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DEPARTMENT: FINANCE  
MPUMALANGA PROVINCIAL GOVERNMENT

**ECONOMIC RESEARCH REPORT  
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## **LABOUR IN MPUMALANGA - PERSPECTIVES ON EDUCATION AND SKILL LEVELS**

**MARCH 2011**





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## **1. INTRODUCTION**

Reasons for high and rising unemployment in South Africa and subsequently in Mpumalanga have most often been sought on the supply-side of the labour market. One explanation is that labour is not sufficiently qualified for new employment that is, or could be, created and that a skills shortage is inhibiting further employment growth. The objective of this report is therefore to interrogate the respective relationships between employment and education as well as employment and skills in Mpumalanga. The secondary objective is then to consider how these relationships have changed between September 2002 and December 2010. The report specifically focuses on age cohorts and the interrelationship between age, education, skills and employment. The Labour Force Survey (LFS) of September 2002 and the Quarterly Labour Force Survey (QLFS) of the fourth quarter 2010, both published by Statistics South Africa (Stats SA), were used as the data sources and accessed via Stats SA's Nesstar interactive data tool.

There are a number of reasons why one would expect the probability of employment generally to be rising in education. Education, or in other words human capital, may directly increase productivity, making individuals with greater human capital more valuable. An employer would therefore rather hire someone with more, than less, education. The amount and type of schooling may signal a future employee's capacity to learn and can be used to predict how quickly an individual will acquire skills on the job, how productive the individual will be after training, the individual's work ethic and his or her commitment to the job.

## **2. EDUCATIONAL ATTAINMENT OF THE WORKING-AGE POPULATION IN MPUMALANGA**

The majority of the working-age population (15-64 years, economically active and inactive) in Mpumalanga in both 2002 (61.7 per cent) and 2010 (62.2 per cent) was located in the youth cohort (15-34 years of age). Correspondingly, the majority of the working-age population with education ranging from no schooling to grade 11 (62.4 per cent in 2010) and matric (68.1 per cent in 2010) was in the youth cohort. The middle-aged cohort (35-54 years of age) held the major share of working-age population with completed tertiary education in 2010. Table 1 presents the distribution by age cohort of all working-age citizens in Mpumalanga according to level of education in 2002 and 2010.

Table 2 on the other hand, summarises educational attainment by specific age cohorts for the total working-age population from 2002 to 2010. In 2010, the majority (68.3 per cent) of provincial citizens of working-age had not progressed beyond grade 11, compared to 75.9 per cent in 2002. From 2002 to 2010, the percentage of all working-age citizens in the province with at least a matric education rose by 4.9 percentage points, whereas those with a tertiary qualification rose by 2.7 percentage points.

**Table 1: Distribution by age cohort of working-age population (15-64 years) in Mpumalanga according to level of education, 2002-2010**

Age cohort	No schooling up to grade 11		Matric completed		Tertiary completed	
	2002	2010	2002	2010	2002	2010
15-19	22.8%	24.7%	4.5%	5.3%	0.3%	0.7%
20-24	14.7%	16.4%	28.1%	25.3%	9.7%	10.2%
25-29	11.6%	11.2%	23.7%	21.6%	23.6%	20.6%
30-34	9.9%	10.1%	18.2%	15.9%	20.2%	13.1%
35-39	9.0%	7.7%	8.9%	12.1%	18.5%	17.3%
40-44	8.5%	6.3%	6.4%	6.8%	9.7%	11.0%
45-49	7.5%	6.9%	3.4%	4.3%	9.5%	11.8%
50-54	6.2%	6.1%	3.8%	4.4%	4.0%	7.8%
55-59	4.9%	5.9%	1.8%	2.0%	2.6%	3.9%
60-64	4.9%	4.8%	1.3%	2.3%	1.8%	3.6%
All age groups	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: Stats SA - LFS, 2002 & QLFS, 2011

**Table 2: Working-age population (15-64 years) in Mpumalanga according to age cohort and qualifications, 2002-2010**

Age cohort	No schooling up to grade 11		Matric completed		Tertiary completed	
	2002	2010	2002	2010	2002	2010
15-19	95.2%	92.6%	4.7%	7.0%	0.1%	0.3%
20-24	65.9%	61.7%	31.1%	33.6%	3.0%	4.6%
25-29	60.7%	53.1%	30.7%	35.4%	8.6%	11.5%
30-34	62.5%	59.5%	28.5%	31.7%	9.0%	8.8%
35-39	72.0%	55.2%	17.6%	30.2%	10.4%	14.6%
40-44	78.9%	63.2%	14.8%	23.8%	6.3%	13.0%
45-49	83.4%	70.8%	9.2%	15.1%	7.4%	14.0%
50-54	83.8%	71.8%	12.5%	17.6%	3.7%	10.5%
55-59	88.4%	84.0%	8.2%	9.5%	3.3%	6.5%
60-64	91.7%	79.7%	6.0%	13.4%	2.4%	7.0%
All age groups	75.9%	68.3%	18.8%	23.7%	5.3%	8.0%

Source: Stats SA - LFS, 2002 & QLFS, 2011

The fastest rising higher educational attainment occurred particularly among cohorts of the middle-aged (35-54 years). In the age cohort 35-39 years a 12.6 percentage point improvement was recorded in matric qualifications between 2002 and 2010, the largest improvement

among all age cohorts. The largest improvement in tertiary attainment between 2002 and 2010 of 6.8 percentage points was registered in the 50-54 year cohort.

The percentage of the working-age population with matric was significantly higher among younger adults than compared to older adults in both 2002 and 2010. In 2010, for example, 35.4 per cent of all individuals in the 25-29 year cohort were reported with matric, compared to only 15.1 per cent in the 45-49 year cohort. Conversely, the percentage of the working-age population with tertiary qualifications was significantly higher among older, than younger, adults. In 2010, for example, 14.6 per cent of all individuals in the 35-39 year cohort were reported with tertiary education, compared to only 8.8 per cent in the 30-34 year cohort.

### 3. EDUCATION AND LABOUR FORCE PARTICIPATION IN MPUMALANGA

Increasing educational attainment among working-age citizens of Mpumalanga is reflected in a more educated labour force (economically active population) in 2010. Table 3 describes the share of the employed and the unemployed, by level of formal education, for 2002 and 2010. In 2002 and 2010, the largest proportion of the labour force was without a complete secondary education. In 2010, for example, 30.1 per cent and 39.5 per cent of the employed and unemployed labour force participants, respectively, were without a complete secondary education.

**Table 3: Distribution by level of education of the labour force in Mpumalanga according to employment status, 2002-2010**

Level of education	2002		2010	
	Employed	Unemployed	Employed	Unemployed
No schooling	14.1%	5.5%	7.8%	5.6%
Incomplete primary	18.0%	17.8%	10.9%	9.3%
Primary completed	7.9%	8.9%	5.2%	4.6%
Incomplete secondary	26.9%	33.8%	30.1%	39.5%
Matric completed	22.9%	29.3%	28.9%	37.6%
Tertiary completed	10.3%	4.7%	17.1%	3.4%
Total	100.0%	100.0%	100.0%	100.0%

*Source: Stats SA - LFS, 2002 & QLFS, 2011*

The combined share of the employed labour force participants with primary education and less, decreased from 40.0 per cent in 2002 to 32.0 per cent in 2010. This significantly smaller proportion among the employed was also evident for the unemployed, where the share decreased from 23.9 per cent in 2002 to 19.5 per cent in 2010. In contrast, larger shares particularly among the employed were reported for incomplete secondary education, matric and tertiary education. For example, in 2002, 22.9 per cent of the employed and 29.3 per cent of

the unemployed had matriculated, whereas by 2010, this increased to 28.9 per cent and 37.6 per cent, respectively.

In both 2002 and 2010, the unemployed recorded higher shares of incomplete secondary and matric education than the employed. On the contrary, the employed registered a higher share of completed tertiary education in both 2002 and 2010. The combined share of the employed with higher levels of education (matric and tertiary) increased by 12.8 percentage points between 2002 and 2010. Among the unemployed this increase was only measured at 7 percentage points.

In 2002 and 2010, the employment rate among individuals with completed tertiary education was the highest with 83.6 per cent and 92.5 per cent, respectively. The lowest employment rate (highest unemployment rate) in 2010 was recorded among individuals with some secondary education (65.5 per cent) followed by those with matric (65.7 per cent). The high unemployment rate among individuals with a matric qualification (34.3 per cent) is particularly disconcerting. The employment status of individuals by their level of education is summarized in Table 4.

With the exception of labour force participants with no schooling, the employment rates of all levels of education improved from 2002 to 2010. The largest improvement was recorded among those with tertiary education and the smallest improvement among individuals with some secondary education. The employment rate among individuals with no formal education declined between 2002 and 2010, and therefore the unemployment rate increased.

**Table 4: Employment and unemployment rates by level of education in Mpumalanga, 2002-2010**

Level of education	2002			2010		
	Employment rate	Unemployment rate	Total	Employment rate	Unemployment rate	Total
No schooling	85.7%	14.3%	100.0%	77.4%	22.6%	100.0%
Incomplete primary	70.1%	29.9%	100.0%	74.5%	25.5%	100.0%
Primary completed	67.2%	32.8%	100.0%	73.9%	26.1%	100.0%
Incomplete secondary	64.8%	35.2%	100.0%	65.5%	34.5%	100.0%
Matric completed	64.4%	35.6%	100.0%	65.7%	34.3%	100.0%
Tertiary completed	83.6%	16.4%	100.0%	92.5%	7.5%	100.0%

*Source: Stats SA - LFS, 2002 & QLFS, 2011*

The results of Table 4 demonstrate that the probability of unemployment among the labour force in Mpumalanga was only reduced when tertiary education was achieved. Below tertiary level, higher levels of education appeared to correlate negatively with employment and did not display any substantial improvement between 2002 and 2010.

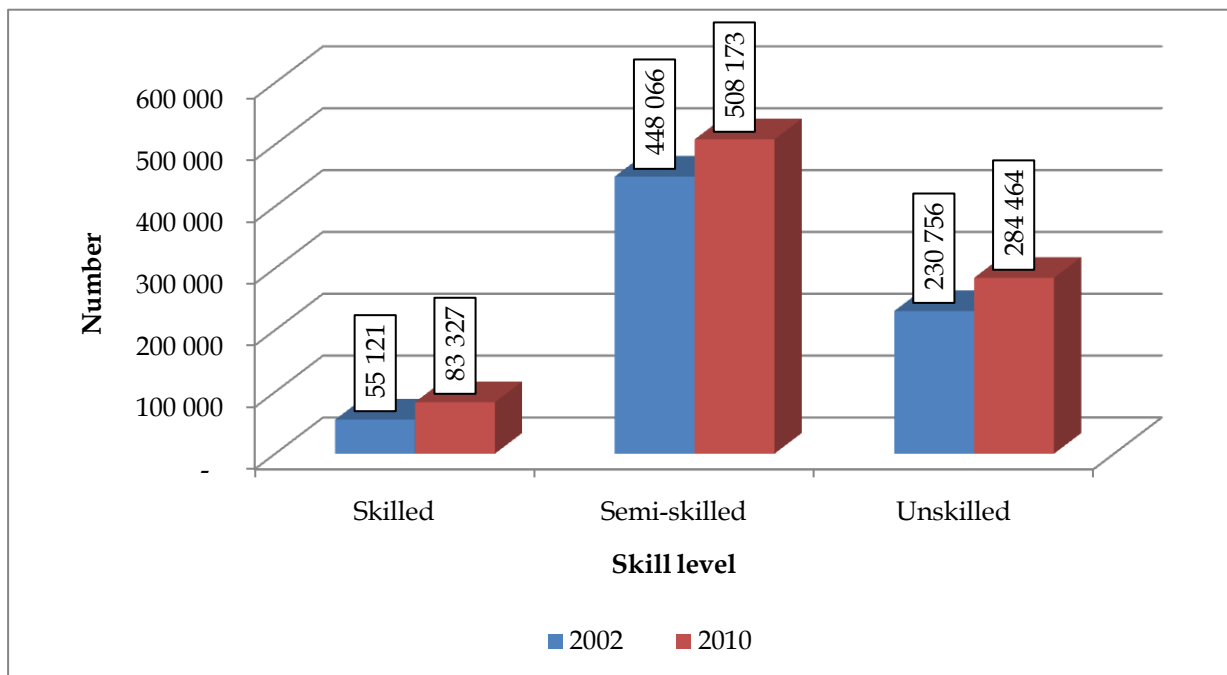


#### 4. CHANGES IN THE SKILLS COMPOSITION OF EMPLOYMENT IN MPUMALANGA

The view that South Africa faces a chronic skills shortage is often expressed and underpinned by the argument that economic growth has been strongly biased towards more highly skilled employment. The report therefore analyses the current composition of skills employment and changes to this composition in order to establish whether labour demand in Mpumalanga also demonstrates this bias.

From 2002 to 2010, measured employment in Mpumalanga increased by 142 022 (2.2 per cent per annum). In Figure 1, the change in employment is disaggregated according to skills classification. The skills classification is given by the International Standard Classification of Occupations (ISCO)<sup>1</sup>.

**Figure 1: Increase in the number of employed in Mpumalanga according to skill level, 2002-2010**



Source: Stats SA – LFS, 2002 & QLFS, 2011

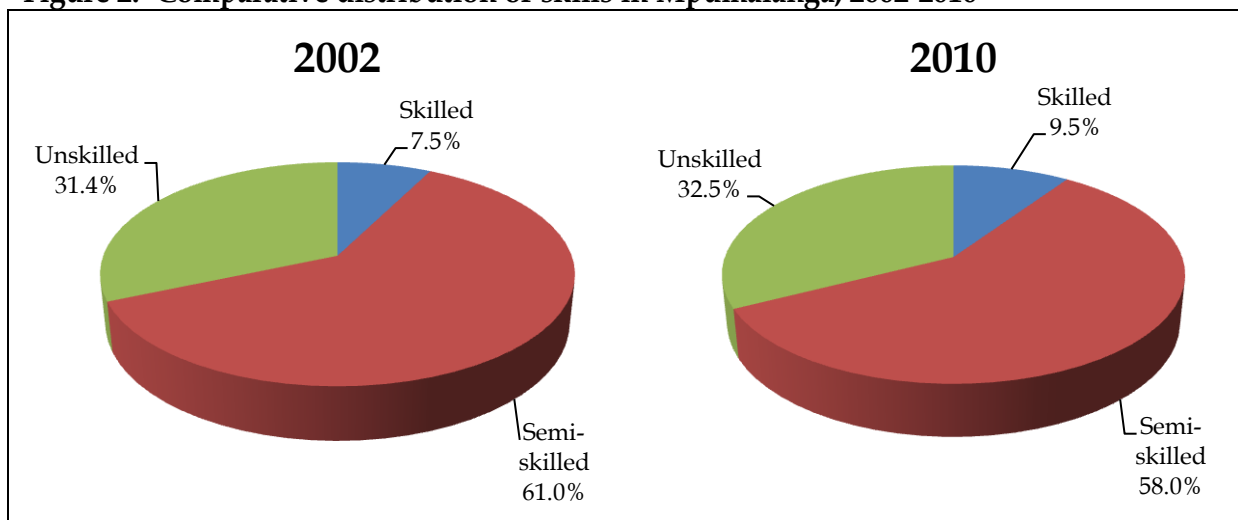
Over the period under review, the biggest absolute expansion in Mpumalanga employment occurred in work classified as semi-skilled (60 107). Furthermore, the largest percentage increase provincially was recorded in skilled employment of 5.3 per cent per annum. There-

<sup>1</sup> Skilled labour is identified by codes 1 and 2 of the ISCO and refers to legislators, senior officials, managers and professionals. Semi-skilled labour is identified by codes 3 to 8, representing technical and associate professionals, skilled agriculture and fishery workers, craft and related trade workers, and plant and machine operators and assemblers. Unskilled labour is identified by ISCO code 9, and represents employment in elementary occupations, including paid domestic work.

fore, an initial reading of the data supports the argument of a general shift towards more skilled employment in the economy.

The recorded skilled employment in Mpumalanga increased significantly, albeit from a low base. Consequently, the share of skilled employment increased from 7.5 per cent in 2002 to 9.5 per cent in 2010. The share of unskilled labour also increased by 1.1 percentage points whereas the share of semi-skilled employment decreased by 3 percentage points. The comparative skills distribution for 2002 and 2010 are presented in Figure 2.

**Figure 2: Comparative distribution of skills in Mpumalanga, 2002-2010**

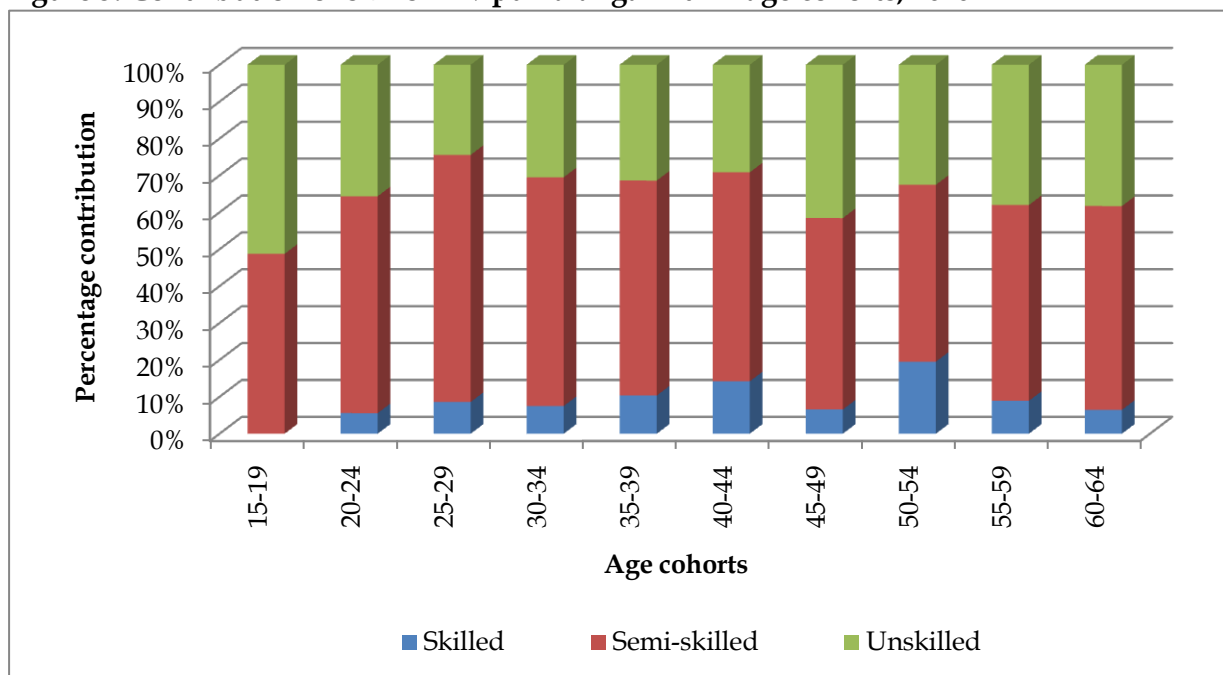


*Source: Stats SA - LFS, 2002 & QLFS, 2011*

It is evident from Figure 3 that, with the exception of the 15-19 age cohort, most of the employment in each age cohort was of a semi-skilled nature in 2010. Unskilled employment was the second largest contributor in each of the age cohorts, except the 15-19 age cohort. The largest contribution by semi-skilled employment was in the 25-29 age cohort with a 67.0 per cent contribution. The largest contribution by skilled employment was in the 50-54 age cohort with a 19.5 per cent contribution.

In 2010, the 50-54 age cohort held the largest share of skilled employment positions among all age cohorts with an 18.2 per cent share. The 30-34 age cohort both held the largest share of semi-skilled employment (19.2 per cent) and unskilled employment (16.8 per cent) among all age cohorts. The middle-aged (35-54 years) held the major share of skilled employment (58.0 per cent) as well as unskilled employment (47.7 per cent) in 2010, whereas the youth (15-34 years) held the major share of semi-skilled employment (48.8 per cent). Table 5 compares the contribution of the various age cohorts to the skills distribution in 2002 with that of 2010.

**Figure 3: Contribution of skills in Mpumalanga within age cohorts, 2010**



Source: Stats SA - LFS, 2002 & QLFS, 2011

**Table 5: Comparative contribution of age cohorts to skills employment in Mpumalanga, 2002-2010**

Age cohort	Skilled		Semi-skilled		Unskilled	
	2002	2010	2002	2010	2002	2010
15-19	-	-	1.3%	0.9%	1.5%	1.7%
20-24	4.0%	6.3%	9.7%	10.9%	10.4%	11.9%
25-29	15.3%	14.0%	17.3%	17.8%	13.4%	11.6%
30-34	22.6%	14.2%	16.7%	19.2%	14.8%	16.8%
35-39	20.3%	16.3%	13.1%	15.0%	15.6%	14.5%
40-44	11.2%	15.4%	13.4%	10.1%	13.6%	9.3%
45-49	12.5%	8.1%	10.7%	10.5%	11.9%	15.0%
50-54	6.6%	18.2%	8.7%	7.3%	7.8%	8.9%
55-59	4.8%	5.5%	6.5%	5.3%	5.0%	6.8%
60-64	2.8%	2.0%	2.6%	2.9%	6.0%	3.5%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

Source: Stats SA - LFS, 2002 & QLFS, 2011

In 2002 and 2010, the majority of skilled employment positions were filled by individuals with a tertiary education. The share, however, declined from 50.2 per cent in 2002 to 49.1 per cent in 2010. Individuals with matric education held the largest share of semi-skilled employment (36.4 per cent) in 2010 – an improvement of 9.4 percentage points since 2002. In 2010, unskilled employment positions were mainly filled by individuals with incomplete secondary education. Between 2002 and 2010, there was an observable shift away from lower levels of education towards higher levels in all three broad skills categories, es-

pecially in unskilled employment. Table 6 compares the contribution of the education levels attained to the skills distribution in 2002 with that of 2010.

**Table 6: Comparative contribution of education level to skills employment in Mpumalanga, 2002-2010**

Level of education	Skilled		Semi-skilled		Unskilled	
	2002	2010	2002	2010	2002	2010
No schooling	2.7%	0.4%	10.8%	3.9%	24.0%	15.0%
Incomplete primary	2.7%	2.7%	15.6%	7.4%	26.1%	17.9%
Primary completed	1.6%	1.7%	6.9%	3.0%	11.2%	8.1%
Incomplete secondary	15.6%	16.1%	29.3%	28.5%	25.1%	39.8%
Matric completed	27.2%	30.0%	27.0%	36.4%	13.0%	17.4%
Tertiary completed	50.2%	49.1%	10.4%	20.9%	0.5%	1.8%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>	<b>100.0%</b>

*Source: Statistics SA – LFS, 2002 & QLFS, 2011*

## 5. CONCLUSION

The youth cohort (15-34 years) is in the majority when the working-age population of the province is considered. This majority manifests specifically within education levels of matric and the lower levels, whereas the bulk of the working-age population with a tertiary education is from the middle-aged (35-54 years) cohort. Due in part to the extent of the youth cohort and its dominant position within the lower levels of education, more than two thirds of the working-age population have not yet progressed beyond grade 11. Fortunately, this dire situation is changing for the better with the number of citizens with higher education levels increasing faster than those with lower levels, between 2002 and 2010.

The provincial labour force is slowly progressing into a more educated force in the province mainly due to sharp increases in the attainment of matric and tertiary education. Despite these improvements, a large proportion of the labour force still holds only some or no secondary schooling, a fact which hinders economic development and expansion. Higher levels of education should logically reduce the probability of unemployment. This is, however, not the situation in Mpumalanga where only the attainment of tertiary education and not matric appears to reduce this probability. An initial reading of the results therefore supports the argument that the labour force is not sufficiently qualified for new employment opportunities and that a tertiary qualification appears to be what is demanded for these new opportunities. Further analysis of the relationship is advised as well as scrutiny of secondary curricula that may inadequately prepare the labour force for demands placed on them.

Mpumalanga experienced a general shift towards more skilled employment and away from unskilled employment, however, semi-skilled employment still dominated. Naturally, the

youth cohort, as largest unit among the employed, dominated semi-skilled employment. Semi-skilled employment showed a strong relationship with the attainment of matric, which was also dominated by the youth cohort. Not surprisingly, the middle-aged was in possession of the majority of skilled positions due to the fact that skilled employment strongly correlated with tertiary education, a level of education that the middle-aged dominated. Therefore, the level of schooling and the signalling of skills acquisition associated therewith clearly appear to influence the level of skills employment in Mpumalanga.