census 2022 data is available but it is constructed at the municipal level due to data constraints.

Table 3 shows the percentage of schools within each inverse deprivation (relative affluence) quintile. The Western Cape and Gauteng have approximately 93% of their schools located in the most affluent 40% of wards, while the Eastern Cape and KwaZulu-Natal have most of their schools located in the most deprived 40% of wards.

Table 5: Inverse deprivation indicators for schools (by province)

	SAIMD relative affluence quintile					
	1	2	3	4	5	Total
Eastern Cape	47.99	21.88	12.69	10.47	6.97	100
Free State	0	4.72	35.17	34.68	25.44	100
Gauteng	0	0.61	6.64	33.01	59.73	100
KwaZulu-Natal	35.47	22.95	14.68	15.39	11.5	100
Limpopo	4.2	40.44	37.55	12.79	5.01	100
Mpumalanga	2.04	19.15	43.16	23.71	11.94	100
North West	9.97	29.2	29.83	19.17	11.83	100
Northern Cape	9.8	21.11	27.43	27.71	13.95	100
Western Cape	0	0.26	6.29	37.6	55.85	100
Total	20	20	20	20	20	100

Source: Author's own calculations using Masterlist 2022 Q2 (Department of Basic Education, 2026) and SAIMD (2022) data.

Table 5 shows how the SAIMD compares to the official quintiles assigned to each school by the Department of Basic Education in 2011. The comparison in Table 6 suggests that there is substantial overlap between the school quintile and the SAIMD affluence quintile. However, because school and area conditions may differ (a relatively affluent school could be located in a more deprived ward), and because the methodologies used to estimate the SAIMD and the school quintiles differ, the overlap is not perfect.

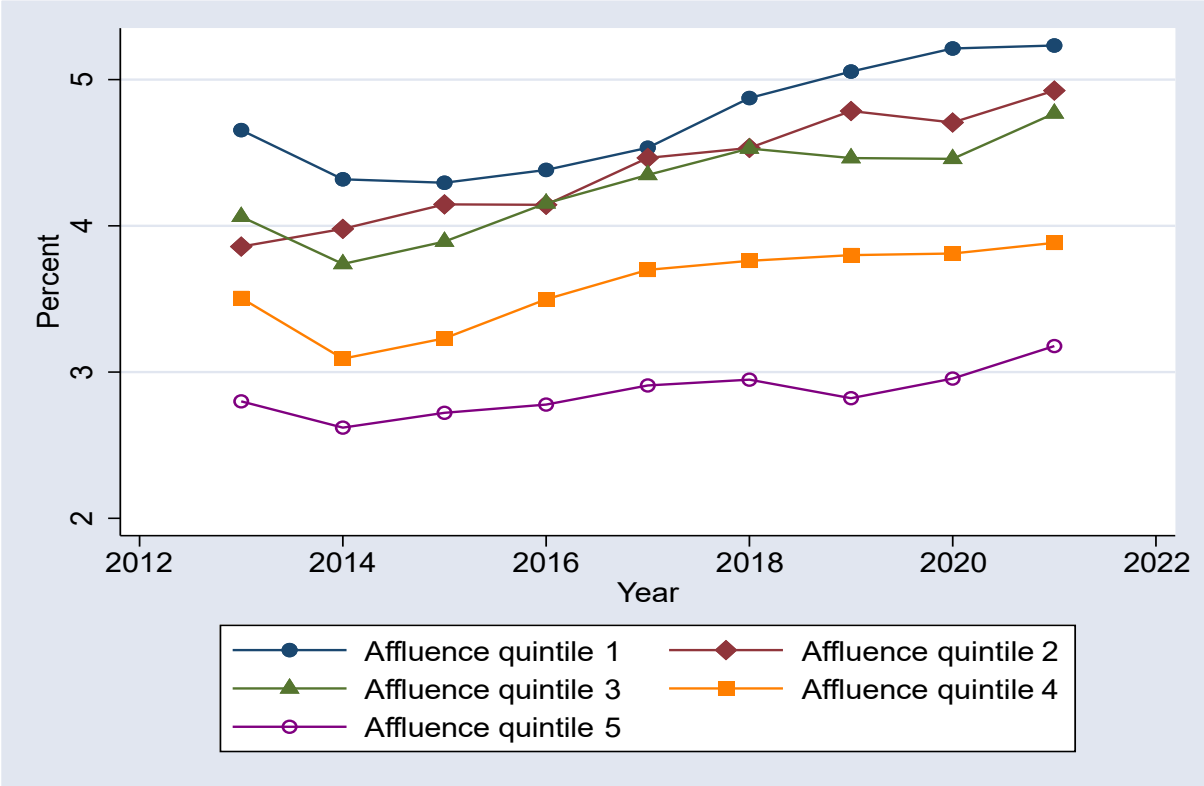
Table 6: School quintile (2012) vs SAIMD 2011 relative affluence ranking quintile

		SAIMD relative affluence quintile					
		1	2	3	4	5	Total
DBE school quintile	Quintile 1	66.25	40.54	27.54	12.93	4.05	26.62
	Quintile 2	27.97	39.13	32.55	22.39	6.26	24.88
	Quintile 3	5.57	19.16	34.67	40.29	19.16	26
	Quintile 4	0.17	0.97	3.99	17.98	24.89	10.93
	Quintile 5	0.04	0.2	1.25	6.41	45.65	11.57
	Total	100	100	100	100	100	100

Source: Author's own calculations using a combination of PERSAL data (DBE, 2024), Masterlist 2022 data (DBE, 2025) and SAIMD data (Noble *et al.*, 2013).

Figure 13 shows the percentage of teachers who switched schools by relative affluence quintile. While there is evidence of sustained switching differences over time between relative affluence quintiles, school switching rates are lowest for educators who had been in schools located in the most affluent 20 per cent of wards in the previous year, and highest for educators who had been teaching in the least affluent wards.

Figure 13: School switching rates by relative affluence quintile and year



Source: Constructed using a combination of PERSAL data (DBE, 2024), Masterlist 2022 data (DBE, 2025) and SAIMD data (Noble et al., 2013).

5. Regression analysis

While the descriptive analyses in the preceding sections discuss the possible observable factors in the data that could be associated with teachers' decisions to switch schools or not, regression analysis is useful for considering whether these relationships hold when accounting for other relevant factors. The decision to switch schools in year *t* is therefore modelled in a pooled logistic regression as a binary dependent variable that is dependent on selected educator, school and area characteristics in time *t - 1*. The general functional form of the model is:

$$P(Switch_{it} = 1) = \alpha + T_{i,t-1}'\beta + S_{j,t-1}'\gamma + G_{j,t-1}'\delta + \lambda_t$$

where:

- $Switch_{it}$ is a binary indicator equal to 1 if teacher i moves from their school in year $t-1$ to a different school in year t, and 0 otherwise.
- $T_{i,t-1}$ is a vector of the characteristics of teacher i, measured in year $t-1$.
- $S_{j,t-1}$ is a vector of characteristics of teacher i's origin school j, measured in year $t-1$.
- $G_{j,t-1}$ is a vector of geographic characteristics of the origin school j, measured in year $t-1$.
- λ_t represents year fixed effects, which account for common time-specific influences on school switching.

Indexing note: *i* indexes teachers, *j* indexes origin schools and *t* indexes years

The dependent variable equals 1 when a teacher is observed in a different school in time *t* than they were in year *t-1* and equals 0 when the teacher remains at the same school. Regression models in Table 7 add variables of different levels sequentially, starting with individual characteristics only and progressively adding school and geographic location characteristics.

Because deputy principals and principals make up the school leadership presence variable, only teachers will be included in the analysis. Only working-aged teachers between the ages of 20 and 64 years are included in the regression. Because the teacher move in year *t* is assumed to be motivated by conditions in *t-1,* Independent variables (where possible) are lagged by one year relative to the move. The independent variable coefficients in Table 6 are presented in log-odds units. In other words, the coefficients represent the increase in the predicted log odds of switching schools when there is a one-unit increase in the independent variable. Positive coefficients indicate that switching is

positively affected by the independent variable, while negative coefficients indicate a negative relationship between school switching and the independent variable. In all regressions year fixed effects are included but not shown.

In model 1 teacher characteristics are examined to predict school switching. Relative to the reference group of 20 to 29-year-olds, teachers between the ages of 30 and 39 are more likely to switch schools. The probability of switching schools decline with age from 40 years onwards. There are also significant racial differences. White teachers (the reference group) are least likely to switch, while Black African teachers are most likely to switch schools (followed by Coloured teachers). There are no significant differences between White teachers and Indian teachers. Female teachers are less likely than male teachers to switch schools. The REQV coefficients suggest that there are no statistically significant differences between less qualified teachers and more qualified teachers.

Model 2 adds two school characteristics, the education phase and the school quintile. Compared to the primary school teacher reference group, teachers in secondary and combined schools are less likely to switch schools. There are no significant differences between primary school teachers (the reference group) and teachers in intermediate schools in terms of the probability of switching. The school quintile coefficients suggest that the more affluent the school is, the less likely it is that educators will switch schools. Teachers in Quintile 5 schools are least likely to switch schools.

Model 3 adds school-level teacher support variables. The support-staff-to-educator ratio variable coefficient is not statistically significant, but the leadership presence variable suggests that the presence of a principal and/or deputy principal in a particular year is predictive of school switching. Being in a school with a deputy principal and/or principal is associated with significantly lower probabilities of switching schools in the next year than being in a school with no deputy principal and no principal (the reference group).

Model 4 adds a variable that indicates whether an educator received a notch increase that was above the average for their position in the previous year, as well as geographic characteristics (province and the SAIMD relative affluence indicator) and the school size as an additional control to determine whether school size affects the leadership coefficient magnitudes. In this final model, age, race, gender are still statistically significantly associated with educator school switching with the coefficients retaining their relative rankings within variable. Unexpectedly, the support-staff-to-teacher ratio influences switching positively, but the presence of school leadership, particularly where there is both a principal and deputy principal, still reduces the probability of switching schools, even

after controlling for school size. Receiving an above-average notch increase in remuneration in the previous year is also associated with a lower probability of school switching (relative to receiving the average or lower than the average).

The ward-level SAIMD 2011 relative affluence indicator suggests that living in the most affluent 40% of wards is associated with lower probabilities of switching schools than living in the poorest 20% of wards (quintile 1, the reference group). Given the partial overlap between school quintile and the relative affluence indicator, the school quintile coefficient magnitudes generally decrease when adding the deprivation indicators. Educators in quintile 5 schools are still least likely to switch schools. The findings in our final model suggest that after controlling for demographic and school characteristics, leadership, local area conditions outside of the school and above-average remuneration increases are all associated with lower probabilities of teachers switching schools.

Table 7: Pooled logistic regression of the decision to switch schools (2013 to 2021)

	Model 1	Model 2	Model 3	Model 4
30-39 yrs	0.0676***	0.0572***	0.0499***	0.0422**
	(0.0171)	(0.0171)	(0.0171)	(0.0171)
40-49 yrs	-0.135***	-0.162***	-0.172***	-0.163***
	(0.0169)	(0.0170)	(0.0170)	(0.0172)
50-59 yrs	-0.405***	-0.436***	-0.451***	-0.421***
	(0.0193)	(0.0194)	(0.0194)	(0.0201)
60-69 yrs	-0.547***	-0.570***	-0.580***	-0.553***
	(0.0652)	(0.0652)	(0.0653)	(0.0655)
Indian/Asian	0.103**	0.0575	0.0440	0.0465
	(0.0516)	(0.0522)	(0.0522)	(0.0521)
Coloured	0.400***	0.253***	0.275***	0.319***
	(0.0364)	(0.0387)	(0.0386)	(0.0385)
African Black	0.686***	0.407***	0.407***	0.419***
	(0.0280)	(0.0330)	(0.0329)	(0.0333)
Female	-0.111***	-0.136***	-0.133***	-0.134***
	(0.0129)	(0.0132)	(0.0132)	(0.0132)
REQV 13	-0.0267	-0.0101	-0.0125	0.00962
	(0.119)	(0.119)	(0.120)	(0.120)
REQV 14	0.0622	0.101	0.110	0.154
	(0.118)	(0.119)	(0.119)	(0.119)
REQV 15 TO 17	-0.0151	0.0387	0.0510	0.112
	(0.119)	(0.119)	(0.120)	(0.120)
Secondary		-0.130***	-0.0695***	-0.0391***
		(0.0115)	(0.0117)	(0.0118)
Combined		-0.0520***	-0.0273	-0.0400**
		(0.0194)	(0.0194)	(0.0195)
Intermediate		-0.0196	0.000267	-0.0363
		(0.0437)	(0.0437)	(0.0439)
Quintile 2		-0.0367***	-0.0110	0.0176
		(0.0128)	(0.0128)	(0.0133)
Quintile 3		-0.0721***	-0.00363	0.0657***
		(0.0130)	(0.0131)	(0.0149)
Quintile 4		-0.249***	-0.151***	-0.00889
		(0.0193)	(0.0195)	(0.0220)
Quintile 5		-0.432***	-0.322***	-0.169***
		(0.0254)	(0.0256)	(0.0286)
Support to teacher ratio			0.00797	0.0207
			(0.0349)	(0.0338)
Only deputy principal			-0.402***	-0.237***
			(0.0238)	(0.0246)
Principal, no deputy			-0.184***	-0.175***
			(0.0181)	(0.0182)
Principal and deputy			-0.467***	-0.280***
			(0.0187)	(0.0198)
SAIMD affluence Quintile 2				-0.0222
				(0.0164)
SAIMD affluence Quintile 3				0.0235
				(0.0176)
SAIMD affluence Quintile 4				-0.0497**
				(0.0196)
SAIMD affluence Quintile 5				-0.0922***
				(0.0240)
Above average notch growth				-0.115**
				(0.0125)
Additional controls	Year	Year	Year	Year, School size
Constant	-3.529***	-3.135***	-2.853***	-3.010***
	(0.123)	(0.124)	(0.126)	(0.128)
Observations	1 857 479	1 857 479	1 857 479	1 857 479

Standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

6. Discussion

The regression results in Section 5 suggest that school switching is associated with educator, school and ward-level characteristics. Overall, the results are consistent with the literature cited earlier in this paper. The probability of switching schools is highest amongst educators aged 30 to 39 years, but that probability declines with age from 40 years onwards. White educators and female educators are least likely to switch schools. There are also differences in switching probabilities between schools offering different phases, with primary school educators being most likely to switch.

School context also appears to be important for the school switching decision. Educators employed at schools with a deputy principal or principal (or both) are less likely to switch than educators employed at schools with no apparent leadership. Educators in quintile 5 schools and those educators employed at schools located in relatively affluent wards exhibit the lowest probabilities of switching schools. In summary, the findings suggest that educator retention is not only associated with pecuniary considerations, but also leadership presence and the socioeconomic environment surrounding the school.

The results should be interpreted as associations rather than being causal effects. The limitations of administrative data can also not be discounted as there are many factors which cannot be observed, such as where the educator lives or lived, where their hometown is, what their education quality was like or whether their moves are motivated by familial considerations, for example. There are also some limitations introduced by using static 2011 ward-level data, 2021 REQV qualifications and imperfect 2022 school location data to explain switching decisions for other years in the data. Nevertheless, the findings are indicative of higher probabilities of switching from less affluent schools and where leadership is absent, and from less affluent wards. Improvements in working conditions could perhaps assist with educator retention in less affluent wards, since schools located in these wards with the highest switching rates and possibly the most urgent need for educator retention.

7. Conclusion

This paper provides some evidence of national patterns of educator mobility between South African schools for the period 2012 to2021. Although annual school-switching rates of approximately 4% over the period are relatively modest, such movements may have profound consequences for the distribution of educator quality, school stability and institutional continuity. Approximately half of school switches were within the same quintile, while the remaining switches were roughly equally divided between movements

to higher and lower quintile schools, respectively. More than 95 per cent of school switches were lateral movements rather than being associated with promotions, which perhaps provides some evidence of school switching not only being in service of career advancement.

The regression results show that mobility is systematically associated with educator, school and area characteristics. Educators aged 30–39 were more likely to switch schools than those aged 20–29, while mobility declined markedly from age 40 onwards. Significant differences were also observed by race and gender, with Black African and Coloured educators exhibiting higher switching probabilities than White educators, conditional on the characteristics included in the models, and female educators being less likely to switch than male educators. Educators in primary schools were more mobile than those in secondary and combined schools, while formal REQV qualification levels were not significantly associated with switching.

Institutional and socioeconomic context also matters. Educators employed at schools with a principal, deputy principal or both were significantly less likely to switch schools than those working in schools where neither form of leadership was observed. Educators in quintile 5 schools and schools situated in the most affluent wards similarly exhibited lower switching probabilities. Receiving an above-average remuneration increase in the preceding year was also associated with a reduced probability of moving. While the results should be interpreted as associations rather than causal evidence, the findings suggest that retention is shaped not only by remuneration, but also by leadership presence, organisational stability and the conditions surrounding the school.

Further research, dependent on the data, could distinguish between voluntary or involuntary moves, and reasons for complete exits from the system. Better measures of educator quality, educator areas of teaching specialisation and experience data, if available, combined with school performance data could also help answer the question of whether educator mobility contributes to the unequal distribution of education quality in South Africa. The policy challenge could therefore shift beyond just retaining educators within the education system to ensuring that the mobility of educators does not negatively impact those communities who can least afford to lose them.

Appendix

Table A1 Descriptive statistics by mobility status

	Stayers	Movers	Total
N	2 221 517 (96.0%)	93 144 (4.0%)	2 314 661 (100.0%)
Age category in *t-1*			
20-29	246 343 (11.1%)	12 338 (13.2%)	258 681 (11.2%)
30-39	375 385 (16.9%)	20 127 (21.6%)	395 512 (17.1%)
40-49	863 743 (38.9%)	39 603 (42.5%)	903 346 (39.0%)
50-59	683 858 (30.8%)	20 019 (21.5%)	703 877 (30.4%)
60-69	52 188 (2.3%)	1 057 (1.1%)	53 245 (2.3%)
Race			
White	191 080 (8.6%)	4 251 (4.6%)	195 331 (8.4%)
Indian	63 330 (2.9%)	1 493 (1.6%)	64 823 (2.8%)
Coloured	156 719 (7.1%)	5 762 (6.2%)	162 481 (7.0%)
Black African	1 810 388 (81.5%)	81 638 (87.6%)	1 892 026 (81.7%)
Gender			
Male	584 486 (26.3%)	27 829 (29.9%)	612 315 (26.5%)
Female	1 637 031 (73.7%)	65 315 (70.1%)	1 702 346 (73.5%)
REQV			
Lower than REQV 13	5 138 (0.3%)	250 (0.3%)	5 388 (0.3%)
REQV 13	233 457 (12.7%)	9 972 (12.0%)	243 429 (12.7%)
REQV 14	1 232 513 (67.0%)	57 817 (69.7%)	1 290 330 (67.1%)
REQV 15 TO 17	367 682 (20.0%)	14 931 (18.0%)	382 613 (19.9%)
School phase in *t-1*			
Primary	1 205 136 (55.1%)	49 617 (55.3%)	1 254 753 (55.1%)
Secondary	818 188 (37.4%)	33 161 (37.0%)	851 349 (37.4%)
Combined	135 801 (6.2%)	5 730 (6.4%)	141 531 (6.2%)
Intermediate	26 970 (1.2%)	1 197 (1.3%)	28 167 (1.2%)
Quintile in t - 1			
1	528 349 (24.2%)	24 878 (27.9%)	553 227 (24.4%)
2	524 305 (24.0%)	23 462 (26.3%)	547 767 (24.1%)
3	601 111 (27.6%)	25 411 (28.5%)	626 522 (27.6%)
4	258 699 (11.9%)	8 785 (9.9%)	267 484 (11.8%)
5	267 919 (12.3%)	6 509 (7.3%)	274 428 (12.1%)
Support to academic ratio	0.0 (0.1)	0.0 (0.2)	0.0 (0.1)
Presence of leadership at school in *t-1*			
No deputy, no principal	89 634 (4.0%)	5 847 (6.3%)	95 481 (4.1%)
Only deputy principal	138 080 (6.2%)	5 291 (5.7%)	143 371 (6.2%)
Principal, no deputy	655 093 (29.5%)	33 058 (35.5%)	688 151 (29.7%)
Both principal and deputy	1 338 710 (60.3%)	48 948 (52.6%)	1 387 658 (60.0%)
Province in *t-1*			
Western Cape	169 385 (7.6%)	6 005 (6.4%)	175 390 (7.6%)

Eastern Cape	327 431 (14.7%)	16 835 (18.1%)	344 266 (14.9%)
Northern Cape	51 215 (2.3%)	2 542 (2.7%)	53 757 (2.3%)
Free State	131 046 (5.9%)	4 785 (5.1%)	135 831 (5.9%)
KwaZulu Natal	545 610 (24.6%)	22 294 (23.9%)	567 904 (24.5%)
North West	141 146 (6.4%)	9 445 (10.1%)	150 591 (6.5%)
Gauteng	332 820 (15.0%)	9 265 (9.9%)	342 085 (14.8%)
Mpumalanga	189 812 (8.5%)	6 877 (7.4%)	196 689 (8.5%)
Limpopo	333 052 (15.0%)	15 096 (16.2%)	348 148 (15.0%)
Ward affluence quintile in *t-1*			
1	297 823 (13.7%)	15 437 (17.3%)	313 260 (13.8%)
2	374 738 (17.2%)	17 445 (19.6%)	392 183 (17.3%)
3	467 566 (21.4%)	20 889 (23.5%)	488 455 (21.5%)
4	577 874 (26.5%)	21 642 (24.3%)	599 516 (26.4%)
5	462 359 (21.2%)	13 639 (15.3%)	475 998 (21.0%)

Note: Mean (SD)

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