

























































































































































































































































































































































































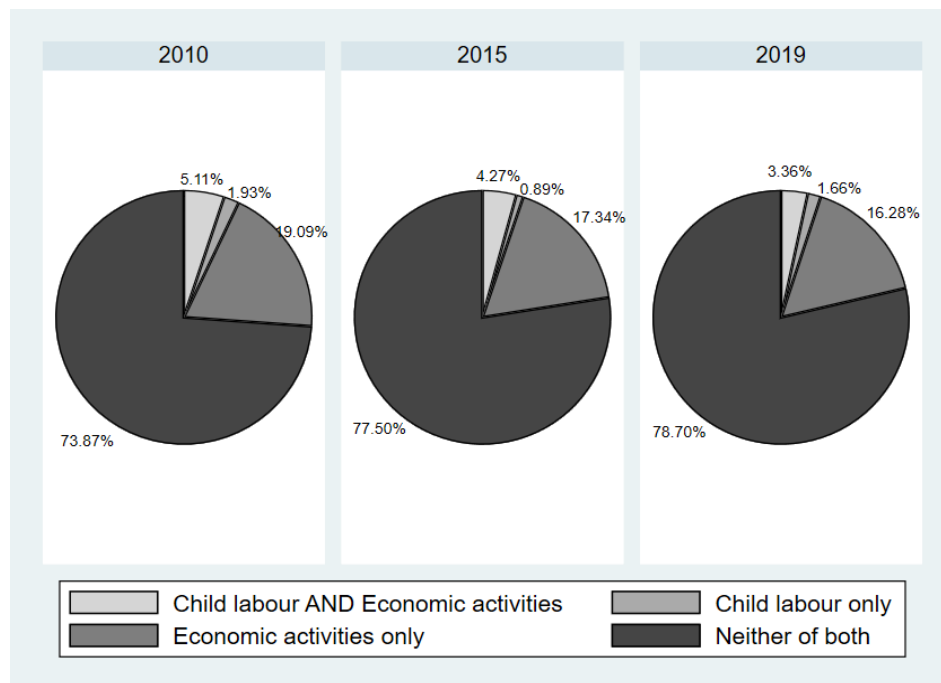
**Table 4.5: Continued**

	2010			2015			2019		
	Yes	No	All	Yes	No	All	Yes	No	All
<u>Involvement in economic activities</u>									
Involved in market activities	10.47	0.33	1.05	11.06	0.19	0.75	8.31	0.14	0.55
Involved in non-market activities	62.06	20.20	23.15	71.73	18.09	20.85	58.68	17.00	19.09
Not involved in both activities	27.47	79.47	75.81	17.22	81.72	78.39	33.01	82.86	80.36
<u>Engagement in household chores</u>									
Involved in at least one household chore	96.48	79.43	80.63	97.95	78.26	79.27	97.12	80.48	81.31
Not involved in any household chores	3.52	20.57	19.37	2.05	21.74	20.73	2.88	19.52	18.69
<u>School attendance status</u>									
Attending school	95.29	98.10	97.90	96.45	98.50	98.40	97.47	98.43	98.39
Not attending school	4.71	1.90	2.10	3.55	1.50	1.60	2.53	1.57	1.61
<u>Whether the parents are still alive</u>									
Both parents still alive	70.15	78.00	77.45	71.22	74.96	74.77	82.03	87.84	87.55
Only mother still alive	18.01	13.51	13.82	14.68	14.25	14.27	13.22	8.04	8.30
Only father still alive	4.67	3.29	3.39	3.40	3.66	3.65	2.40	2.30	2.31
Both parents not alive	7.17	5.20	5.34	10.69	7.14	7.32	2.35	1.82	1.85
<u>Whether the parents are household members</u>									
Both parents being household members	28.20	36.02	35.47	23.98	35.08	34.51	21.51	37.22	36.44
Only mother being household member	39.73	38.79	38.86	39.23	36.54	36.68	51.09	40.80	41.31
Only father being household member	3.78	3.39	3.42	3.02	3.48	3.45	3.99	4.24	4.22
Both parents not being household members	21.12	16.59	16.91	23.07	17.77	18.05	21.06	15.92	16.18
Both parents not alive	7.17	5.20	5.34	10.69	7.14	7.32	2.35	1.82	1.85
<u>Other statistics</u>									
Mean household size	6.13	6.03	6.03	6.26	5.86	5.88	6.10	5.85	5.86
Mean number of other employed members	0.66	0.98	0.96	0.70	1.03	1.01	0.85	1.05	1.04
Mean number of other unemployed members	0.34	0.40	0.40	0.28	0.45	0.44	0.52	0.54	0.53

Source: Author's calculations using the SAYP data.

Next, Figure 4.6 below shows that the proportion of children who were not involved in either child labour or economic activities increased from 73.87% in 2010 to 78.70% in 2019. Conversely, the percentage of children engaged in both child labour and economic activities decreased from 5.11% to 3.36%. These encouraging results underscore the impact of government efforts in reducing the prevalence of working children in South Africa, promoting their physical and mental development.

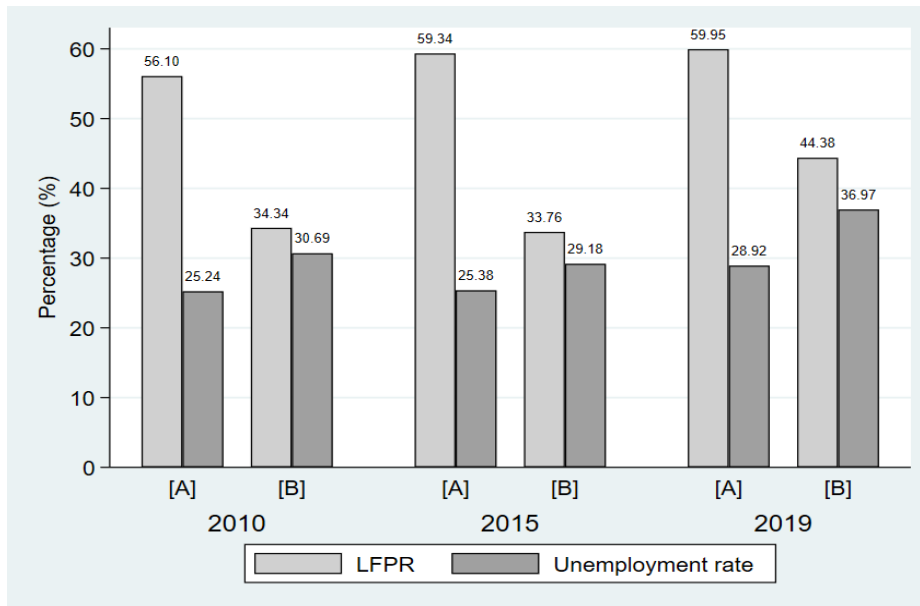
**Figure 4.6: Summary: Work activities (if any) of children aged 7-17 years**



Source: Author’s calculations using the SAYP data.

Figures 4.7 and 4.8 provide a comparative analysis of labour force participation rates (LFPR) and unemployment rates among working-age adult household members based on the presence or absence of child labour or children involved in economic activities within their households. First, Figure 4.7 shows that for adult members coming from households without any child labour present, the LFPR was quite high (close to 60%) while unemployment rate hovered between 25% and 28% across the three SAYP waves. In contrast, when examining the adult population who came from households with the presence of at least one child labour, the LFPR was much lower (2010 and 2015: 34%; 2019: 44%) while unemployment rate was relatively higher (2010 and 2015: about 30%; 2019: 37%).

**Figure 4.7: Labour force participation rates and unemployment rate of working-age population household members, by child labour status of children in the household**

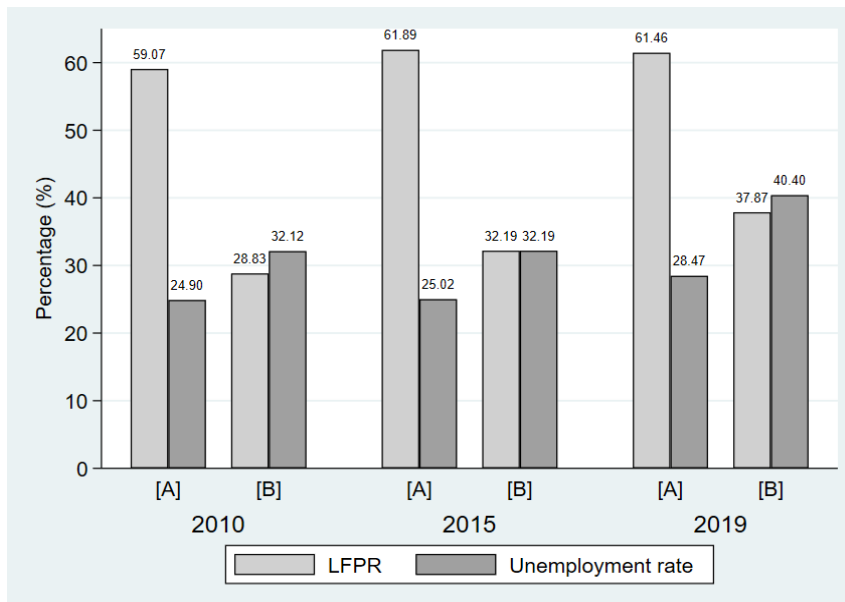


Source: Author's own calculations using the SAYP data.

Group [A]: No child labour in the household

Group [B]: At least one child labour in the household

**Figure 4.8: Labour force participation rates and unemployment rate of working-age population household members, by economic activity involvement status of children in the household**



Source: Author's own calculations using the SAYP data.

Group [A]: No children in the household were involved in economic activities

Group [B]: At least one child in the household was involved in economic activities

The findings of Figure 4.8 are highly similar to those of Figure 4.7. That is, for adult working-age population coming from households without any children involved in economic activities, the LFPR was relatively higher (59-61%) and unemployment rate was lower (ranging between 25% and 28% across the three SAYP waves); however, for the working-age population who came from households with the presence of at least one child who was involved in economic activities, LFPR was lower (2010: 29%; 2015: 32%; 2019: 38%) but unemployment rate was higher (2010 and 2015: 32%; 2019: 40%).

The findings derived from both Figures 4.7 and 4.8 suggest the critical labour market issues that had been exacerbated by the persistence of high unemployment over the decade of lowly educated, unskilled and idle adult working-age labour that sustain themselves through possible exploitation of child members of the households.

To conclude the descriptive statistical analysis, Table 4.6 shows the main forms of household chores performed by children. Older children were consistently more involved in most types of household chores compared to younger children across all waves. The difference was particularly pronounced in activities such as cooking (79.76% vs. 57.27% in 2019), cleaning (87.43% vs. 69.88% in 2019), and washing clothes (74.80% vs. 41.14% in 2019). However, younger children were slightly more likely to be involved in going to shops to buy items for household use across all waves.

Therefore, the top three household chores performed by all children aged 7-17 years old were going to the shop to buy items for the household (about three-quarters of children were involved in this activity in all three waves), cleaning (also about 75%) and cooking (increasing from 59% to 64%). This finding concurs with Dawes et al. (2012) study where cooking, cleaning and collecting firewood were the main identified household chore tasks.

A total of about 1.2 million children in all the waves took care of other siblings, the elderly and the sick in their households while around 4.7 million children (or slightly over 50% proportion) washed clothes in their households. The number of children who repaired household equipment dropped by nearly 70 000 between 2010 and 2019.

**Table 4.6: Involvement in each type of household chore (percentage in brackets)**

	2010			2015			2019		
	7-14 years	15-17 years	All children	7-14 years	15-17 years	All children	7-14 years	15-17 years	All children
<u>Type of household chore activity<sup>#</sup></u>									
Cooking	3 104 931 (50.98)	2 144 590 (76.09)	5 249 521 (58.92)	3 168 697 (52.49)	2 201 327 (77.94)	5 370 024 (60.60)	3 644 612 (57.27)	2 306 540 (79.76)	5 951 152 (64.30)
Cleaning	4 299 780 (70.59)	2 479 817 (87.99)	6 779 597 (76.10)	4 257 228 (70.52)	2 488 980 (88.13)	6 746 208 (76.13)	4 446 676 (69.88)	2 528 399 (87.43)	6 975 075 (75.36)
Washing clothes	2 517 740 (41.34)	2 175 582 (77.19)	4 693 322 (52.68)	2 516 094 (41.68)	2 176 176 (77.05)	4 692 270 (52.95)	2 617 644 (41.14)	2 163 196 (74.80)	4 780 840 (51.66)
Caring for children/elderly/sick	694 167 (11.40)	577 014 (20.47)	1 271 181 (14.27)	618 805 (10.25)	533 164 (18.88)	1 151 969 (13.00)	604 959 (9.51)	567 149 (19.61)	1 172 108 (12.66)
Repairing household equipment	172 416 (2.83)	216 997 (7.70)	389 413 (4.37)	115 348 (1.91)	163 328 (5.78)	278 676 (3.14)	120 347 (1.89)	199 385 (6.89)	319 732 (3.45)
Going to shops to buy items for household use	4 781 332 (78.50)	2 238 690 (79.43)	7 020 022 (78.79)	4 537 820 (75.17)	2 178 678 (77.14)	6 716 498 (75.80)	4 922 927 (77.36)	2 282 882 (78.94)	7 205 809 (77.86)
Other	73 528 (1.21)	49 301 (1.75)	122 829 (1.38)	86 776 (1.44)	44 422 (1.57)	131 198 (1.48)	115 644 (1.82)	56 521 (1.95)	172 165 (1.86)
<u>Number of types of household chores activities involved in</u>									
One type	1 730 610 (28.41)	228 059 (8.09)	1 958 669 (21.98)	1 645 295 (27.25)	209 208 (7.41)	1 854 473 (20.93)	1 580 223 (24.83)	182 528 (6.31)	1 762 751 (19.05)
Two types	1 285 418 (21.10)	340 092 (12.07)	1 625 510 (18.25)	1 426 966 (23.64)	353 453 (12.51)	1 780 419 (20.09)	1 538 607 (24.18)	373 607 (12.92)	1 912 214 (20.66)
Three types	1 426 700 (23.42)	650 427 (23.08)	2 077 127 (23.31)	1 444 431 (23.93)	702 670 (24.88)	2 147 101 (24.23)	1 563 373 (24.56)	720 844 (24.93)	2 284 217 (24.68)
Four types	1 241 817 (20.39)	1 075 687 (38.17)	2 317 504 (26.01)	1 156 931 (19.16)	1 085 289 (38.43)	2 242 220 (25.30)	1 304 510 (20.50)	1 131 392 (39.12)	2 435 902 (26.32)

Five types	343 353 (5.64)	430 459 (15.27)	773 812 (8.69)	340 590 (5.64)	422 871 (14.97)	763 461 (8.62)	353 623 (5.56)	418 181 (14.46)	771 804 (8.34)
Six types	61 859 (1.02)	88 672 (3.15)	150 531 (1.69)	22 934 (0.38)	48 838 (1.73)	71 772 (0.81)	22 070 (0.35)	61 474 (2.13)	83 544 (0.90)
All seven types	1 023 (0.02)	5 056 (0.18)	6 079 (0.07)	0 (0.00)	1 916 (0.07)	1 916 (0.02)	954 (0.01)	3 783 (0.13)	4 737 (0.05)
Total:	6 090 780 (100.00)	2 818 452 (100.00)	8 909 232 (100.00)	6 037 117 (100.00)	2 824 245 (100.00)	8 861 362 (100.00)	6 363 360 (100.00)	2 891 809 (100.00)	9 255 169 (100.00)

Source: Author's calculations using the SAYP data.

# The percentage did not add up to 100% because it is possible that the child was involved in more than one type of household chore activity.

Looking at the number of household chores performed by each child, older children were consistently involved in a greater number of household chore types compared to younger children. In 2019, 55.71% of older children were involved in four or more types of household chores, compared to 26.42% of younger children. This pattern was consistent across all three waves, indicating that older children had a broader range of household responsibilities. In addition, the proportion of children who performed only one household chore declined continuously by 2.93 percentage points between 2010 (22%) and 2019 (19%). Lastly, the total number of children performing at least one household chore increased from 8.9 million in 2010 to 9.3 million in 2019 (as already shown in Table 4.1 earlier).

#### **4.4.2 Econometric Analysis**

The section provides the empirical findings derived from three sets of models. Firstly, it outlines the results from two straightforward probit models aimed at discerning the determinants influencing the involvement of children aged 7-17 years in economic or child labour activities. Secondly, it presents the outcomes from probit models designed to assess the impact of children's work activity status on the likelihood of labour force participation amongst the working-age adult household members. Lastly, it discusses the results from Heckprobit models aimed at evaluating the probability of finding employment among all working-age household members, conditional on their participation in the labour force.

Table 4.7 outlines the average marginal effects from the two simple probit regressions on the probability of children aged 7-17 years being involved in economic or child labour activities. In 2010, males were significantly less likely to be involved in economic as well as child labour activities relative to females, *ceteris paribus*. Although in the 2015 and 2019 waves, the average marginal effects were negative, they were not significant for the male dummy of both economic and child labour activities. These results in terms of economic work concur with De Wet's (2013), as well as Mitik and Decaluwe's (2009) findings that girls were more likely to perform household chores when the father migrates and the female labour income is required to supplement household income. However, in terms of child labour incidence, the result contradicts the findings of Budlender & Bosch (2002) and Duryea et al. (2007) who found male children to be more likely involved in child labour activities.

**Table 4.7: Probit regression on economic activity and child labour for children aged 7-17 years only**

Independent variable	Average marginal effects					
	Economic Activity			Child Labour		
	2010	2015	2019	2010	2015	2019
Gender: Male	-0.026***	-0.001	-0.001	-0.008**	-0.000	-0.003
Race: Coloured	-0.103***	-0.066***	-0.076***	-0.017*	-0.002	-0.025**
Race: Indian	-0.069	-0.123***	N/A	-0.020	-0.029**	-0.020
Race: White	-0.132***	-0.089***	-0.090***	-0.034***	-0.009	0.002
Age	0.061***	0.013	0.034**	0.004	-0.004	0.014**
Age squared	-0.001**	0.001	-0.001	0.000	0.000*	-0.000
Province: Eastern Cape	0.203***	0.133***	0.248***	0.052***	0.006	0.057**
Province: Northern Cape	0.140***	0.102***	0.201***	-0.017	-0.015	-0.018
Province: Free State	-0.032	-0.082***	-0.017	-0.017	-0.011	0.002
Province: KwaZulu-Natal	0.136***	0.182***	0.179***	0.047***	0.055***	0.057***
Province: North West	-0.010	0.002	-0.011	-0.028***	-0.020**	-0.012
Province: Gauteng	-0.077**	-0.075***	-0.109***	-0.023*	0.004	0.054**
Province: Mpumalanga	-0.102***	0.039	0.008	-0.019*	0.040***	0.064**
Province: Limpopo	0.007	0.055**	0.022	-0.040***	0.021	-0.002
Resident Area: Urban	-0.264***	-0.218***	-0.167***	-0.047***	-0.036***	-0.042***
Education years	0.013*	0.023***	0.016**	0.001	0.003	0.002
Education years squared	-0.002***	-0.003***	-0.002***	-0.000	-0.000*	-0.000
Only mother is alive	0.018*	0.024***	0.030**	0.000	-0.009**	0.016**
Only father is alive	0.042**	0.010	0.011	0.003	-0.011	-0.007
Both parents are not alive	0.003	0.029**	-0.003	-0.001	0.005	0.002
Number of Children 0-6 years	0.005	0.008**	0.004	0.001	0.001	0.003*
Number of other children 7-17 years	0.003	0.010***	0.009***	-0.002*	0.003**	-0.002*
Number of males 18-59 years	-0.009**	-0.012***	-0.008*	-0.003	-0.003	-0.003
Number of females 18-59 years	-0.010**	0.012***	-0.015***	-0.008***	-0.003	0.000
Number of elderly	-0.008	-0.007	-0.011*	0.003	0.004	-0.006*
Number of other employed members	-0.021***	-0.022***	-0.019***	-0.002	-0.005**	-0.001
Number of observations	17 335	13 614	11 000	17 335	13 614	11 120
LR Chi-square statistic	2495.10	2029.45	1563.34	864.53	511.43	353.84
Prob. > Chi-square	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Pseudo R square	0.3038	0.2824	0.2756	0.1364	0.1301	0.1163
Observed probability	0.2423	0.2164	0.2013	0.0706	0.0516	0.0502
Predicted probability (at $\bar{X}$ )	0.1504	0.1239	0.1122	0.0463	0.0318	0.0310
*** p < 0.01, ** p < 0.05, * p < 0.10						
Reference groups: Female, African, Western Cape, Rural area, both parents are still alive						
N/A variable dropped during estimation						

Source: Author's calculations using the SAYP data.

The Coloured, Indian and White races' average marginal effects for economic activities were negative and statistically significant excluding Indians' 2010 and 2019 results which were insignificant and dropped during the estimation process respectively. These results imply that the three races were significantly less likely to be involved in economic activities relative to the African race. On the other hand, in terms of child labour, the majority of average marginal effects were negative but occasionally significant. The Coloured race was 1.7% (2010) and 2.5% (2019) significantly less likely to be involved in child labour whereas Indians 2.9% (2015) and Whites 3.4% (2010) were also significantly less likely to be part of child labour activities relative to the African race children.

In terms of the provincial dummy for all the waves, children residing in the Eastern Cape, Northern Cape, KwaZulu-Natal and Limpopo (only in 2015) provinces, were significantly more likely to be involved in economic activities relative to those residing in the Western Cape province, after controlling for differences in other characteristics. On the contrary, children residing in Free State (only in 2015), Gauteng and Mpumalanga (only in 2010) provinces were significantly less likely to be involved in economic activities. Focusing on child labour the results were slightly mixed with the majority often changing signs and occasionally significant. In 2019, children residing in the Eastern Cape (5.7%), Gauteng (5.4%), Mpumalanga (6.4%) and KwaZulu-Natal (5.7%) provinces were significantly more likely to be involved in child labour relative to those residing in the Western Cape province. This aligns with De Wet's (2013) findings on these provinces having high child labour incidence.

According to the 2010 (6.1%) and 2019 (3.4%) waves' results, age had a positive and significant effect on the probability that a child is involved in economic activities. On the other hand, in 2019 (1.4%) age was significantly more likely to influence children to participate in child labour. The relationship between age and economic activities in the 2010 wave was non-linear and concave implying that children at certain ages were less likely to be involved in economic activities. Conversely, in 2015 the relationship between age and child labour was non-linear and convex meaning the effect of age on the probability that a child is involved in child labour increases with the children's age. These results concur with De Wet's (2013) finding that adolescents had a higher likelihood of being involved in work, especially when faced with parent absenteeism.

The average marginal effect results on the urban dummy show that the children who resided in urban areas were significantly less likely to be involved in economic and child labour activities in all the waves. This result is consistent with the findings of Alvi and Dendir (2011) and Krauss (2017) where rural children were more likely to work as child labour. Looking at the years of education dummy, an increase in education was associated with a positive and significant probability of a child being involved in economic activities. This result supports the demographic statistic finding that the majority of the children performing household chores were attending school. The relationship between economic activity likelihood and years of education was negative and non-linear concave. Also, in 2015 the relationship between years of education and child labour probability was negative, non-linear and concave. This shows that children with certain years of education were less likely to be part of economic or child labour activities.

Children who had only their mother alive showed a significantly higher likelihood of involvement in economic activities across all SAYP waves, compared to those with both parents alive. Additionally, children with only their fathers alive (2010 only) and those with neither parent alive (2015 only) demonstrated a significantly increased likelihood of engaging in economic activities. These findings in general are consistent with the impacts of the HIV/AIDS pandemic, as well as De Wet's (2013) findings that the absence of the primary breadwinner (fathers) significantly raised the probability of labour market participation among children. Conversely, the parent survival status dummy produced mixed results regarding the involvement of children with only their mother in child labour.

In 2015, the existence of children under the age of six years in a household had a positive and significant effect on children aged 7-17 years being involved in economic activities. On the other hand, in 2019 having children younger than six years in the household was significantly more likely to cause children aged 7-17 years to be involved in child labour. Furthermore, the results of 2015 and 2019 in Table 4.7 showed that having fellow siblings aged 7-17 years in a household would positively increase the likelihood of children aged 7-17 years being involved in economic activities. Although child labour results for the existence of fellow siblings aged 7-17 years were significant, they were mixed changing signs from one wave to the other.

The presence of additional male household members aged between 18 and 59 years decreased the likelihood of children aged 7 to 17 years being involved in economic activities. This

suggests that these adult household members likely assumed more of the economic work responsibilities, thereby enabling children to concentrate on their schooling. However, the presence of females aged between 18 and 59 years in a household yielded mixed results. Regarding child labour, in 2010, the presence of additional females in this age group significantly reduced the likelihood of children aged 7 to 17 years being involved in child labour. Looking at the presence of elderly members of the household, the average marginal effects of the 2019 wave were negative and significant for both economic and child labour activities. This outcome concurs with Edmonds (2004), whose research indicates that access to old-age pension income by the elderly reduces the likelihood of younger children engaging in economic and child labour activities.

When the household had a high number of other adult employed members, the likelihood of children aged 7-17 years being involved in economic activities was significantly lower. In fact, the result was statistically significant across all three SAYP waves that, after controlling for differences in other characteristics, the presence of an additional employed adult household member was associated with about 2% decrease in the likelihood of the child (who lived in the same household) being involved in economic activities. This strongly suggests that when a household income earned by the adult household members is more or enough to cover their sustenance needs then the likelihood of children being involved in economic activities would be eliminated. Lastly, Table 4.7 shows that the presence of other employed (adult) household members was associated with the lower probability of child labour, but the result was only statistically significant in 2015 with a marginal effect of -0.5%.

Next, Table 4.8 illustrates the average marginal effects results from the probit models that analysed the labour force participation probability of the working-age population members. The results reveal that males from households with married couples who resided in the urban areas of the Gauteng (2015) and Mpumalanga (2019) provinces were significantly more likely to be part of the labour force. Additionally, there was a positive and significant effect observed with increasing age. However, the relationship between age and the likelihood of labour force participation among household members was negative, significant, and non-linear concave. This suggests that as age increases, the impact on the likelihood of working-age household members participating in the labour market diminishes at an accelerating rate.

**Table 4.8: Probit regression on labour force participation for all working-age population**

Independent variable	Average marginal effects					
	[I]	[II]	[III]	[IV]	[V]	[VI]
	2010	2015	2019	2010	2015	2019
Gender: Male	0.217***	0.182***	0.178***	0.217***	0.183***	0.178***
Race: Coloured	0.017	0.002	0.016	0.020	0.003	0.016
Race: Indian	-0.023	-0.146***	-0.095***	-0.022	-0.146***	-0.095***
Race: White	-0.063***	-0.076***	-0.050***	-0.065***	-0.077***	-0.050***
Age	0.093***	0.093***	0.097***	0.093***	0.093***	0.097***
Age squared	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
Province: Eastern Cape	-0.105***	-0.110***	-0.079***	-0.110***	-0.113***	-0.079***
Province: Northern Cape	-0.062***	-0.007	-0.071***	-0.062***	-0.007	-0.071***
Province: Free State	-0.031**	-0.028*	-0.023	-0.030**	-0.028*	-0.022
Province: KwaZulu-Natal	-0.111***	-0.108***	-0.118***	-0.114***	-0.110***	-0.118***
Province: North West	-0.087***	-0.119***	-0.116***	-0.085***	-0.118***	-0.116***
Province: Gauteng	0.000	0.040***	0.000	0.000	0.040***	0.000
Province: Mpumalanga	-0.004	-0.007	0.031**	0.001	-0.005	0.030**
Province: Limpopo	-0.130***	-0.103***	-0.138***	-0.128***	-0.102***	-0.138***
Resident Area: Urban	0.123***	0.098***	0.090***	0.130***	0.103***	0.091***
Education years	-0.012***	-0.011***	-0.007**	-0.012***	-0.011***	-0.007**
Education years squared	0.003***	0.002***	0.002***	0.003***	0.002***	0.002***
Married	0.020***	0.029***	0.027***	0.020***	0.030***	0.027***
Number of children 0-6 years	-0.016***	-0.013***	-0.005	-0.017***	-0.014***	-0.005
Number of other children 7-17 years	-0.021***	-0.016***	-0.017***	-0.027***	-0.019***	-0.017***
Number of males 18-59 years	-0.027***	-0.023***	-0.024***	-0.026***	-0.022***	-0.024***
Number of females 18-59 years	0.017***	0.000	0.008**	0.018***	0.001	0.008**
Number of elderly	-0.051***	-0.058***	-0.053***	-0.50****	-0.057***	-0.053***
Total number of children in economic activity	-0.026***	-0.022***	0.003			
Total number of children in child labour				0.005	-0.037***	0.019
Number of observations	46 773	40 828	38 467	46 773	40 828	38 467
LR Chi-square statistic	7422.28	7554.54	6874.14	7395.51	7603.54	6883.80
Prob. > Chi-square	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Pseudo R square	0.2119	0.2173	0.2091	0.2114	0.2172	0.2091
Observed probability	0.6081	0.6415	0.6487	0.6081	0.6415	0.6487
Predicted probability (at $\bar{X}$ )	0.6331	0.6738	0.6801	0.6334	0.6739	0.6801
*** p < 0.01, ** p < 0.05, * p < 0.10						
Reference groups: Female, African, Western Cape, Rural						

Source: Author's calculations using the SAYP data.

On the contrary, the explanatory variables representing individuals of Indian and White racial backgrounds, as well as those residing in the Eastern Cape, Northern Cape, Free State,

KwaZulu-Natal, North West, and Limpopo provinces, along with years of education, were significantly less likely to increase the probability of active labour market participation among working-age members of households, relative to their respective reference groups. The analysis revealed a significant non-linear concave relationship between years of education and the probability of working-age members participating in the labour market. This indicates that as the years of education increased, its impact on the likelihood of working-age household members participating in the labour force participation became less pronounced as education levels increased.

Looking at other results from Table 4.8, in 2010 and 2015 the presence of more children under the age of seven years residing in a household significantly reduced the probability of working-age members seeking employment actively in the labour market. Similarly, in all the waves the working-age members of the household were significantly less likely to participate in the labour market when there was a high number of other children aged 7-17 years, male adults aged 18-59 years and the elderly residing in their household, *ceteris paribus*.

The significantly lower likelihood of the elderly influencing working-age members to seek work actively could be attributed to the old age pension income received by the elderly which caters for the household basic income requirements (Edmonds, 2004). Contrastingly, in 2010 and 2019 the presence of female adults aged 18 to 59 years was significantly more likely to influence the working-age members of the household to actively participate in the labour market.

The results from the two different explanatory variables namely the total number of children in economic activities (i.e. regressions [I]-[III]) or child labour activities (i.e. regressions [IV]-[VI]) were slightly mixed and they do not strongly indicate that when a household had a high number of children participating in economic or child labour activities, the adult members would always be significantly more likely seek work. On the contrary, in some years the higher number of children involved in economic or child labour activities actually significantly lowers the probability of the working-age members of the household to actively participate in the labour force, after controlling for differences in other characteristics. To sum up, significant and negative marginal effects were only observed in regressions [I], [II] and [V].

Next, Table 4.9 shows the findings of the Heckprobit regression model, which focuses on the employment likelihood conditional on labour force participation for all working-age members within a household. The Heckman correction control variable (lambda or inverse Mill's ratio) exhibited a negative and statistically significant association across all waves when the total number of children in economic activity was considered as an explanatory variable. Conversely, when the total number of children engaged in child labour was utilised, the average marginal effects were also negative and statistically significant only for the 2010 and 2015 waves. These findings indicate that the average marginal effects in Table 4.9 are unbiased estimators of the employment likelihood among working-age members within a household.

Looking at other results from Table 4.9, married people from the Coloured, Indian and White races who resided in the KwaZulu-Natal, North West and Limpopo provinces were associated with a significantly positive likelihood of finding employment relative to their reference groups. On the other hand, the following explanatory variables males (only in 2019), age, Free State, Gauteng and Mpumalanga (occasionally) provinces, urban areas and years of education had a significantly lower likelihood effect on the working-age members of their household finding employment when they actively sought work in the labour market. The relationship between age as well as years of education and the employment likelihood of the working-age members who sought work in the labour market was significant and non-linear convex. This means that working-age household members' likelihood of employment decreased initially but then increased at a decreasing rate as age or years of education increased.

Generally, the total number of children involved in economic activity or child labour activities' average marginal effects were mixed and often non-significant. However, only in 2019, a higher number of children involved in economic activities led to a significantly lower likelihood of the working-age members of their household finding employment, after controlling for differences in other characteristics. Similarly, it was only in 2010 that a higher number of children working in child labour had a significant and less likely impact on the employment likelihood of the working-age members of their households who sought work in the labour market, *ceteris paribus*.

**Table 4.9: Heckprobit regression on employment for all working-age population**

Independent variable	Average marginal effects					
	[I]	[II]	[III]	[IV]	[V]	[VI]
	2010	2015	2019	2010	2015	2019
Gender: Male	-0.010	-0.006	-0.023**	-0.010	-0.010	-0.026***
Race: Coloured	0.074***	0.061***	0.066***	0.074***	0.061***	0.067***
Race: Indian	0.125***	0.126***	0.144***	0.124***	0.128***	0.147***
Race: White	0.187***	0.186***	0.194***	0.187***	0.186***	0.194***
Age	-0.000	-0.010**	-0.018***	-0.000	-0.012**	-0.021***
Age squared	0.000*	0.000***	0.000***	0.000*	0.000***	0.000***
Province: Eastern Cape	0.058***	0.008	-0.047***	0.060***	0.010	-0.050***
Province: Northern Cape	0.032**	-0.098***	-0.028	0.032**	-0.099***	-0.028
Province: Free State	-0.008	-0.058***	-0.080***	-0.009	-0.057***	-0.080***
Province: KwaZulu-Natal	0.126***	0.097***	0.071***	0.127***	0.098***	0.070***
Province: North West	0.035**	0.032**	-0.006	0.034**	0.035**	-0.002
Province: Gauteng	-0.020	-0.094***	-0.102***	-0.020	-0.095***	-0.101***
Province: Mpumalanga	0.012	-0.004	-0.089***	0.011	-0.004	-0.088***
Province: Limpopo	0.080***	0.096***	0.108***	0.078***	0.098***	0.112***
Resident Area: Urban	-0.035***	-0.039***	-0.025**	-0.039***	-0.040***	-0.023**
Education years	-0.033***	-0.038***	-0.036***	-0.033***	-0.038***	-0.037***
Education years squared	0.002***	0.002***	0.002***	0.002***	0.002***	0.002***
Married	0.088***	0.062***	0.097***	0.089***	0.061***	0.097***
Total number of children in economic activity	0.005	-0.005	-0.270***			
Total number of children in child labour				-0.025**	0.005	-0.026
Lambda	-0.237***	-0.275***	-0.317***	-0.236***	-0.291***	-0.335
Number of observations	26 544	25 643	24 499	26 544	25 643	24 499
LR Chi-square statistic	2272.83	2462.19	2694.30	2282.41	2467.74	2684.19
Prob. > Chi-square	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Pseudo R square	0.1491	0.1257	0.1358	0.1495	0.1258	0.1353
Observed probability	0.7456	0.7441	0.7054	0.7456	0.7441	0.7054
Predicted probability (at $\bar{X}$ )	0.7885	0.7789	0.7396	0.7886	0.7789	0.7396
*** p < 0.01, ** p < 0.05, * p < 0.10						
Reference groups: Female, African, Western Cape, Rural						

Source: Author's calculations using the SAYP data.

Lastly, Tables A4.01-A4.03 in the Appendix illustrate the likelihood of African children aged 7-17 years being involved in economic or child labour activities as well as the likelihood of labour force participation and finding employment for all the African working-age population. Comparing Tables A4.01-A4.03 with Tables 4.7-4.9, the average marginal effects results showed high similarity, with minor variations in the marginal effect magnitudes. In Tables

A4.03, the majority of the variables retained the same sign and occasionally shifted significance levels. Once again in Table A4.01, African boys who resided in the Gauteng province in a household with more females aged 18-59 as well as employed other household members were significantly less likely to participate in economic activities. Conversely, those residing in Eastern Cape and KwaZulu-Natal provinces who had only their mother alive demonstrated a higher likelihood of involvement in economic activities in all the waves.

On the other hand, the higher the number of children aged 0-6 years (2019), other children aged 7-17 years (2015) and the elderly (2015) residing in a household, the significantly more likely African children will participate in child labour activities. Table A4.02's results once again reveal that the higher the number of African children in the economic (2010 and 2015) and child labour (2015) activities was associated with a significantly lower labour force participation likelihood of the African working-age population members of their households. Furthermore, Table A4.03's results once again reflect that the presence of a higher number of African children in economic (2019) and child labour (2010) activities led to a significant employment probability of the African working-age members of their households who sought work in the labour market. Lastly, the Heckman correction control variable in Table A03 were significant and negative in all the waves meaning the results were unbiased estimators of the employment likelihood of the African working-age population.

#### 4.5 Conclusion

This chapter conducted a detailed analysis of the activities of working children in South Africa using the last three (2010, 2015 and 2019) waves of the under-utilised SAYP data. Descriptive statistics revealed a general increase in the total number of children aged 7-17 years that was accompanied by a relatively high level of non-participation in economic activities (market and non-market) as well as a decline in child labour. In terms of children's work activities, school-going African children aged 11-17 years with incomplete primary education who performed at least one household chore and resided in the rural areas of the KwaZulu-Natal, Eastern Cape and Limpopo provinces with mainly their mothers yet both their parents were alive were relatively more likely to be involved in economic as well as child labour activities.

Children aged 7-17 years spent at least two hours in economic activities influenced mainly by the need for pocket money and to financially assist their households. The top three household chores performed included: going to the shops to purchase household items, cooking and

cleaning. On the other hand, inference analysis showed firstly a significant and lower likelihood of participation in economic or child labour activities for male children from the Coloured, Indian and White races who reside in urban areas in households with a high number of adults aged 18-59 years as well as a high number of other adults household members employed. Secondly, in some years a higher number of children involved in economic or child labour activities led to a significantly lower likelihood of the working-age members of their household actively seeking work in the labour market. Lastly, in 2019 (2010) a higher number of children involved in economic (child labour) activities resulted in a significantly lower likelihood of the working age members finding employment, *ceteris paribus*.

The incidence of working children or child labour is a serious, pervasive yet unavoidable issue in many developing economies. Hesketh, Gamlim and Woodhead (2006) assert that child labour stems from various situations or factors which include economic hardships, death, scrupulous working-age members taking advantage of children, dysfunctional families, alcohol abuse as well as local customs and traditions amongst others. These situations combined often rob children of adequate physical, emotional and spiritual developmental growth. In this regard, the government in collaboration with international organisations would need to develop laws, policies and programmes that effectively reduce and eventually eliminate the incidence of working children.

As a result of COVID-19, climate change as well as conflict and war effects on children, the recent 5th Global Conference on the elimination of child labour brought together various stakeholders in a bid to share experiences and best practices towards the establishment of a strategic movement to end child labour (ILO, 2022). These eye-opening events are crucial ways of fast-tracking the fight against child labour as they provide government authorities with real-time practical solutions and evidence of how to address issues around child labour from a global perspective. Therefore, the more frequent such collaboration occurs, the narrower the focus and more encouraged the national authorities are on eliminating child labour.

Enacting laws and regulations is a crucial and powerful response tool applied by most governments in addressing child labour, albeit not sufficient on its own. Kim (2009) cites that the definitional vagueness of certain work tasks makes it difficult for legislators to effectively know when to intervene or begin restricting child labour activities. For example, in Sweden, child protection laws have refined their coverage to include domestic work performed in the

employer's house in a bid to deter child economic exploitation as well as providing preventative measures and stringent punitive actions for perpetrators (Jankanish, 2000). The ILO convention and amendments on child labour elimination have been ratified by many countries including South Africa. However, the enforcement as well as the public awareness and understanding of these laws by the general public in our country still require further improvements to safeguard the growth of children. Thus, a coordinated programme of action by the government is crucial to bring all stakeholders into the fight against child labour.

Tripathi (2010) claims that a highly literate younger generation has huge developmental benefits for the economy and society at large. As a result, the ILO in collaboration with many countries introduced various reforms within the education systems. In Tanzania, a programme for early childhood was developed in poor agro-based areas in a bid to motivate as well as generate interest in learning amongst the younger children, who often drop out of schools, thereby negatively affecting their future economic earnings streams in adulthood (Burrone and Gianelli, 2018).

Although education is effective in eliminating child labour, there are various factors which repel children, such as lack of access, high cost of education, poor-quality education as well as inadequate resourced school infrastructure. In South Africa, the Constitution and Schools Act had made provisions for free basic education for all; however, child labour elimination policies must be accompanied by other reforms, especially in the labour market and social security. Hence, they must be included in broader policies such as the National Development Plan.

Kim (2009) noted that the term 'child labour' is an umbrella term which covers various work activities. The criteria often used to categorise and differentiate these children's work activities along the continuum are vague, constrained by data and fail at providing useful standards in evaluating acceptable work versus abuse. In Brazil and Thailand, effective social mobilisation programmes were implemented in a bid to sensitise all the stakeholders about child labour. Lieten (2000) argues that such social awareness programmes are more effective when there is a will among various stakeholders to change. In this regard, the South African government should implement effective communication programmes aimed at restructuring or redefining the mindset of individuals away from child labour and more towards innovation and technological advancement in different sectors of the economy. Furthermore, communication

reinforcements in various ways including workplace and community monitoring systems are crucial in raising awareness of child labour.

Moreover, abject poverty is argued to greatly increase child labour incidence in poor households or family enterprises where there is a high dependence on child labour for survival. Conversely, Sahoo (1990) cite that it is not poverty per se but high inequality that creates room for child exposure to serious health and safety risks and eventually exploitation. Nevertheless, inequality measures as well as developmental improvements in various sectors must aim at improving the standards of living of the marginalised as a way to eradicate child labour. The government may make provisions for income redistribution opportunities for the working-age population such as small enterprise development, minimum wage schemes, family support, credit extensions and social security to reduce the incidence of child labour. Furthermore, these policies should address the issues of forced begging and child labour in illicit work activities.

According to Cunningham (2000), the extent of child labour varies differently amongst different societal beliefs and cultures. Also, child labour can be deeply rooted in traditional and cultural norms such that the enforcement agencies, community, parents and children do not realise it. In this regard, the government needs to ensure cultural beliefs and values change. This could be achieved through initiatives such as enforcing schooling laws, improving the family adult wage or decision-making process, multi-sectoral awareness campaigns, reducing employment opportunities for children and child labour wage premiums as well as poverty and inequality alleviation programmes. In addition, the government policies on eradication of child labour should reflect the realities of societal and cultural values and beliefs they seek to protect.

Kluttz (2015) asserts that when teacher remuneration is insufficient to sustain a family, teachers revert to taking an extra job, charging extra fees for private tuition, withholding curriculum portions for the betterment of paying children and reduction in the formal hours of teaching. These actions may lower the quality of school education but rather benefit students who can afford the extra lessons. On the other hand, teachers' ability to identify and take appropriate measures when children are exposed to abuse or worst forms of work will be compromised. In this regard, the government needs to ensure that teachers are paid and resourced accordingly to perform their tasks effectively. In addition, the prohibition by laws and enforcement of schooling together with the working age minimum wage in the domestic service sector would help reduce the incidence of child labour.

Last but not least, Budlender and Bosch (2002) cited that children in South Africa spent many hours on household chores. A similar conclusion was found from this study where 96% of children were involved in at least one household chore. Parents, employers and community at large must be educated about the dangers of long hours on domestic chores and child labour. Last but not least, the government should continue with its infrastructure development programmes, especially the delivery of housing, water and sanitation as well as electricity in areas where children spend many hours on domestic chores. These actions will shorten the duration of household chores for children and allow them more time to focus on their school work and play.

## CHAPTER FIVE: CONCLUSION

### 5.1 Summary of the Dissertation

This study presented a comprehensive analysis of three interconnected aspects of the South African labour market, namely youth entrepreneurship in the informal sector, volunteer activities as well as children's economic activities and child labour work. By using three seriously under-utilised Statistics South Africa datasets (i.e. SESE, VAS and SAYP), the research findings in this dissertation shed light on critical issues affecting South Africa's economic development and growth. The study examined the state of the labour market from a different perspective, by revealing intricate relationships between the above-mentioned three aspects. Furthermore, the findings highlighted the need for tailored support mechanisms and policy interventions to foster sustainable child development and employment opportunities.

Chapter Two presented a comprehensive study of the nature and structure of the youth entrepreneurship landscape in South Africa with the aid of all five waves of the SESE data. The empirical findings of this chapter aligned closely with and extended key theoretical frameworks in entrepreneurship, particularly the Timmons (1990) and Moore (1986) models. The analysis revealed that youth informal entrepreneurs consistently faced greater challenges in sustaining their businesses for at least nine months in a year compared to their adult counterparts across all five SESE waves under examination. This disadvantage persisted, with youth being 3.7% to 9.6% significantly less likely to maintain operations for at least nine months or the full year, *ceteris paribus*. These results resonated with De Gobbi's (2014) observation that younger youth were less likely to create successful ventures. Female entrepreneurs also faced greater disadvantages, aligning with Yordanova and Tarrazon's (2010) findings on lower entrepreneurial intentions among women.

Focusing on the last wave (2017) of SESE, the study highlighted several critical factors influencing the sustainability of informal ventures, which aligned with the core elements of the Timmons (1990) model. Location of business operation emerged as a key factor, with enterprises operating from stalls or commercial locations demonstrating significantly higher probabilities of remaining active. The industry sector also proved crucial, with manufacturing, wholesale and retail, as well as financial services often showing significantly higher sustainability rates. These results emphasise the importance of resources and opportunity identification in Timmons's (1990) models. Good business practices, especially bookkeeping,

were identified as another key success factor, thereby supporting Fourie and Kerr's (2017) research findings. The struggles faced by youth entrepreneurs in aspects like fixed operating locations, basic infrastructure and marketing, align with the stages of Moore's (1986) entrepreneurship process, particularly the implementation and growth phases, thereby highlighting the challenges of mentoring a project from infancy and developing growth strategies.

Chapter Three's comprehensive examination of volunteering activities in South Africa, using three waves of the VAS data, revealed a demographic profile of volunteers that largely aligned with previous research. The descriptive statistics showed that volunteers were predominantly African, middle-aged (35-44 years old) females with incomplete secondary education, residing in urban areas of Gauteng or KwaZulu-Natal province. These volunteers typically lived in households of four to five members, with more children under the age of three years. These findings were consistent with Akintola's (2011) study on HIV/AIDS caregivers in KwaZulu-Natal and Krugell's (2010) broader observations on volunteering in South Africa. The study also corroborated Wilson's (2000) findings that volunteering likelihood peaked in middle age. However, the relationship between education and volunteering proved more complex than previous studies had suggested, with non-linear effects observed across different waves of data. Interestingly, while volunteers were associated with much higher labour force participation rates, there was no clear indication of whether they experienced higher or lower unemployment rates compared to non-volunteers.

The multivariate linear probability, probit and Heckprobit models in Chapter Three yielded nuanced insights into the relationship between volunteering and labour market outcomes in South Africa. Male volunteers aged 25 years and older, residing in urban areas with more females aged 15-59 years in the same household, demonstrated a significantly higher probability of labour market participation. However, in terms of employment likelihood, non-African married adult volunteers aged 55-64 years old, residing in KwaZulu-Natal or Limpopo provinces, showed higher probabilities of being employed. Importantly, the study revealed a two-way relationship between unemployment and volunteering likelihood, but not between employment and volunteering likelihood. This finding aligned with Ziemek's (2006) consumption model of volunteering and partially supported the investment model, as volunteering was associated with higher labour force participation rates but not necessarily improved employment outcomes after controlling for other factors.

These results both supported and challenged previous research. Consistent with Day and Devlin (1998) and Vaillancourt (1994), unemployed individuals in South Africa were more likely to engage in volunteering, potentially as an investment in future employment prospects. However, contrary to some international studies, this research found no significant positive relationship between volunteering status and employment incidence after controlling for other factors. The application of Simon's (1955) bounded rationality theory provided a framework for understanding volunteering decisions under uncertainty. The significant role of personal and household characteristics in determining volunteering likelihood suggested that individuals used heuristics and satisficing behaviour rather than purely rational cost-benefit analyses. Furthermore, Kahneman and Tversky's (1979) prospect theory helped explain why unemployed individuals might be more likely to volunteer, as they potentially weighted the benefits of volunteering more heavily, aligning with the theory's emphasis on reference points and loss aversion. Therefore, the study findings emphasised the role of volunteering in skills development, particularly addressing the skills and experience mismatch outlined by Pauw, Oosthuizen, and Van der Westhuizen (2008).

Chapter Four conducted a comprehensive analysis of the activities of working children aged 7 to 17 years in South Africa using the three (2010, 2015 and 2019) waves of the SAYP data. Descriptive statistics revealed that school-going African children aged 11-17 years with incomplete primary education who performed at least one household chore and resided in the rural areas of the KwaZulu-Natal, Eastern Cape and Limpopo provinces with mainly their mothers were more likely to be involved in economic as well as child labour activities. These findings align with the luxury axiom proposed by Basu and Van (1998), by showing that children from economically disadvantaged backgrounds, particularly in rural areas and certain provinces, were more likely to engage in economic and child labour activities. The findings suggest that child labour incidence often emerges as a household survival strategy when adult income falls below a critical threshold.

In addition, the findings from this study were largely supported by past research, while also providing new insights into the complex dynamics of child labour in South Africa. Previous studies, such as those by De Wet (2003) and Mitik and Decaluwe (2009), had similarly found that girls were more likely to be involved in household chores and economic activities, which aligned with this research study's results for certain years. The higher prevalence of child

labour in rural areas and specific provinces like KwaZulu-Natal, Eastern Cape and Limpopo was consistent with earlier findings by De Wet (2013). These findings aligned with Hesketh, Gamlim and Woodhead's (2006) assertion that child labour stemmed from various factors including economic hardships and local customs, highlighting the need for comprehensive policies to address this issue.

On the other hand, the multivariate regression results revealed a significant and lower likelihood of participation in economic or child labour activities for male children from the Coloured, Indian and White races who resided in urban areas in households with a high number of adults aged 18 to 59 years as well as a high number of other adults household members employed. These results provide supporting evidence of the wealth paradox or inverted U model as household wealth increases, the need for child labour decreases, potentially reaching a point where children can focus entirely on education. Interestingly, the analysis of labour force participation and employment among working-age household members revealed some unexpected relationships with child economic activity. In some instances, higher levels of child economic activity were associated with lower adult labour force participation, contrary to what might be expected from a simple substitution effect. This suggests more complex household decision-making processes that merit further investigation. Lastly, it was found in the 2019 (2010) wave that a higher number of children involved in economic (child labour) activities resulted in a significantly lower likelihood of the working-age members finding employment, conditional on labour force participation.

This study provided a multifaceted examination of South Africa's labour market challenges, focusing on youth entrepreneurship, volunteering, and child labour. The findings highlighted the complex interplay between these issues and emphasised the need for integrated, evidence-based policies to promote economic development, social inclusion and well-being of all South Africans. By addressing the challenges faced by youth entrepreneurs, leveraging the potential of volunteering and eradicating child labour (by better addressing adult unemployment<sup>20</sup>), South Africa can work towards a more equitable and prosperous future for all its citizens.

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<sup>20</sup> The South African government can, for example, effectively alleviate adult employment through addressing wage/employment rigidities; introducing firm incentives that are size and sector specific; further investing in education, learnership skills and training programmes tailored to the needs of the labour market; introducing economic inclusive packages especially for the youth, women and Africans; addressing spacial inequality, improving infrastructure, sanitation and access to technology for informal businesses, as well as implementing policies to encourage entrepreneurship and support SMEs among others.

## 5.2 Implications of the Research Findings

The findings of this research study have practical implications for the government, private sector and the public at large. Drawing from Chapter Two's findings that the youth and female-led informal enterprises struggled to thrive continuously, the results highlight the need for targeted support programs specifically designed for youth and female entrepreneurs. Therefore, the government should first confer formal status upon ventures within the informal sector, regardless of their size and include them in their policy discussion circles. Furthermore, in collaboration with the private sector, they should develop mentorship programs, tailored training initiatives, and specialised financial support mechanisms to address the unique challenges faced by youth (and female) informal entrepreneurs.

Secondly, the study highlighted the importance of financial management, location and infrastructure for informal business success. In this regard, the government should streamline support mechanisms which aim at encouraging and promoting entrepreneurship, especially for the youth. For example, local and national governments should prioritise the development of appropriate and permanent infrastructure tailored to the needs of informal firms within the different sectors of the industry as well as provide marketing, financial, strategic and administrative training together with technological support for youth ventures. Lastly, the government can develop and implement flexible measures that enable the public sector to assist youth newly formed ventures navigate economic shocks and changing market conditions. These recommended measures include, amongst others, tax payment extensions, credit access programs and support for technology adoption to enhance the resilience of informal businesses.

With reference to Chapter Three's findings, bounded rationality and prospect theories assisted in explaining volunteering decisions. As a result, insights from behavioural economics in volunteer recruitment strategies, such as framing volunteer opportunities in terms of potential gains and using simple, clear messaging to appeal to heuristic decision-making processes could be applied. More so, the government should encourage the youth to participate in volunteering activities as these activities help the youth to develop soft skills, unofficial 'work' experience and contacts with prospective employers making it easier for them to be employed for the first time. This could be achieved through the development of programs combining job search, skills development and networking opportunities.

The chapter's findings showed that the demographic profile of volunteers suggests certain groups are more likely to engage in volunteering. To further encourage volunteering, especially amongst those who are jobless, it is important to collaborate efforts from various stakeholders. For instance, the private sector should also create roles and 'vacancies' for volunteering youth as well as implement co-operate volunteer programmes around the communities they serve. On the other hand, the government can better design and promote volunteer programs that specifically target under-represented groups, such as young adults and males, students at different levels of education and people from different geographical locations as these actions broaden the volunteer base and potentially enhance their labour market prospects.

The persistence of child labour in South Africa, despite legal prohibitions, indicated that legislative measures alone were insufficient to address this complex issue. This echoed the findings by Hesketh et al. (2006), who noted that child labour stemmed from various factors including economic hardships, family dynamics and local customs. The government, in collaboration with international organisations, needed to develop and implement holistic policies and programs that addressed not only the legal aspects but also the underlying economic, social and cultural factors contributing to child labour. For instance, the prioritisation of poverty reduction strategies, including social protection programs, income redistribution initiatives, as well as policies aimed at creating more employment opportunities for adults.

The findings in Chapter Four with regard to the impact of education on child labour emphasised the importance of not only increasing access to education but also improving its quality and relevance as noted by Burrone and Gianelli's (2018) study. This implied that educational reforms through government investment in early childhood education programs, improving school infrastructure, enhancing the quality of teaching, and implementing measures to reduce school dropout rates, particularly in rural and economically disadvantaged areas should be an integral part of the government strategy to combat child labour. Furthermore, the observed gender disparities in child labour participation require government policies and programs designed to address the specific challenges faced by both boys and girls in different contexts.

The regional variations in child labour incidence pointed to the importance of context-specific interventions. That is, a one-size-fits-all approach may be ineffective in addressing child labour across different provinces and rural-urban divides. In this regard, it is recommended that the

government develop targeted, localised strategies that take into account the unique economic, social, and cultural factors influencing child labour in different regions of South Africa. Furthermore, in partnership with civil society organisations, implement comprehensive social mobilisation programs to sensitise communities about the negative impacts of child labour and the importance of education. Lastly, the limitations in data collection and analysis highlighted the need for improved monitoring and evaluation systems for effective policy-making and program implementation. Therefore the government should strengthen its data collection mechanisms, including more frequent and comprehensive surveys, to better track the incidence of child labour and evaluate the effectiveness of interventions over time.

### 5.3 Suggestions for Future Research

The study in Chapter Two identified several avenues for future research that could further enhance understanding of youth entrepreneurship in South Africa's informal sector. One particularly promising area for investigation was the distinction between graduate and non-graduate youth entrepreneurs. Given Statistics South Africa's (2021a) report on high graduate unemployment rates, especially among youth, future studies could explore the unique characteristics, challenges and success factors of graduate youth entrepreneurs compared to their non-graduate counterparts. Additionally, longitudinal studies tracking the progression of youth-led informal enterprises over time could offer deeper insights into the factors influencing long-term sustainability and growth. Future research could also delve into the impact of technology adoption on the success of youth-led informal businesses, given the increasing digitalisation of the economy.

Based on the findings and limitations of Chapter Three, future research could explore the long-term impacts of volunteering on labour market outcomes through longitudinal studies; however, changes in the questionnaire design are required. Such research could track volunteers over several years to determine whether the skills, networks and experiences gained through volunteering translate into improved employment prospects over time. Additionally, it would be valuable to investigate the qualitative aspects of volunteering, such as the types of skills developed and nature of social connections formed, to better understand how these factors might influence labour market outcomes. Future studies could also examine the effectiveness of different volunteer program designs in enhancing employability, particularly for vulnerable groups such as youth and long-term unemployed.

Lastly, in terms of Chapter Four, future research could focus on conducting longitudinal studies to track the long-term impacts of child labour on educational attainment, psychological and mental health impacts and future employment prospects. In addition, more in-depth qualitative research could be undertaken to better understand the complex household decision-making processes that lead to child labour. This could include exploring the roles of different family members, cultural norms and economic pressures in determining whether children engage in work activities. Studies on the evaluation of policy intervention effectiveness could also be done by assessing the results of policy from gender, geographic and industrial sector dynamics of child labour.

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## APPENDIX

**Table A2.01: Business expenditure characteristics (Rand)**

	2001			2005			2009			2013			2017		
	Youth	Adult	All	Youth	Adult	All	Youth	Adult	All	Youth	Adult	All	Youth	Adult	All
<b>Expenditure past month - mean (2021 Dec prices, Rands)</b>															
Electricity	120.42	159.41	146.69	141.87	197.77	178.56	122.68	198.33	174.25	277.94	304.92	297.06	148.05	227.29	205.23
Water	41.76	67.07	58.80	35.64	39.61	38.24	43.65	47.84	46.51	37.14	80.35	67.77	43.60	119.99	98.72
Fuel and lubricants	146.77	228.25	201.78	178.71	283.82	247.63	162.84	289.00	248.84	N/A <sup>#</sup>			151.30	389.42	323.13
Spare parts	68.46	53.24	58.18	118.74	96.75	104.31	52.20	124.93	101.78				187.01	193.52	191.71
Rental of premises	52.79	68.47	63.37	221.87	73.00	124.24	176.85	182.61	180.78				166.86	479.29	385.74
Rental of machinery and equipment	9.93	7.89	8.55	4.42	3.95	4.11	6.83	25.61	19.63	24.33	87.55	69.14	6.58	190.74	139.47
Postage, telephone, printing and stationery	85.06	81.02	82.34	75.11	95.14	88.25	80.52	122.70	109.27	141.70	186.03	173.12	60.32	66.01	64.42
Transport of raw materials/supplies	111.74	140.25	130.96	146.46	170.60	162.31	153.20	162.91	159.82	289.68	153.62	193.25	156.59	288.75	251.96
Repairs and maintenance	55.35	63.74	61.01	39.95	98.61	78.41	49.79	87.73	75.65	135.04	268.27	229.47	51.92	43.92	46.15
Business services	3.89	12.81	9.91	1.58	32.57	21.91	12.25	37.76	29.64	29.69	69.82	58.13	8.60	24.56	20.13
Licenses, permits	5.06	10.05	8.43	5.01	4.89	4.93	11.66	11.47	11.53	8.26	21.42	17.59	23.29	55.31	46.40
Interest on loans	4.40	2.87	3.37	0.00	15.97	10.47	2.62	31.20	22.10	36.34 72.81 62.18			6.44	77.70	57.87
Repayment of loans	21.35	16.01	17.75	29.91	21.64	24.48	13.32	56.09	42.47				6.44	77.70	57.87
Insurance premiums, mortgages/bonds	23.40	28.20	26.64	3.97	29.98	21.03	36.07	123.91	95.95	6.38	132.55	95.80	6.76	64.03	48.08
Income tax/levies	0.10	8.90	6.04	1.25	4.46	3.35	23.36	18.10	19.78	2.28	65.50	47.09	61.72	85.21	78.68
Protection agencies	1.71	9.98	7.30	0.00	1.17	0.77	4.34	6.27	5.66	0.02	14.74	10.45	3.06	5.37	4.72
Other	29.78	17.40	21.42	11.50	26.21	21.16	56.92	49.27	51.71	18.42	69.87	54.89	39.93	44.35	43.12
<b>Total expenditure</b>	<b>753.29</b>	<b>943.83</b>	<b>881.62</b>	<b>1 009.90</b>	<b>1 184.66</b>	<b>1 124.69</b>	<b>1 009.10</b>	<b>1 575.75</b>	<b>1 395.36</b>	<b>1 007.21</b>	<b>1 527.45</b>	<b>1 375.94</b>	<b>971.00</b>	<b>1 917.24</b>	<b>1 653.83</b>

<sup>#</sup> Coding error of the Q61 (in categories 3, 4 & 5 – fuel and lubricants, spare parts and rental of premises, respectively) expenditure variable (all answers are zero)

**Table A2.01: Continued**

	2001			2005			2009			2013			2017		
	Youth	Adult	All	Youth	Adult	All	Youth	Adult	All	Youth	Adult	All	Youth	Adult	All
<b>Expenditure past month - sum (2021 Dec prices, million Rands)</b>															
Electricity	86.07	235.10	321.17	84.54	225.07	309.61	44.37	153.59	197.96	129.52	345.80	475.32	77.88	309.94	387.81
Water	30.00	99.21	129.21	21.13	44.90	66.03	15.79	37.05	52.83	17.31	91.13	108.43	22.93	163.62	186.55
Fuel and lubricants	108.03	349.21	457.24	106.58	322.42	429.00	58.89	223.80	282.69	N/A <sup>#</sup>			79.59	531.01	610.59
Spare parts	50.30	81.30	131.60	70.82	109.98	180.80	18.88	96.75	115.63				98.37	263.88	362.25
Rental of premises	38.92	104.74	143.66	132.32	82.96	215.28	63.96	141.41	205.38				8.33	56.00	64.34
Rental of machinery and equipment	7.31	12.06	19.37	2.63	4.49	7.13	2.47	19.83	22.30	11.34	99.29	110.63	3.46	260.09	263.55
Postage, telephone, printing and stationery	62.79	124.12	186.90	44.80	108.17	152.97	29.12	95.02	124.14	66.03	210.97	277.00	31.73	90.00	121.73
Transport of raw materials/supplies	82.83	215.14	297.97	87.19	194.13	281.32	55.41	126.16	181.57	134.99	174.22	309.21	82.37	393.73	476.10
Repairs and maintenance	40.71	97.37	138.08	23.82	111.99	135.81	18.01	67.94	85.95	62.93	304.24	367.16	27.31	59.89	87.20
Business services	2.86	19.57	22.43	0.94	37.01	37.96	4.43	29.24	33.67	13.84	79.18	93.01	4.53	33.49	38.02
Licenses, permits	3.72	15.36	19.08	2.99	5.55	8.54	4.22	8.88	13.10	3.85	24.29	28.14	12.25	75.43	87.68
Interest on loans	3.23	4.38	7.61	0.00	18.13	18.13	0.95	24.16	25.11	16.93	82.57	99.50	3.39	105.96	109.35
Repayment of loans	15.68	24.48	40.16	17.84	24.58	42.42	4.82	43.43	48.25						
Insurance premiums, mortgages/bonds	17.21	43.07	60.28	2.37	34.07	36.43	13.05	95.96	109.00	2.97	150.32	153.29	3.55	87.30	90.86
Income tax/levies	0.07	13.60	13.67	0.75	5.06	5.81	8.45	14.02	22.47	1.06	74.28	75.34	32.47	116.20	148.67
Protection agencies	1.26	15.25	16.51	0.00	1.33	1.33	1.57	4.86	6.43	0.01	16.72	16.73	1.61	7.32	8.93
Other	21.88	26.58	48.46	6.84	29.78	36.62	20.59	38.15	58.74	8.58	79.24	87.83	21.01	60.48	81.48
<b>Total expenditure</b>	<b>572.87</b>	<b>1 480.53</b>	<b>2 053.40</b>	<b>605.55</b>	<b>1 359.63</b>	<b>1 965.19</b>	<b>364.96</b>	<b>1 220.26</b>	<b>1 585.22</b>	<b>469.35</b>	<b>1 732.25</b>	<b>2 201.60</b>	<b>510.78</b>	<b>2 614.34</b>	<b>3 125.12</b>

<sup>#</sup> Coding error of the Q61 (in categories 3, 4 & 5 – fuel and lubricants, spare parts and rental of premises, respectively) expenditure variable (all answers are zero)

Source: Author's calculations using the SESE

**Table A2.02: Fixed Capital Formation**

	2001			2005			2009			2013			2017		
	Youth	Adult	All	Youth	Adult	All	Youth	Adult	All	Youth	Adult	All	Youth	Adult	All
<i>Expenditure past year - mean (2021 Dec prices, Rands)</i>															
Machinery	3 695	6 179	5 327	10 793	72 434	45 246	132	125	127	263	297	287	366	244	278
Equipment and tools	1 671	3 459	2 779	2 630	6 190	4 919	295	253	267	514	44	462	446	407	418
Vehicles, trailers, etc. for transporting	8 276	35 336	28 053	45 378	66 423	60 306	33	80	65	435	786	684	414	1 209	987
Buildings and other structures	70 716	5 843	22 769	1 679	7 274	4 798	8	34	26	358	268	294	47	174	139
Furniture	2 053	5 463	4 552	510	258	351	150	137	141	200	59	100	73	128	112
Other	1 106	2 107	1 796	8 783	7 616	8 060	5	8	7	34	450	329	13	487	355
<b>Total expenditure</b>	<b>671</b>	<b>847</b>	<b>789</b>	<b>1 597</b>	<b>4 014</b>	<b>3 185</b>	<b>623</b>	<b>637</b>	<b>633</b>	<b>1 805</b>	<b>2 300</b>	<b>2 156</b>	<b>1 358</b>	<b>2 649</b>	<b>2 290</b>
<i>Expenditure past year - sum (2021 Dec prices, million Rands)</i>															
Machinery	73	233	305	234	1 989	2 223	48	97	144	123	337	459	192	333	525
Equipment and tools	88	297	385	191	810	1 000	107	196	303	239	499	739	234	555	790
Vehicles, trailers, etc. for transporting	50	578	627	48	1 696	2 171	12	62	74	203	891	1 094	218	1 648	1 866
Buildings and other structures	276	65	341	9	48	57	3	27	29	167	304	471	25	238	262
Furniture	19	137	156	10	9	19	54	106	160	93	67	160	38	174	213
Other	5	19	24	39	56	95	2	6	8	16	511	527	7	664	671
<b>Total expenditure</b>	<b>510</b>	<b>1 328</b>	<b>1 838</b>	<b>958</b>	<b>4 607</b>	<b>5 565</b>	<b>225</b>	<b>493</b>	<b>719</b>	<b>841</b>	<b>2 609</b>	<b>3 450</b>	<b>714</b>	<b>3 612</b>	<b>4 327</b>

**Table A2.02: Continued**

	2001			2005			2009			2013			2017		
	Youth	Adult	All	Youth	Adult	All	Youth	Adult	All	Youth	Adult	All	Youth	Adult	All
<u>Net profit past month (2021 Dec prices)</u>															
Minimum	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maximum	87 464	174 927	174 927	26 506	301 205	301 205	82 585	129 264	129 264	139 501	220 264	220 264	48 636	213 523	213 523
Mean	2 367	2 881	2 713	1 889	2 371	2 206	2 286	3 005	2 776	3 871	4 522	43 332	3 254	4 393	4 076
Median	816	962	875	723	723	723	898	898	898	1 468	1 175	1 175	1 542	1 423	1 423
<u>Usual monthly net profit (2021 Dec prices)</u>															
Minimum	6	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Maximum	72 886	233 236	233 236	60 241	173 494	173 494	53 860	129 264	129 264	220 264	176 212	220 264	71 174	213 523	213 523
Mean	2 054	2 606	2 425	2 322	2 751	2 604	2 586	3 009	2 874	4 335	4 366	4 357	3 501	4 702	4 368
Median	729	875	875	964	964	964	1 077	1 077	1 077	1 468	1 468	1 468	1 779	1 542	1 779
<u>Use of net profit</u>															
Re-invest in the business	Not asked									18.29	16.52	17.04	9.56	10.21	10.03
Save it in the bank										14.21	13.80	13.92	14.43	13.17	13.52
Spend it on items for the household										65.62	68.04	67.33	72.04	74.43	73.77
Other										1.87	1.64	1.71	3.97	2.19	2.68
<u>Current debt of the business</u>															
Yes	4.67	4.33	4.44	5.04	4.53	4.71	7.10	5.73	6.17	3.67	4.92	4.56	2.72	2.11	2.28
No	95.33	95.67	95.56	94.96	95.47	95.29	92.90	94.27	93.83	96.33	95.08	95.44	97.28	97.89	97.72
Minimum	0.00	0.00	0.00	30.00	25.00	25.00	89.77	89.77	89.77	14.68	11.75	11.75	355.87	237.25	237.25
Maximum	74 927	233 236	233 236	95 000	500 000	500 000	815 987	1 256 732	1 256 732	176 212	1 321 586	1 321 586	88 968	355 872	355 872
Mean	7 097	11 013	9 646	5 598	24 756	17 813	67 281	80 582	76 020	26 369	165 825	133 110	8 254	78 909	55 455
Median	1 166	1 458	1 251	800	1 300	1 200	1 957	17 953	4 488	14 696	23 495	22 026	2 372	35 587	4 745

Source: Author's calculations using the SESE data.

**Table A2.03: Probit regressions on the likelihood of the informal businesses being active for at least nine months during the year**

Independent variable	Average marginal effects									
	2001		2005		2009		2013		2017	
	Youth	Adult	Youth	Adult	Youth	Adult	Youth	Adult	Youth	Adult
Gender: Female	-0.036	-0.031**	0.044	-0.008	-0.029	0.016	-0.107**	-0.021	-0.118***	-0.018
Race: Coloured	-0.004	-0.073**	-0.258***	-0.075	-0.050	-0.081	0.085	0.025	#	0.021
Race: Indian	0.053	-0.074	#	-0.021	0.049	-0.024	#	0.098	-0.097	-0.028
Race: White	0.055	-0.055	-0.055	-0.037	-0.109	0.008	0.226**	0.019	#	0.064
Education: Incomplete primary	-0.051	-0.026	N/A		0.101	-0.029	0.089	0.020	-0.008	-0.031
Education: Incomplete secondary	-0.044	0.007			0.062	0.020	0.038	0.031	0.014	-0.022
Education: Matric	-0.019	0.023			0.008	0.002	0.105	0.034	-0.021	-0.046
Education: Matric + Cert/Dip	-0.091	-0.027			0.123	-0.030	-0.034	-0.180***	#	0.052
Education: Degree	0.020	0.015			#	-0.110	-0.004	-0.099	0.031	0.037
Province: Eastern Cape	-0.043	0.064*	0.137**	0.075**	-0.163	-0.002	0.083	0.035	-0.018	0.049
Province: Northern Cape	-0.282**	-0.085*	0.092	-0.026	#	-0.214**	-0.132	-0.019	#	0.066
Province: Free State	-0.045	-0.009	0.117**	0.032	-0.133	-0.069	0.223**	0.085	0.014	0.041
Province: KwaZulu-Natal	-0.021	0.028	0.134**	0.073**	-0.263	-0.115*	0.109	0.056	-0.039	0.019
Province: North West	0.082	0.038	0.149***	0.053	-0.108	0.011	0.134	0.012	0.099	0.039
Province: Gauteng	0.054	0.043	0.152***	0.072**	0.076	0.038	0.082	0.052	0.047	0.022
Province: Mpumalanga	0.003	0.004	0.124**	0.030	0.002	0.046	0.093	0.105**	0.050	0.037
Province: Limpopo	-0.018	-0.003	0.167***	0.089***	-0.036	-0.038	0.177	0.094*	0.017	-0.000
Industry: Manufacturing	0.051	0.091***	0.587**	0.060	0.140*	0.060	0.371***	-0.037	0.030	0.104***
Industry: Construction	-0.150	0.032	-0.379	#	-0.038	-0.047	0.526***	-0.131	-0.134	0.047
Industry: Wholesale	-0.046	0.062*	-0.176***	-0.037	0.111	0.057	0.995***	-0.005	-0.003	0.122***
Industry: Transport	0.158	0.151***	-0.001	0.010	0.137	0.045	0.271	0.005	#	0.113***
Industry: Financial	0.146	0.152***	0.076	0.021	0.176*	-0.039	0.380***	0.029	0.047	0.099**
Industry: CSP services	0.132	0.147***	-0.008	0.047	0.202***	0.039	0.642***	0.039	0.015	0.116***
Location: Residential	0.010	-0.006	-0.039	-0.003	-0.026	0.046*	0.016	0.033	0.052	-0.012
Location: Non-residential	-0.006	0.006	0.047	0.060	0.026	0.067	0.176*	0.073	0.095	-0.016

Location: Stalls	0.074*	0.041*	0.090*	0.059**	0.099	0.062**	0.066	0.071**	0.067	0.035
Business records: Some	0.003	0.016	0.083	0.011	-0.002	0.004	-0.041	0.087**	-0.957***	-0.058
Business records: None	0.065**	-0.039**	-0.023	-0.035*	-0.073	-0.083***	0.030	-0.027	-0.310	-0.110***
Observations	1594	3590	783	2209	409	1291	443	1342	326	1060
LR Chi-square	98.46	160.19	78.90	60.91	60.78	87.81	39.21	64.94	41.94	56.52
Prob. > Chi-square	0.0000	0.0000	0.0000	0.0000	0.0001	0.0000	0.0606	0.0001	0.0092	0.0011
Pseudo R square	0.0562	0.0471	0.1043	0.0379	0.1410	0.0806	0.0797	0.0534	0.1277	0.0671
Observed prob.	0.7610	0.8184	0.8123	0.8814	0.7800	0.8505	0.7562	0.8316	0.7975	0.8642
Predicted prob. (at $\hat{X}$ )	0.7781	0.8326	0.8329	0.8896	0.8201	0.8698	0.7757	0.8447	0.8961	0.8830
*** p < 0.01, ** p < 0.05, * p < 0.10										
Reference groups: Female, black, agriculture, western cape, no fixed or mobile location and simple records only.										
N/A: Not available (refer to Table 2.1), # variable dropped during estimation										

**Table A2.04: Probit regressions on the likelihood of the informal businesses being active for all 12 months**

Independent variable	Average marginal effects									
	2001		2005		2009		2013		2017	
	Youth	Adult	Youth	Adult	Youth	Adult	Youth	Adult	Youth	Adult
Gender: Female	-0.052**	-0.039**	0.025	-0.014	-0.041	0.007	-0.113**	-0.031	-0.225***	-0.052*
Race: Coloured	-0.062	-0.040	-0.262**	-0.107*	0.006	-0.127*	0.125	0.069	0.134	-0.008
Race: Indian	0.034	-0.045	#	-0.020	0.086	0.024	#	0.063	-0.173	0.073
Race: White	0.065	-0.088*	-0.155	-0.020	-0.228	0.032	0.293**	0.087	-0.265	-0.043
Education: Incomplete primary	-0.109	-0.035*	N/A		0.092	-0.043	0.134	0.035	0.124	-0.043
Education: Incomplete secondary	-0.140**	0.011			0.005	0.013	0.056	0.036	0.099	-0.055
Education: Matric	-0.104	0.019			-0.036	-0.002	0.129	0.036	0.080	-0.070
Education: Matric + Cert/Dip	-0.138	0.007			0.062	-0.091	-0.067	-0.205***	0.147	-0.053
Education: Degree	0.023	0.025			#	-0.104	-0.214	-0.097	0.136	0.074
Province: Eastern Cape	-0.019	0.094**	0.182***	0.090**	-0.078	-0.007	0.024	0.067	0.046	0.110**
Province: Northern Cape	-0.304***	-0.065	0.091	-0.009	#	-0.232**	-0.158	-0.043	#	0.168*
Province: Free State	-0.067	0.025	0.161**	0.019	-0.047	-0.043	0.202	0.040	0.059	0.126**
Province: KwaZulu-Natal	-0.035	0.041	0.143**	0.072*	-0.180	-0.084	0.059	0.014	-0.147	0.048
Province: North West	0.120*	0.064	0.164**	0.052	-0.095	0.043	0.141	0.022	0.064	0.142**
Province: Gauteng	0.078	0.073*	0.192***	0.089**	0.152	0.098*	0.046	0.038	0.001	0.085
Province: Mpumalanga	0.026	0.051	0.119*	0.012	0.081	0.036	0.062	0.129**	0.167	0.139**
Province: Limpopo	-0.024	0.009	0.199***	0.120***	0.034	-0.013	0.187	0.145***	0.086	0.097*
Industry: Manufacturing	-0.017	0.090**	-0.543**	0.105	0.209**	0.002	0.449***	-0.066	0.249*	0.171***
Industry: Construction	-0.254*	-0.013	-0.349	#	0.040	-0.110*	0.603***	-0.163	-0.119	0.039
Industry: Wholesale	-0.102	0.054	-0.153**	-0.046	0.198	0.031	0.996***	-0.017	0.155	0.166***
Industry: Transport	0.078	0.139***	-0.006	-0.003	0.222*	-0.006	0.349	-0.042	0.195	0.155***
Industry: Financial	0.159	0.181***	0.132	0.043	0.218**	-0.069	0.464***	0.014	0.242*	0.152***
Industry: CSP services	0.117	0.152***	0.059	0.038	0.273***	0.025	0.715***	0.057	0.157	0.160***
Location: Residential	0.017	-0.007	-0.009	0.014	-0.047	0.069**	0.103*	0.062**	-0.021	0.022
Location: Non-residential	-0.019	0.012	0.053	0.100**	0.052	0.123**	0.261**	0.130**	0.211	0.090

Location: Stalls	0.032	0.049*	0.134***	0.077***	0.032	0.091***	0.098	0.093**	0.120	0.070*
Business records: Some	0.017	0.232	0.096	0.019	-0.048	0.041	-0.080	0.092*	-0.542**	-0.028
Business records: None	-0.073**	0.033	-0.011	-0.023	-0.107	-0.081**	-0.027	-0.021	-0.335***	-0.114***
Observations	1594	3590	783	2209	409	1291	443	1342	361	1060
LR Chi-square	124.03	137.58	75.32	66.59	59.87	92.94	44.14	82.04	67.50	76.98
Prob. > Chi-square	0.0000	0.0000	0.0000	0.0000	0.0002	0.0000	0.2000	0.0000	0.0000	0.0000
Pseudo R square	0.0634	0.0348	0.0885	0.0337	0.1252	0.0709	0.0801	0.0574	0.1499	0.0708
Observed prob.	0.6964	0.7607	0.7662	0.8357	0.7286	0.7947	0.6862	0.7757	0.6842	0.7906
Predicted prob. (at $\hat{X}$ )	0.7129	0.7700	0.7834	0.8439	0.7591	0.8122	0.7051	0.7896	0.7206	0.8089
*** p < 0.01, ** p < 0.05, * p < 0.10										
Reference groups: Female, black, agriculture, western cape, no fixed or mobile location and simple records only.										
N/A: Not available (refer to Table 2.1), #: dropped during estimation										

**Table A2.05: Probit regressions on the likelihood of the informal businesses being active for at least nine months during the year or all 12 months, using the pooled data**

Independent variable	Average marginal effects					
	At least nine months			All 12 months		
	[1]	[2]	[3]	[4]	[5]	[6]
	Youth	Adult	All	Youth	Adult	All
Age cohort: Youth	N/A	N/A	-0.061***	N/A	N/A	-0.072***
Gender: Female	-0.033**	-0.014*	-0.019***	-0.052***	-0.022**	-0.031***
Race: Coloured	-0.067	-0.052**	-0.054***	-0.096*	-0.042*	-0.053***
Race: Indian	0.090	-0.026	0.000	0.081	-0.001	0.018
Race: White	0.033	-0.021	-0.010	-0.007	-0.020	-0.018
Province: Eastern Cape	0.035	0.054***	0.049***	0.056	0.077***	0.072***
Province: Northern Cape	-0.060	-0.073**	-0.068**	-0.061	-0.053	-0.055*
Province: Free State	0.057	0.020	0.029	0.057	0.034	0.040*
Province: KwaZulu-Natal	0.033	0.030	0.029*	0.017	0.036	0.030
Province: North West	0.126***	0.044**	0.067***	0.140***	0.070***	0.089***
Province: Gauteng	0.109***	0.061***	0.074***	0.122***	0.085***	0.095***
Province: Mpumalanga	0.081**	0.042**	0.052***	0.099**	0.071***	0.078***
Province: Limpopo	0.083**	0.036*	0.048***	0.092**	0.067***	0.073***
Industry: Manufacturing	-0.619***	0.048	-0.140	-0.565**	0.101	-0.087
Industry: Construction	-0.394	0.020	-0.109	-0.334	0.063	-0.062
Industry: Wholesale	-0.181***	-0.106***	-0.126***	-0.200***	-0.134***	-0.153***
Industry: Transport	-0.079***	-0.018*	-0.033***	-0.088***	-0.121**	-0.038***
Industry: Financial	0.099*	0.047**	0.049**	0.095	0.030	0.032
Industry: CSP services	0.022	0.050***	0.042***	0.063	0.062***	0.061***
Location: Residential	0.006	0.009	0.008	0.011	0.025**	0.21**
Location: Non-residential	0.058	0.044**	0.048**	0.065	0.087***	0.081***
Location: Stalls	0.085***	0.052***	0.061***	0.074***	0.070***	0.071***
Business records: Some	0.020	0.022	0.021	0.004	0.035*	0.028
Business records: None	-0.048**	-0.051***	-0.049***	-0.062***	-0.043***	-0.048***
Year dummy: 2005	0.041**	0.058***	0.054***	0.061***	0.074***	0.072***
Year dummy: 2009	0.011	0.029***	0.025**	0.026	0.033***	0.031***
Year dummy: 2013	-0.012	0.011	0.005	-0.020	0.014	0.006
Year dummy: 2017	0.042*	0.037***	0.039***	-0.030	0.020	0.009
Observations	3 614	9 513	13 127	3 614	9 513	13 127
LR Chi-square	169.18	256.18	455.82	181.54	278.33	499.60
Prob. > Chi-square	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Pseudo R square	0.0445	0.0312	0.0377	0.0420	0.0283	0.0351
Observed prob.	0.7809	0.8446	0.8271	0.7147	0.7883	0.7680
Predicted prob. (at $\bar{X}$ )	0.7924	0.8524	0.8366	0.7240	0.7953	0.7764
*** p < 0.01, ** p < 0.05, * p < 0.10						
Reference groups: Female, black, agriculture, western cape, no fixed or mobile location, simple records only, SESE 2001.						
Note: It is not possible to include educational attainment as an explanatory variable in the pooled data regressions due to the issues in the 2005 SESE (refer to Table 2.1)						

**Table A2.06: Results of Chow test on structural break in the pooled-data probit regressions**

Hypothesis	Stat.	At least nine months			All 12 months		
		[1]	[2]	[3]	[4]	[5]	[6]
		Youth	Adult	All	Youth	Adult	All
H0: No structural break in 2005 H1: Structural break in 2005	Chi2 Prob.	57.84 0.0001	33.17 0.0595	70.20 0.0000	56.58 0.0001	37.19 0.0225	68.67 0.0000
H0: No structural break in 2009 H1: Structural break in 2009	Chi2 Prob.	30.35 0.0852	66.22 0.0000	71.78 0.0000	32.97 0.0465	51.84 0.0002	55.59 0.0001
H0: No structural break in 2013 H1: Structural break in 2013	Chi2 Prob.	32.89 0.0474	45.20 0.0016	61.14 0.0000	33.40 0.0420	51.12 0.0003	70.09 0.0000
H0: No structural break in 2017 H1: Structural break in 2017	Chi2 Prob.	683.35 0.0000	28.30 0.1318	38.62 0.0156	49.54 0.0004	35.44 0.0252	57.20 0.0001

**Table A3.01: Linear probability regressions on labour force participation likelihood, all working-age population, stepwise approach**

	Coefficient								
	Volunteer dummy only			Add other personal-level variables			Add household-level variables		
	2010	2014	2018	2010	2014	2018	2010	2014	2018
Volunteer	0.660***	0.609***	0.620***	0.009	-0.008	-0.003	0.003	-0.006	-0.007
Gender: Male				0.140***	0.128***	0.122***	0.146***	0.136***	0.126***
Race: Coloured				-0.006	0.017**	-0.020**	0.004	0.024***	-0.011
Race: Indian				-0.057***	-0.104***	-0.107***	-0.066***	-0.108***	-0.103***
Race: White				-0.066***	-0.062***	-0.079***	-0.073***	-0.062***	-0.075***
Age: 25-34 years				0.379***	0.400***	0.425***	0.383***	0.406***	0.431***
Age: 35-44 years				0.408***	0.452***	0.471***	0.415***	0.459***	0.475***
Age: 45-54 years				0.382***	0.419***	0.440***	0.388***	0.420***	0.443***
Age: 55-64 years				0.151***	0.185***	0.190***	0.191***	0.225***	0.228***
Province: Western Cape				0.090***	0.065***	0.072***	0.096***	0.070***	0.077***
Province: Northern Cape				0.022**	0.034***	0.009	0.036***	0.047***	0.018
Province: Free State				0.044***	0.042***	0.053***	0.055***	0.045***	0.059***
Province: KwaZulu-Natal				-0.016**	0.020**	-0.051***	0.010	-0.001	-0.032***
Province: North West				0.015*	-0.001	-0.014	0.027***	0.010	-0.008
Province: Gauteng				0.085***	0.049***	0.052***	0.090***	0.054***	0.058***
Province: Mpumalanga				0.069***	0.070***	0.082***	0.084***	0.079***	0.093***
Province: Limpopo				-0.028***	-0.033***	-0.024***	-0.013	-0.022**	-0.018*
Area: Urban				0.119***	0.112***	0.084***	0.109***	0.101***	0.072***
Education years				-0.018***	-0.014***	-0.009***	-0.007***	-0.006***	-0.001
Education years squared				0.003***	0.003***	0.002***	0.002***	0.002***	0.002***
Married				0.039***	0.035***	0.039***	0.031***	0.027***	0.029***
Number of children 0-14 years							-0.015***	-0.015***	-0.010***
Number of males 15-59 years							-0.012***	-0.011***	-0.009***
Number of females 15-59 years							0.001	0.008***	0.002
Number of elderly 60+ years							-0.061***	-0.066***	-0.064***
Number of observations	54 312	52 289	43 019	53 745	51 839	42 630	53 745	51 839	42 630
F Statistics	2798.17	2680.65	3694.29	4648.93	4491.46	5399.90	4264.58	3964.79	4817.17
Prob > F	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
R-squared	0.0250	0.0271	0.0353	0.6875	0.6951	0.7141	0.6911	0.6986	0.7169
Root MSE	0.7393	0.7467	0.7574	0.4181	0.4180	0.4124	0.4157	0.4157	0.4104

\*\*\* Significant at 1%

\*\* Significant at 5%

\* Significant at 10%

Source: Author's calculations using the VAS data.

**Table A3.02: Linear probability regressions on employment likelihood of labour force, stepwise approach**

	Coefficient					
	Volunteer dummy only			Add other personal-level variables		
	2010	2014	2018	2010	2014	2018
Volunteer	0.175***	0.037***	-0.020	-0.047***	-0.056***	-0.081***
Gender: Male				0.096***	0.087***	0.079***
Race: Coloured				0.068***	0.060***	0.071***
Race: Indian				0.092***	0.044***	0.086***
Race: White				0.117***	0.092***	0.113***
Age: 25-34 years				0.372***	0.369***	0.337***
Age: 35-44 years				0.475***	0.472***	0.447***
Age: 45-54 years				0.498***	0.503***	0.484***
Age: 55-64 years				0.433***	0.468***	0.440***
Province: Western Cape				0.049***	0.040***	0.100***
Province: Northern Cape				-0.019	-0.019	0.056***
Province: Free State				0.017	-0.037***	0.005
Province: KwaZulu-Natal				0.074***	0.059***	0.107***
Province: North West				0.017	0.044***	0.069***
Province: Gauteng				0.007	0.023**	0.018*
Province: Mpumalanga				0.043***	0.041***	0.076***
Province: Limpopo				0.063***	0.119***	0.173***
Area: Urban				0.065***	0.045***	0.067***
Education years				-0.026***	-0.028***	-0.029***
Education years squared				0.002***	0.003***	0.003***
Married				0.104***	0.100***	0.110***
Lambda	1.057***	1.087***	1.11***	0.252***	0.251***	0.231***
Number of observations	28 155	28 172	24 932	27 794	27 915	24 702
F-Statistic	28576.40	27666.41	3694.29	4992.03	4816.42	4594.06
Prob > F	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
R-squared	0.7492	0.7455	0.7254	0.7824	0.7762	0.7608
Root MSE	0.4335	0.4356	0.4462	0.4036	0.4082	0.4163

\*\*\* Significant at 1%

\*\* Significant at 5%

\* Significant at 10%

Source: Author's calculations using the VAS data.

**Table A3.03: Probit regressions on labour force participation likelihood, African population only, stepwise approach**

	Average Marginal Effects								
	Volunteer dummy only			Add other personal-level variables			Add household-level variables		
	2010	2014	2018	2010	2014	2018	2010	2014	2018
Volunteer	0.096***	0.044***	0.032***	0.017	0.014	-0.001	0.007	0.009	-0.008
Gender: Male				0.183***	0.158***	0.152***	0.177***	0.162***	0.152***
Age: 25-34 years				0.409***	0.406***	0.413***	0.406***	0.406***	0.414***
Age: 35-44 years				0.442***	0.455***	0.443***	0.439***	0.454***	0.442***
Age: 45-54 years				0.418***	0.416***	0.402***	0.414***	0.411***	0.399***
Age: 55-64 years				0.253***	0.256***	0.233***	0.272***	0.275***	0.256***
Province: Western Cape				0.166***	0.129***	0.126***	0.154***	0.121***	0.121***
Province: Northern Cape				0.078***	0.093***	0.018	0.081***	0.094***	0.020
Province: Free State				0.087***	0.083***	0.086***	0.083***	0.073***	0.085***
Province: KwaZulu-Natal				0.215*	0.004	-0.049***	0.033***	0.010	-0.039***
Province: North West				0.056***	0.038***	-0.002	0.048***	0.031**	-0.009
Province: Gauteng				0.142***	0.087***	0.085***	0.130***	0.080***	0.086***
Province: Mpumalanga				0.133***	0.120***	0.124***	0.130***	0.113***	0.126***
Province: Limpopo				0.005	0.016	-0.008	0.000	-0.024*	-0.015
Area: Urban				0.159***	0.147***	0.118***	0.144***	0.130***	0.099***
Education years				-0.024***	-0.028***	-0.018***	-0.023***	-0.027***	-0.018***
Education years squared				0.004***	0.004***	0.003***	0.004***	0.004***	0.003***
Married				0.050***	0.050***	0.066***	0.034***	0.037***	0.051***
Number of children 0-14 years							-0.016***	-0.017***	-0.009***
Number of males 15-59 years							-0.014***	-0.016***	-0.010***
Number of females 15-59 years							-0.009***	0.002	-0.003
Number of elderly 60+ years							-0.081***	-0.084***	-0.083***
Number of observations	43 047	41 280	35 417	42 618	40 932	35 108	42 618	40 932	35 108
Observed probability	0.5330	0.5522	0.5826	0.5314	0.5515	0.5822	0.5314	0.5514	0.5822
Predicted probability at $\bar{x}$	0.5330	0.5522	0.5826	0.5414	0.5648	0.6034	0.5415	0.5652	0.6041
Chi-squared statistic	38.85	11.01	8.27	7561.20	7365.00	8065.25	7705.89	7310.75	8068.87
Prob > Chi-squared	0.0000	0.0009	0.0040	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Pseudo R-squared	0.0008	0.0002	0.0002	0.2491	0.2452	0.2549	0.2573	0.2527	0.2613

\*\*\* Significant at 1%

\*\* Significant at 5%

\* Significant at 10%

Source: Author's calculations using the VAS data.

**Table A3.04: Heckprobit regressions on employment likelihood conditional on labour force participation likelihood, African population only, stepwise approach**

	Average Marginal Effects					
	Volunteer dummy only			Add other personal-level variables		
	2010	2014	2018	2010	2014	2018
Volunteer	-0.039**	-0.034**	-0.059***	-0.079***	0.057***	-0.104***
Gender: Male				0.122***	0.101***	0.101***
Age: 25-34 years				0.327***	0.318***	0.323***
Age: 35-44 years				0.377***	0.377***	0.395***
Age: 45-54 years				0.346***	0.338***	0.374***
Age: 55-64 years				0.287***	0.287***	0.309***
Province: Western Cape				0.038	0.025	0.107***
Province: Northern Cape				-0.042*	-0.051**	0.053**
Province: Free State				0.012	-0.051***	0.012
Province: KwaZulu-Natal				0.091***	0.060***	0.118***
Province: North West				0.016	0.043***	0.072***
Province: Gauteng				-0.008	0.014	0.013
Province: Mpumalanga				0.047**	0.040**	0.087***
Province: Limpopo				0.071***	0.123***	0.176***
Area: Urban				0.093***	0.061***	0.095***
Education years				-0.040***	-0.040***	-0.038***
Education years squared				0.004***	0.004***	0.004***
Married				0.123***	0.113***	0.128***
Lambda	#	#	#	0.226***	0.262***	0.273***
Number of observations	21 011	21 137	20 100	20 742	20 927	19 909
Observed probability	0.7092	0.7168	0.6891	0.7075	0.7146	0.6877
Predicted probability at $\bar{x}$	0.7093	0.7168	0.6893	0.7295	0.7374	0.7096
Chi-squared statistic	4.57	4.55	18.03	1720.27	1650.94	1981.55
Prob > Chi-squared	0.0325	0.0329	0.0000	0.0000	0.0000	0.0000
Pseudo R-squared	0.0002	0.0002	0.0008	0.1048	0.1007	0.1037

\*\*\* Significant at 1%

\*\* Significant at 5%

\* Significant at 10%

Source: Author's calculations using the VAS data.

**Table A3.05: Linear probability regressions on labour force participation likelihood, African population only, stepwise approach**

	Coefficient								
	Volunteer dummy only			Add other personal-level variables			Add household-level variables		
	2010	2014	2018	2010	2014	2018	2010	2014	2018
Volunteer	0.626***	0.594***	0.613***	0.015	0.004	-0.003	0.007	0.004	-0.007
Gender: Male				0.131***	0.113***	0.108***	0.129***	0.119***	0.108***
Age: 25-34 years				0.379***	0.400***	0.432***	0.381***	0.405***	0.437***
Age: 35-44 years				0.421***	0.467***	0.484***	0.425***	0.471***	0.487***
Age: 45-54 years				0.406***	0.447***	0.461***	0.415***	0.451***	0.465***
Age: 55-64 years				0.186***	0.218***	0.214***	0.231***	0.259***	0.253***
Province: Western Cape				0.110***	0.091***	0.088***	0.116***	0.097***	0.094***
Province: Northern Cape				0.032**	0.056***	0.002	0.055***	0.073***	0.016
Province: Free State				0.046***	0.055***	0.057***	0.060***	0.060***	0.066***
Province: KwaZulu-Natal				-0.010	-0.012	-0.050***	0.020**	0.011	-0.028***
Province: North West				0.018*	0.015	-0.014	0.032***	0.028***	-0.007
Province: Gauteng				0.092***	0.056***	0.056***	0.097***	0.063***	0.065***
Province: Mpumalanga				0.079***	0.083***	0.089***	0.097***	0.094***	0.103***
Province: Limpopo				-0.021**	-0.027***	-0.018*	-0.004	-0.013	-0.010
Area: Urban				0.126***	0.117***	0.093***	0.116***	0.106***	0.080***
Education years				-0.023***	-0.019***	-0.012***	-0.010***	-0.008***	-0.003
Education years squared				0.003***	0.003***	0.002***	0.003***	0.002***	0.002***
Married				0.034***	0.033***	0.046***	0.024***	0.024***	0.034***
Number of children 0-14 years							-0.013***	-0.014***	-0.009***
Number of males 15-59 years							-0.010***	-0.012***	-0.007**
Number of females 15-59 years							-0.008***	0.002	-0.003
Number of elderly 60+ years							-0.061***	-0.063***	-0.065***
Number of observations	43 047	41 280	35 417	42 618	40 932	35 108	42 618	40 932	35 108
F Statistic	1814.15	2210.48	3307.08	3834.98	3866.20	5141.16	3434.58	3329.35	4495.18
Prob > F	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
R-squared	0.0215	0.0274	0.0393	0.6724	0.6853	0.7115	0.6769	0.6890	0.7145
Root MSE	0.7222	0.7328	0.7482	0.4173	0.4167	0.4099	0.4145	0.4142	0.4078

\*\*\* Significant at 1%

\*\* Significant at 5%

\* Significant at 10%

Source: Author's calculations using the VAS data.

**Table A3.06: Linear probability regressions on employment likelihood of labour force, African population only, stepwise approach**

	Coefficient					
	Volunteer dummy only			Add other personal-level variables		
	2010	2014	2018	2010	2014	2018
Volunteer	0.089***	0.032*	-0.009	-0.070***	-0.051***	-0.092***
Gender: Male				0.104***	0.087***	0.079***
Age: 25-34 years				0.374***	0.378***	0.333***
Age: 35-44 years				0.493***	0.493***	0.458***
Age: 45-54 years				0.541***	0.541***	0.522***
Age: 55-64 years				0.518***	0.534***	0.503***
Province: Western Cape				0.033*	0.025	0.106***
Province: Northern Cape				-0.047**	-0.055**	0.057**
Province: Free State				0.006	-0.051***	0.009
Province: KwaZulu-Natal				0.088***	0.063***	0.125***
Province: North West				0.011	0.045***	0.077***
Province: Gauteng				-0.011	0.017	0.013
Province: Mpumalanga				0.039***	0.038**	0.081***
Province: Limpopo				0.068***	0.121***	0.188***
Area: Urban				0.077***	0.052***	0.076***
Education years				-0.029***	-0.029***	-0.029***
Education years squared				0.003***	0.003***	0.003***
Married				0.110***	0.101***	0.113***
Lambda	0.947***	0.999***	1.030***	0.221***	0.228***	0.196***
Number of observations	21 011	21 137	20 100	20 742	20 927	19 909
F Statistic	17149.55	18023.47	19165.71	3063.59	3145.52	3148.62
Prob > F	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
R squared	0.7093	0.7169	0.6894	0.7432	0.7473	0.7255
Root MSE	0.4541	0.4505	0.4626	0.4264	0.4251	0.4347

\*\*\* Significant at 1%

\*\* Significant at 5%

\* Significant at 10%

Source: Author's calculations using the VAS data.

**Table A3.07: Probit regressions on volunteering likelihood of the working-age population, coefficients**

	Coefficient								
	Labour market dummy variables only			Add other personal-level variables			Add household-level variables		
	2010	2014	2018	2010	2014	2018	2010	2014	2018
Labour market status: Employed	-1.769***	-1.715***	-1.623***	-2.241***	-1.414***	-1.981***	-2.070***	-1.286***	-1.813***
Labour market status: Unemployed	-1.799***	-1.660***	-1.479***	-2.088***	-1.253***	-1.760***	-1.891***	-1.113***	-1.570***
Gender: Male				-0.230***	-0.149***	-0.211***	-0.202***	-0.169***	-0.238***
Race: Coloured				-0.052	-0.113*	-0.107	-0.022	-0.096	-0.086
Race: Indian				0.209**	-0.097	-0.125	0.247***	-0.074	-0.106
Race: White				0.034	0.041	-0.095	0.039	0.051	-0.094
Age: 25-34 years				0.171***	0.138**	0.191***	0.138**	0.106*	0.170***
Age: 35-44 years				0.365***	0.292***	0.332***	0.323***	0.243***	0.301***
Age: 45-54 years				0.516***	0.418***	0.423***	0.523***	0.420***	0.412**
Age: 55-64 years				0.549***	0.374***	0.424***	0.586***	0.374***	0.418***
Province: Western Cape				0.160**	-0.309***	-0.140*	0.160**	-0.310***	-0.133*
Province: Northern Cape				0.269***	-0.249**	0.056	0.267***	-0.255***	0.055
Province: Free State				0.373***	0.035	0.464***	0.373***	0.027	0.459***
Province: KwaZulu-Natal				-0.303***	-0.405***	0.283***	-0.290***	-0.395***	0.313***
Province: North West				-0.384***	-0.461***	-0.011	-0.386***	-0.459***	-0.019
Province: Gauteng				-0.105*	-0.435***	-0.057	-0.103	-0.430***	-0.053
Province: Mpumalanga				-0.170**	-0.365***	0.501***	-0.174**	-0.366***	0.511***
Province: Limpopo				0.458***	-0.223***	0.496***	0.462***	-0.211***	0.491***
Area type: Urban				-0.082*	-0.355***	-0.277***	-0.081*	-0.331***	-0.289***
Education years				-0.021	-0.052***	0.003	-0.014	-0.047***	0.005
Education years squared				0.004***	0.005***	0.001	0.003***	0.005***	0.001
Marital status: Married				0.098***	0.004	0.048	0.081**	-0.020	0.036
Number of children 0-14 years in the household							0.038***	0.057***	0.008
Number of males 15-59 years in the household							-0.110***	-0.042**	-0.038**
Number of females 15-59 years in the household							-0.056***	-0.095***	-0.069***
Number of elderly 60+ years in the household							-0.129***	-0.032	-0.038
Number of observations	28 155	28 172	24 932	27 794	27 915	24 702	27 794	27 915	24 702
Chi-squared statistic	13472.44	13065.16	14038.47	12342.30	12120.55	12128.81	12241.57	12029.89	12290.51
Prob > Chi-squared	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

\*\*\* Significant at 1%, \*\* Significant at 5%, \* Significant at 10%, ; N/A: Imperfect collinearity

Source: Author's calculations using the VAS data.

**Table A3.08: Linear probability regressions on volunteering likelihood of the working-age population**

	Coefficient								
	Labour market dummy variables only			Add other personal-level variables			Add household-level variables		
	2010	2014	2018	2010	2014	2018	2010	2014	2018
Labour market status: Employed	0.038***	0.045***	0.052***	0.012	0.092***	0.027**	0.023***	0.103***	0.044***
Labour market status: Unemployed	0.036***	0.048***	0.070***	0.023***	0.106***	0.051***	0.036***	0.118***	0.071***
Gender: Male				-0.017***	-0.014***	-0.024***	-0.015***	-0.016***	-0.026***
Race: Coloured				-0.008	-0.011**	-0.007*	-0.005	-0.009*	-0.004
Race: Indian				0.013	-0.006	-0.014	0.015**	-0.003	-0.012
Race: White				0.004	0.003	-0.011*	0.004	0.005	-0.010*
Age: 25-34 years				0.010***	0.010***	0.016***	0.008**	0.008**	0.014***
Age: 35-44 years				0.025***	0.024***	0.032***	0.022***	0.020***	0.029***
Age: 45-54 years				0.039***	0.037***	0.043***	0.039***	0.037***	0.042***
Age: 55-64 years				0.041***	0.032***	0.040***	0.043***	0.032***	0.040***
Province: Western Cape				0.016**	-0.034***	-0.005	0.016**	-0.034***	-0.004
Province: Northern Cape				0.026***	-0.030***	0.009	0.026***	-0.030***	0.009
Province: Free State				0.037***	0.002	0.058***	0.038***	0.001	0.058***
Province: KwaZulu-Natal				-0.019***	-0.046***	0.033***	-0.018***	-0.045***	0.036***
Province: North West				-0.022***	-0.052***	-0.001	-0.022***	-0.052***	-0.001
Province: Gauteng				-0.009**	-0.046***	-0.001	-0.009**	-0.046***	-0.001
Province: Mpumalanga				-0.013**	-0.042***	0.071***	-0.013**	-0.042***	0.072***
Province: Limpopo				0.054***	-0.027***	0.071***	0.054***	-0.026***	0.070***
Area type: Urban				-0.006*	-0.038***	-0.037***	-0.006	-0.036***	-0.038***
Education years				-0.003**	-0.006***	0.001	-0.003*	-0.005***	0.001
Education years squared				0.000***	0.001***	0.000	0.000***	0.001***	0.000
Marital status: Married				0.007**	-0.000	0.005	0.004	0.003	0.003
Number of children 0-14 years in the household							0.003***	0.005***	0.001
Number of males 15-59 years in the household							-0.006***	-0.003**	-0.004**
Number of females 15-59 years in the household							-0.004***	-0.008***	-0.007***
Number of elderly 60+ years in the household							-0.009***	-0.003	-0.005
Number of observations	28 155	28 172	24 932	27 794	27 915	24 702	27 794	27 915	24 702
F Stat	449.45	509.06	703.31	49.34	53.29	68.66	42.40	46.27	60.71
Prob > F	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
R-squared	0.0378	0.0447	0.0581	0.0614	0.0633	0.0887	0.0635	0.0652	0.0901
Root MSE	0.1907	0.2063	0.2318	0.1895	0.2046	0.2288	0.1893	0.2044	0.2287

\*\*\* Significant at 1%, \*\* Significant at 5%, \* Significant at 10%, ; N/A: Imperfect collinearity

Source: Author's calculations using the VAS data.

**Table A3.09: Probit regressions on volunteering likelihood of the working-age population, Africans only, average marginal effects**

	Average marginal effect								
	Labour market dummy variables only			Add other personal-level variables			Add household-level variables		
	2010	2014	2018	2010	2014	2018	2010	2014	2018
Labour market status: Employed	-0.006**	#	#	#	-0.013***	-0.027***	#	-0.015***	-0.030***
Labour market status: Unemployed	#	0.007**	0.016***	0.013***	#	#	0.014***	#	#
Gender: Male				-0.019***	-0.014***	-0.024***	-0.016***	-0.017***	-0.028***
Age: 25-34 years				0.007	0.012**	0.022***	0.005	0.009*	0.019***
Age: 35-44 years				0.025***	0.028***	0.042***	0.022***	0.023***	0.037***
Age: 45-54 years				0.037***	0.039***	0.059***	0.037***	0.039***	0.056***
Age: 55-64 years				0.041***	0.040***	0.061***	0.046***	0.042***	0.061***
Province: Western Cape				0.006	-0.033***	-0.040***	0.006	-0.033***	-0.039***
Province: Northern Cape				0.031***	-0.016**	0.015	0.032***	-0.016**	0.015
Province: Free State				0.042***	0.005	0.066***	0.042***	0.004	0.065***
Province: KwaZulu-Natal				-0.013***	-0.030***	0.034***	-0.012***	-0.029***	0.038***
Province: North West				-0.015***	-0.029***	-0.000	-0.014***	-0.029***	-0.001
Province: Gauteng				-0.002	-0.036***	-0.012*	-0.002	-0.035***	-0.011*
Province: Mpumalanga				-0.002	-0.025***	0.072***	-0.002	-0.025***	0.074***
Province: Limpopo				0.053***	-0.018***	0.071***	0.052***	-0.017***	0.070***
Area type: Urban				-0.004	-0.034***	-0.028***	-0.004	-0.031***	-0.030***
Education years				0.001	0.004**	0.002	0.001	-0.003**	0.002
Education years squared				0.000	0.000**	0.000	0.000	0.000***	0.000
Marital status: Married				0.005**	-0.003	0.004	0.004	-0.006*	0.002
Number of children 0-14 years in the household							0.003***	0.005***	0.001
Number of males 15-59 years in the household							-0.006***	-0.003**	-0.004*
Number of females 15-59 years in the household							-0.003**	-0.009***	-0.008***
Number of elderly 60+ years in the household							-0.008***	-0.006*	-0.006*
Number of observations	21 011	21 137	20 100	20 742	20 927	19 909	20 742	20 927	19 909
Observed probability	0.0344	0.0462	0.0641	0.0348	0.0462	0.0645	0.0348	0.0462	0.0645
Predicted probability at $x$ -bar	0.0343	0.0461	0.0637	0.0269	0.0387	0.0510	0.0258	0.0377	0.0503
Chi-squared statistic	4.59	4.57	18.09	395.83	359.64	589.46	458.51	389.94	633.20
Prob > Chi-squared	0.0321	0.0326	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Pseudo R-squared	0.0008	0.0007	0.0020	0.0731	0.0570	0.0756	0.0818	0.0642	0.0799

\*\*\* Significant at 1%, \*\* Significant at 5%, \* Significant at 10%, N/A: Imperfect collinearity

Source: Author's calculations using the VAS data.

**Table A3.10: Probit regressions on volunteering likelihood of the working-age population, Africans only, coefficients**

	Coefficient								
	Labour market dummy variables only			Add other personal-level variables			Add household-level variables		
	2010	2014	2018	2010	2014	2018	2010	2014	2018
Labour market status: Employed	-1.845***	-1.705***	-1.564***	-2.294***	-1.327***	-2.021***	-2.141***	-1.182***	-1.845***
Labour market status: Unemployed	-1.764***	-1.630***	-1.436***	-2.103***	-1.177***	-1.781***	-1.924***	-1.014***	-1.580***
Gender: Male				-0.297***	-0.169***	-0.222***	-0.263***	-0.199***	-0.261***
Age: 25-34 years				0.108	0.137**	0.197***	0.085	0.108*	0.176***
Age: 35-44 years				0.346***	0.300***	0.354***	0.314***	0.256***	0.322***
Age: 45-54 years				0.441***	0.373***	0.443***	0.452***	0.377***	0.430***
Age: 55-64 years				0.453***	0.363***	0.431***	0.498***	0.384***	0.438***
Province: Western Cape				0.086	-0.654***	-0.561***	0.087	-0.664***	-0.556***
Province: Northern Cape				0.355***	-0.231**	0.131	0.377***	-0.234**	0.128
Province: Free State				0.463***	0.058	0.457***	0.468***	0.048	0.457***
Province: KwaZulu-Natal				-0.239***	-0.460***	0.279***	-0.226***	-0.452***	0.312***
Province: North West				-0.300***	-0.514***	-0.002	-0.301**	-0.514***	-0.008
Province: Gauteng				-0.036	-0.490***	-0.119*	-0.029	-0.487***	-0.112*
Province: Mpumalanga				-0.029	-0.399***	0.501***	-0.033	-0.405***	0.514***
Province: Limpopo				0.552***	-0.256***	0.497***	0.558***	-0.247***	0.495***
Area type: Urban				-0.056	-0.355***	-0.247***	-0.060	-0.334***	-0.261***
Education years				0.012	-0.046**	0.018	0.016	-0.042**	0.020
Education years squared				0.001	0.004***	0.000	0.001	0.004***	0.000
Marital status: Married				0.084**	-0.041	0.037	0.063	-0.074*	0.017
Number of children 0-14 years in the household							0.043***	0.064***	0.014
Number of males 15-59 years in the household							-0.105***	-0.040**	-0.034*
Number of females 15-59 years in the household							-0.054**	-0.107***	-0.080***
Number of elderly 60+ years in the household							-0.136***	-0.069*	-0.056*
Number of observations	21 011	21 137	20 100	20 742	20 927	19 909	20 742	20 927	19 909
Chi-squared statistic	10519.71	10361.31	11481.65	9114.18	9485.84	9679.81	9024.61	9365.81	9796.70
Prob > Chi-squared	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

\*\*\* Significant at 1%, \*\* Significant at 5%, \* Significant at 10%, N/A: Imperfect collinearity

Source: Author's calculations using the VAS data.

**Table A3.11: Linear probability regressions on volunteering likelihood of the working-age population, Africans only**

	Coefficient								
	Labour market dummy variables only			Add other personal-level variables			Add household-level variables		
	2010	2014	2018	2010	2014	2018	2010	2014	2018
Labour market status: Employed	0.033***	0.044***	0.059***	0.005	0.102***	0.017	0.015*	0.115***	0.037***
Labour market status: Unemployed	0.039***	0.052***	0.075***	0.018**	0.115***	0.045***	0.030***	0.130***	0.069***
Gender: Male				-0.021***	-0.016***	-0.027***	-0.020***	-0.019***	-0.031***
Age: 25-34 years				0.007*	0.011***	0.019***	0.006	0.010**	0.017***
Age: 35-44 years				0.024***	0.026***	0.039***	0.022***	0.023***	0.035***
Age: 45-54 years				0.031***	0.035***	0.050***	0.032***	0.036***	0.049***
Age: 55-64 years				0.030***	0.032***	0.046***	0.034***	0.035***	0.047***
Province: Western Cape				0.006	-0.062***	-0.023***	0.005	-0.062***	-0.022***
Province: Northern Cape				0.032***	-0.032**	0.018	0.033***	-0.033**	0.018
Province: Free State				0.045***	0.003	0.061***	0.045***	0.002	0.062***
Province: KwaZulu-Natal				-0.012***	-0.055***	0.035***	-0.011**	-0.054***	0.039***
Province: North West				-0.014***	-0.061***	0.001	-0.015***	-0.061***	0.000
Province: Gauteng				-0.004	-0.054***	-0.005	-0.003	-0.054***	-0.004
Province: Mpumalanga				-0.002	-0.049***	0.074***	-0.002	-0.049***	0.076***
Province: Limpopo				0.062***	-0.033***	0.074***	0.063***	-0.033***	0.074***
Area type: Urban				-0.003	-0.038***	-0.035***	-0.003	-0.037***	-0.037***
Education years				0.001	-0.005**	0.002	0.001	-0.004**	0.003
Education years squared				0.000	0.000***	-1.100	0.000	0.000***	-8.180
Marital status: Married				0.005*	-0.004	0.005	0.003	-0.008**	0.002
Number of children 0-14 years in the household							0.003***	0.006***	0.002
Number of males 15-59 years in the household							-0.006***	-0.003**	-0.004**
Number of females 15-59 years in the household							-0.004***	-0.010***	-0.009***
Number of elderly 60+ years in the household							-0.009***	-0.007**	-0.007*
Number of observations	21 011	21 137	20 100	20 742	20 927	19 909	20 742	20 927	19 909
F Statistics	324.88	418.63	649.94	40.87	51.73	72.81	34.19	43.84	63.11
Prob > F	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
R-squared	0.0346	0.0464	0.0650	0.0587	0.0681	0.0982	0.0609	0.0708	0.1002
Root MSE	0.1822	0.2098	0.2448	0.1811	0.2077	0.2412	0.1809	0.2074	0.2410

\*\*\* Significant at 1%, \*\* Significant at 5%, \* Significant at 10%, N/A: Imperfect collinearity

Source: Author's calculations using the VAS data.

**Table A4.01: Probit regression on economic activity and child labour for African children aged 7-17 years only**

Independent variable	Average marginal effects					
	Economic Activity			Child Labour		
	2010	2015	2019	2010	2015	2019
Gender: Male	-0.033***	-0.007	-0.004	-0.011**	-0.003	-0.006
Age	0.082***	0.013	0.038**	0.012	-0.004	0.018**
Age squared	-0.002**	0.001	-0.001	-0.000	0.001	-0.000
Province: Eastern Cape	0.257***	0.165***	0.175***	0.048**	0.028	0.074***
Province: Northern Cape	0.189***	0.066	0.114***	-0.051***	-0.004	-0.027
Province: Free State	-0.024	-0.107***	-0.068**	-0.022	0.001	0.009
Province: KwaZulu-Natal	0.181***	0.215***	0.121***	0.044**	0.089**	0.077***
Province: North West	0.005	-0.008	-0.066**	-0.037***	-0.017	-0.011
Province: Gauteng	-0.093*	-0.094***	-0.162***	-0.034**	0.022	0.074***
Province: Mpumalanga	-0.119***	0.051	-0.054**	-0.025*	0.077**	0.083***
Province: Limpopo	0.025	0.067*	-0.037	-0.051***	0.048	0.003
Resident Area: Urban	-0.297***	-0.253***	-0.198***	-0.051***	-0.039***	-0.048***
Education years	0.014*	0.032***	0.020**	-0.001	0.004	0.002
Education years squared	-0.003***	-0.004***	-0.003***	-0.000	-0.001**	-0.000
Only mother is alive	0.022**	0.027**	0.035**	0.001	-0.010**	0.013*
Only father is alive	0.051**	0.008	0.015	-0.001	-0.017**	-0.009
Both parents are not alive	0.002	0.041**	-0.000	-0.003	0.008	0.002
Number of Children 0-6 years	0.006	0.010**	0.003	-0.001	0.000	0.004**
Number of other children 7-17 years	0.005	0.013***	0.012***	-0.002	0.003*	-0.002
Number of males 18-59 years	-0.012**	-0.013***	-0.007	-0.004	-0.004*	-0.002
Number of females 18-59 years	-0.013***	-0.017***	-0.016***	-0.009***	-0.003	-0.001
Number of elderly	-0.009	-0.010	-0.012*	0.002	0.005*	-0.010***
Number of other employed members	-0.026***	-0.027***	-0.022***	-0.002	-0.006**	-0.004
Number of observations	14 975	11 839	9 991	14 975	11 839	9 991
LR Chi-square statistic	2042.08	1838.98	1370.20	727.69	426.69	299.21
Prob. > Chi-square	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Pseudo R square	0.2700	0.2480	0.2490	0.1291	0.1156	0.1029
Observed probability	0.2840	0.2526	0.2275	0.0799	0.0586	0.0569
Predicted probability (at $\bar{X}$ )	0.2062	0.1722	0.1451	0.0543	0.0387	0.0391
*** p < 0.01, ** p < 0.05, * p < 0.10						
Reference groups: Female, Western Cape, Rural area, both parents are still alive						

Source: Author's calculations using the SAYP data.

**Table A4.02: Probit regression on labour force participation for all African working-age population**

Independent variable	Average marginal effects					
	[I]	[II]	[III]	[IV]	[V]	[VI]
	2010	2015	2019	2010	2015	2019
Gender: Male	0.203***	0.160***	0.153***	0.204***	0.160***	0.153***
Age	0.095***	0.098***	0.100***	0.095***	0.098***	0.100***
Age squared	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
Province: Eastern Cape	-0.144***	-0.132***	-0.131***	-0.148***	-0.135***	-0.131***
Province: Northern Cape	-0.079***	0.044*	-0.133***	-0.079***	0.044*	-0.131***
Province: Free State	-0.050**	-0.036*	-0.067***	-0.049**	-0.036*	-0.068***
Province: KwaZulu-Natal	-0.137***	-0.117***	-0.159***	-0.140***	-0.118***	-0.159***
Province: North West	-0.114***	-0.125***	-0.161***	-0.002***	-0.124***	-0.161***
Province: Gauteng	-0.023	0.035**	-0.029*	-0.022	0.035**	-0.030*
Province: Mpumalanga	-0.018	-0.017	0.010	-0.013	-0.015	0.009
Province: Limpopo	-0.154***	-0.105***	-0.177***	-0.151***	-0.104***	-0.177***
Resident Area: Urban	0.131***	0.115***	0.096***	0.140***	0.119***	0.095***
Education years	-0.014***	-0.008**	-0.005	-0.013***	-0.008**	-0.005
Education years squared	0.003***	0.002***	0.002***	0.003***	0.002***	0.002***
Married	0.011	0.025***	0.029***	0.011	0.025***	0.029***
Number of Children 0-6 years	-0.014***	0.016***	-0.003	-0.014***	-0.016***	-0.003
Number of other children 7-17 years	-0.023***	-0.014***	-0.018***	-0.029***	-0.017***	-0.017***
Number of males 18-59 years	-0.020***	-0.016***	-0.024***	-0.020***	-0.016***	-0.024***
Number of females 18-59 years	0.009**	-0.003	-0.001	0.010**	-0.002	-0.001
Number of elderly	-0.058***	-0.078***	-0.053***	-0.058***	-0.078***	-0.053***
Total number of children in economic activity	-0.022***	-0.019***	0.006			
Total number of children in child labour				0.008	-0.033***	0.020
Number of observations	36 636	33 159	31 698	36 636	33 159	31 698
LR Chi-square statistic	5706.83	6412.36	5869.59	5679.81	6458.33	5881.75
Prob. > Chi-square	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Pseudo R square	0.2146	0.2282	0.2162	0.2142	0.2281	0.2162
Observed probability	0.5820	0.6267	0.6372	0.5820	0.6267	0.6372
Predicted probability (at $\bar{X}$ )	0.6011	0.6567	0.6673	0.6014	0.6568	0.6672
*** p < 0.01, ** p < 0.05, * p < 0.10						
Reference groups: Female, Western Cape, Rural						

Source: Author's calculations using the SAYP data.

**Table A4.03: Heckprobit regression on employment for all African working-age population**

Independent variable	Average marginal effects					
	[I]	[II]	[III]	[IV]	[V]	[VI]
	2010	2015	2019	2010	2015	2019
Gender: Male	-0.008	0.006	-0.024**	-0.006	0.004	-0.027***
Age	-0.007	-0.013**	-0.025***	-0.006	-0.015***	-0.029***
Age squared	0.000***	0.000***	0.000***	0.000***	0.000***	0.000***
Province: Eastern Cape	0.100***	0.032*	0.021	0.102***	0.034*	0.021
Province: Northern Cape	0.049**	-0.150***	0.076***	0.047*	-0.151***	0.077***
Province: Free State	0.015	-0.053***	-0.024	0.014	-0.052***	-0.022
Province: KwaZulu-Natal	0.180***	0.133***	0.145***	0.181***	0.134***	0.145***
Province: North West	0.068***	0.055***	0.057***	0.066***	0.057***	0.062***
Province: Gauteng	-0.007	-0.081***	-0.048***	-0.008	-0.081***	-0.046***
Province: Mpumalanga	0.035*	0.011	-0.037**	0.032	0.011	-0.035*
Province: Limpopo	0.124***	0.129***	0.178***	0.121***	0.131***	0.183***
Resident Area: Urban	-0.035***	-0.036***	-0.026**	-0.039***	-0.037***	-0.024**
Education years	-0.030***	-0.038***	-0.039***	-0.030***	-0.038***	-0.040***
Education years squared	0.002***	0.002***	0.002***	0.002**	0.002***	0.002***
Married	0.108***	0.067***	0.104***	0.108***	0.067***	0.103***
Total number of children in economic activity	0.010	-0.003	-0.028***			
Total number of children in child labour				-0.029**	0.002	-0.029
Lambda	-0.312***	-0.318***	-0.404***	-0.302***	-0.331***	-0.426***
Number of observations	19 655	20 417	19 831	19 655	20 417	19 831
LR Chi-square statistic	1796.73	1938.89	2187.85	1806.01	1944.27	2182.28
Prob. > Chi-square	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Pseudo R square	0.1162	0.1004	0.1149	0.1161	0.1006	0.1145
Observed probability	0.7013	0.7104	0.6698	0.7013	0.7104	0.6698
Predicted probability (at $\bar{X}$ )	0.7249	0.7316	0.6904	0.7250	0.7316	0.6903
*** p < 0.01, ** p < 0.05, * p < 0.10						
Reference groups: Female, Western Cape, Rural						

Source: Author's calculations using the SAYP data.