

The determinants of happiness among race groups in South Africa

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Abstract

Economic indicators, like GDP per capita, are commonly used as indicators of welfare. However, they have a very limited and narrow scope, excluding many potentially important welfare determinants, such as health, relative income and religion – not surprising since they were not originally designed to fill this role. There is thus growing acceptance, and use of, subjective measure of wellbeing, (called ‘happiness’ measures) both worldwide and in South Africa. Happiness economics does not propose to replace income based measure of wellbeing, but rather attempts to compliment them with broader measures, which can be important in making policy decisions that optimise societal welfare. This paper tests for differences in subjective wellbeing between race groups in South Africa, and investigates the determinants of self-rated life satisfaction (happiness) for each group. Using the 2008 National Income Dynamics Study (NIDS) data, descriptive methods (ANOVA) and an ordered probit model are applied. Results indicate that reported happiness differs substantially among race groups, with black South Africans being the least happy group despite changes since the advent of democracy in 1994. Higher levels of educational attainment increase satisfaction for the whole sample, and women are generally less happy than men (particularly black women). As found in many other studies, unemployed people have lower levels of life satisfaction than the employed, even when controlling for income and relative income. The determinants of happiness are also different for each race group: While white South Africans attached greater importance to physical health; employment status and absolute income matter greatly for black people. For coloured people and black people, positional status (as measured by relative income) is an important determinant of happiness, with religious involvement significantly contributing to the happiness of Indian people.

Keywords: Happiness, Subjective wellbeing, racial groups, South Africa

JEL codes: I31, D60

1. Introduction

Despite the progress made in many spheres of economic and social development since the end of apartheid in 1994, South Africa still has one of the most unequal societies in the world, with a Gini coefficient of 57.8 (United Nations Human Development Report, 2009). Møller’s (2007) study of life satisfaction in South Africa using 2002 Statistics South Africa data, found that the improving material living standards for black South Africans were associated with increases in quality of life, although they were still significantly less satisfied with their life overall compared to coloured, Indian and, especially, white South Africans. Møller (2007) concludes that there is a close relationship between material and subjective wellbeing for black South Africans, not only because of the improved financial security and living conditions that material possessions bring, but also because they are associated with improved social standing. As such, “a well-appointed home tells the world that black South Africans are no longer second-class citizens in their own country” (Møller, 2007:412).

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In a later paper, which measures quality of life amongst black South Africans in a lower-income suburb of Grahamstown, Møller and Radloff (2010) find that it is not only material living standards that have an impact on quality of life, but also symbolic progress (“sense of place and belonging”), explored here through the willingness of participants to change the name of Grahamstown to ‘Rhini’. In addition, life satisfaction, especially among black South Africans, is substantially affected by the provision of service delivery (Møller & Jackson, 1997) as well as area of residence (Møller, 2001).

In a recent study of the difference between needs and wants in quality of life indicators in developing countries, McGregor et al. (2009) point out that the significance of variables may be different for people living in different contexts. For example, those living in rural areas judged access to food and electricity as more important to their quality of life than those who lived in cities, because food and electricity were readily available in urban communities. Likewise, communities with much migrant labour listed good family relations as more important than those who worked close to home (McGregor et al., 2009:148). These findings suggest that, for development policies to be effective, differences between communities need to be taken into account.

An understanding the determinants of life satisfaction across different race groups in South Africa is thus important as the information can be used to design future policies aimed at well-being improvement. Sixteen years after the democratisation of South Africa, it can reasonably be expected that happiness differences among race groups should be less substantial than before the 1994 elections (Powdthavee, 2003). Other studies on quality of life in South Africa test which race group is happiest in comparison to others (Powdthavee, 2003; Hinks & Gruen, 2007; Mahadea & Rawat, 2008). Race is included as a control variable, but the determinants of happiness for each group are not explicitly analysed. There is thus a distinct lack of research in South Africa on the relationship between happiness and race as well as the determinants of happiness for each race group, and it is this gap that this paper aims to fill.

2. Definitions and determinants

Interest in examining the causes of, and reasons for, happiness has become a popular topic in economics in past decades as can be seen by the exponential increase in literature regarding life satisfaction (Clark et al., 2008). Veenhoven (1991) views happiness as the degree to which an individual judges the overall quality of his or her life as favourable. In order to increase the happiness of all members of society, factors that contribute to happiness need to be better understood (Veenhoven, 1996).

Some researchers distinguish between the terms ‘happiness’, ‘well-being’ and ‘life satisfaction’, but others use the terms interchangeably (Veenhoven, 1996; Schyns, 1998). For example, Schyns (1998) found a high correlation between mean happiness and mean life-satisfaction and suggests that happiness and life-satisfaction are very similar concepts.

Happiness levels can change significantly in response to many different factors (Schyns, 1998; Hagerty & Veenhoven, 2003). Happiness surveys can examine the effects of non-income factors, such as education, race and gender, as well as more traditional economic indicators, such as inflation, real GDP and price stability (Frey & Stutzer, 2002).

In terms of determinants, many studies have found unemployment to be negatively associated with life satisfaction (Clark & Oswald, 1994; Oswald, 1997; Ravalion & Lokshin, 2001; Stutzer, 2001; Powdthavee, 2003; Møller & Radloff, 2010). Graham (2008) notes that unemployment has a greater negative effect in countries where there are no measures to counter the effects of unemployment. Clark and Oswald (1994) also found that unemployment has a greater effect on happiness than income does. In a South African context, Hinks and Gruen (2007) found a negative relationship between happiness and unemployment, and Møller and Radloff (2010) conclude that, despite improving living conditions, lack of income and employment resulted in negative perceptions of household situation.

The relationship between age and happiness is generally non-linear and “U-shaped” in nature (Clark et al., 1996; Blanchflower & Oswald, 2000; Ferrer-i-Carbonell & Gowdy, 2007), suggesting that happiness is high at a young age, decreases over time until it reaches the lowest level of happiness (between 30 and 50 years of age) and then increases again. For South Africa, Powdthavee (2003, 2005) found a significant U-shaped relationship between happiness and age, but Hinks and Gruen (2007) found no evidence of this U-shaped association.

Education and happiness are mostly positively related (Diener et al., 1993; Oswald, 1997; Blanchflower & Oswald, 2000; Møller & Radloff, 2007). The positive relationship between happiness and education level is generally attributed to the higher income, productivity, and social status brought about by a higher level of education (Witter et al., 1984). More education may, however, lead to greater aspirations and if these aspirations are not met may lead to dissatisfaction (Clark & Oswald, 1994; Diener et al., 1999). This idea is also asserted by Powdthavee (2003) from South African evidence, who found a negative relationship between happiness and education. Hinks and Gruen (2007), in contrast, found that a weak positive association between happiness and education in South

Africa, while Mahadea and Rawat (2008) report no significant relationship between years of completed education and happiness in South Africa.

Marital status is another important determinant of life satisfaction found mainly from research conducted in the developed world. Married people are consistently found to be happier than those who are divorced, separated, single or widowed (Clark & Oswald, 1994; Easterlin, 2001; Layard, 2006). In addition, cohabitants generally report higher levels of happiness than those who are single (Dolan et al., 2008:106). Powdthavee (2003) and Hinks and Gruen (2007) found no significant relationship between happiness and marital status in South Africa, but Møller (2007) found a weak positive relationship. However, in a later study, Powdthavee (2005) found that South Africans in civil marriages were significantly happier than people who were single.

Men and women generally report different levels of happiness. Clark and Oswald (1994) and Blanchflower and Oswald (2000) found that women are happier than men while Stevenson and Wolfers (2009) find that despite the improvements in the lives of women, the happiness of women has declined relative to that of men in the USA. In contrast, Graham (2008) found no significant happiness differences among gender groups in Latin America. In South Africa, both Hinks and Gruen (2007) and Mahadea and Rawat (2008) report no significant happiness differences among gender groups.

Health is an important determinant of well-being. Those in good health generally report a higher level of life satisfaction than those with poorer health (Veenhoven, 1996; Gerdtham & Johannesson, 2001). Health is the most important factor affecting happiness in Latin America, with the importance of health for higher levels of happiness being consistent in both developed and developing nations (Graham, 2008). Gerdtham and Johannesson (2001), for example, found a positive relationship between health and happiness using Swedish data.

Although an under-researched area (Peterson & Webb, 2006) some studies have shown that those who practice a religion are happier than those who attach no value to religion (Ferriss, 2002; Rule, 2007). It has also been shown that those for whom religion is important have higher happiness levels (Ferriss, 2002; Hayo, 2004). For South Africa, previous research suggests a positive association between religious importance and happiness (Rule, 2007).

Children and happiness are related, but the results are mixed (Dolan et al., 2008). Some studies find that having children exhibits a positive relationship with happiness (Haller & Hadler, 2006), while

others find a negative association between children and happiness in, for example, single parents (Frey & Stutzer, 2000), poor families (Alesina et al., 2004) and divorced mothers (Schoon et al., 2005).

The positive relationship between happiness and absolute income is one of the most well-known findings in the happiness literature (Schyns, 1998, Graham, et al., 2004; Blanchflower & Oswald, 2004). The effect of income on happiness is greater in developing countries than in developed countries, since once a certain income threshold is reached in the latter, higher income does not facilitate higher levels of life satisfaction (Clark et al., 2008). The positive association between absolute income and happiness has also been confirmed in the South African case (Powdthavee, 2003; Hinks & Gruen, 2007; Møller, 2007, Mahadea & Rawat, 2008).

Studies including relative income suggest that happiness is strongly affected by positional status in society (Clark et al., 2008), with the relationship between relative income and happiness being dependent on those in the relevant comparison group (Ferrer-i-Carbonell & Gowdy, 2007). Clark et al. (2008) suggest that an increase in income relative to others will raise the level of happiness of that individual. Thus, people care about their social status in society. This is also the case in South Africa, with Powdthavee (2003) reporting higher relative income being associated with higher levels of happiness.

3. Previous research on happiness and race

Previous research has shown that happiness differs substantially between racial groups in both developed and developing countries (Graham, 2005). For example, in both the US and Latin America, studies have found black people to be the least happy race group (Oswald, 1997; Hughes & Thomas, 1998; Di Tella et al., 2001; Graham, 2005).

Using data from the 1993 Southern African Labour and Development Research Unit (SALDRU) survey, Powdthavee (2003) found black people to be the most unhappy race group, which he attributes to the Apartheid legacy of South Africa. In another national study using 2002 data, Møller (2007) confirms this finding. There is some evidence of progress, however: Harris (2007) conducted a study on the changes South Africa experienced with the end of Apartheid and found that black people were happier at the advent of democracy than they were before. However, the percentage of black people that reported being relatively happy was much lower than that of the other race groups.

Smaller regional South African studies have produced similar findings: From studies conducted in Durban, Hinks and Gruen (2007) found that white people were happiest followed by Indian and coloured people. In Pietermaritzburg, Mahadea and Rawat (2008) found that black people were happier than coloured people but, that white people remained the happiest.

4. Data and method

The data was obtained from the National Income Dynamics Study (NIDS), which was conducted by the Southern Africa Labour and Development Research Unit (SALDRU) in 2008 (NIDS, 2008). NIDS is a nationally representative survey examining 7 300 households carried out by approximately 300 fieldworkers. The aim of NIDS is to examine income, consumption, expenditure and well-being over time. NIDS is the most recent data set that contains a question about life satisfaction and was therefore chosen for this study. The question regarding life satisfaction in the survey states: “Using a scale of 1 to 10 where 1 means ‘Very dissatisfied’ and 10 means ‘Very satisfied’, how do you feel about your life as a whole right now?”

The analysis comprises of both descriptive and regression based methods. In the descriptive section, analysis of variance (ANOVA) and median tests are conducted. The former tests for the equality of mean life satisfaction between racial groups, while the latter tests whether reported median life satisfaction between racial groups are equal.

Given the ordinal nature of happiness, the common method for estimating happiness equations is to adopt an ordered probit model (Gerdtham & Johannesson, 2001; Hinks & Gruen, 2007). The following model is estimated:

$$y = \beta_i X_i + \varepsilon_i \tag{1}$$

where y represents reported happiness at the i^{th} scale, β_i refers to the coefficients to be estimated, X_i represents the vector of explanatory variables and ε_i represents the error term.

The explanatory variables, informed by the literature review, include race, age, age squared, education, marital status, gender, health, religion, children, absolute income, employment status and relative income. Race is classified into four categories; black (base), white, Indian and coloured. Age refers to the age of the respondent. Age squared is included to test for the presence of non-linearity in the relationship between age and happiness, as suggested by previous studies. Education is divided into four categories, including “no schooling” (base), “primary school”, “secondary school” and “post-secondary school”. Marital status is classified in five categories; “Single” (base), “Married”,

“Cohabitant”, “Widowed” and “Divorced/Separated”. Gender is classified in two categories; male (base) and female. The health variable measures the individual's own assessment of current health and consists of five categories, namely “Poor” (base), “Fair”, “Good”, “Very good” and “Excellent”. The religious importance variable is measured through questioning the importance of religion in an individual’s life, and is separated into four categories, ranging from “Not important at all” (base), “Unimportant”, “Important” and “Very important”. The children variable refers to the number of children a respondent has. Absolute income is net income per month, in logarithm. Employment status consists of two categories, namely unemployed (base) and employed. To measure relative income, individuals were asked to classify their household income in comparison with other households in their area. Relative income is classified into five categories; “Much below average income” (base), “Below average income”, “Average income”, “Above average income” and “Much above average income”.

Five ordered probit regressions were conducted. The first regression includes the entire sample while the remaining regressions report results for each individual race group. In terms of regression diagnostics, the Pseudo R² and Wald chi-squared tests are used. The former is a standard measure of goodness of fit, while the latter reports the joint significance of the explanatory variables in explaining the variation in the dependent variable.

5. Results and discussion

Summary statistics are presented in Table 1. Mean education is substantially higher among white individuals, with roughly 11 years of completed education on average. Black and coloured people possess the lowest levels of average completed education. Women make up 61% among Black, coloured and Indian people in their respective samples, while white Women make up 56% of the white sample. Reported health status is greater among white individuals, while religious importance is greatest for coloured and Indian people. White people by far possess the highest level of mean absolute income (R8295.48), whereas average income is lowest for the black (R2405.88) and coloured (R2377.84) groups. Unemployment is most prevalent among the black population group, with about 76% of black individuals being unemployed. Finally, white people reported the highest levels of positional status followed by Indians, whereas black people have the lowest levels of relative income.

[Table 1 about here]

Table 2 illustrates the reported satisfaction levels for people across the different race groups, with the Pearson chi-squared test indicating that the relationship between happiness and race is statistically significant ($p < 0.001$). Of black respondents, about 61% reported a level of satisfaction of 5 or less

while only 21% of White respondents reported a level of satisfaction of 5 or less. Only 6.65% of black respondents report a satisfaction level of 10, while the majority of Black people and Coloured people report a satisfaction level of 5. This is different from results for white people and Indian people where the majority of both race groups report a satisfaction level of 8. Consistent with the South African study of Hinks and Gruen (2007), the majority of black South Africans report the lowest levels of happiness.

[Table 2 about here]

The ANOVA conducted indicates that mean happiness is significantly different across all race groups ($F = 394.53$, $p < 0.001$). The median test also shows that median happiness among race groups is not equal ($p < 0.001$). The majority of black respondents report a satisfaction level that is lower than the median of the entire sample while the majority of people in all other race groups report a level of satisfaction that is higher than the overall median. White people are found to have the highest mean level of happiness followed by coloured and then Indian people. Black people report the lowest mean level of happiness as is displayed in Table 2. Evidently, the descriptive statistics in Table 2 provide the first evidence of distinct happiness differences between race groups.

The ordered probit regression results are reported in Table 3. For all models the Wald chi-squared statistic indicates that the explanatory variables are jointly significant in explaining the variation in happiness. The Pseudo R^2 values hover between 3% and 9%, consistent with other cross-sectional happiness studies employing an ordered probit model (Powdthavee, 2003).

Results from the entire sample confirm the existence of happiness differences among race groups. Coloured people, white people and Indian people are all significantly happier than black people ($p < 0.001$). Post-estimation chi-square tests indicate that coloured people are happier than Indian people ($p < 0.05$) but not significantly happier than white people ($p = 0.1598$). There is also no significant difference between Indian people and white people ($p = 0.1954$). Powdthavee (2003, 2005) and Hinks and Gruen (2007) also found black individuals to be the least satisfied race group in South Africa. These results are also consistent with findings of Blanchflower and Oswald (2004) for the USA. What the results of this paper therefore suggest is that, in spite of democratisation in 1994 and national policy favouring development as well as employment provision for black, Indian and coloured people, black people remain the least happy racial group in South Africa, while white individuals are the most happy.

There is a significant U-shaped relationship between age and happiness in the overall sample as well as for black people and white people. In the overall sample, happiness decreases until the age of roughly 30 years, after which individual happiness starts to increase. The turning points for black people and white people are 40 and 37 years of age, respectively. A possible explanation for this is the prevalence of HIV/AIDS amongst adults in South Africa, which (according to the South African Institute of Race Relations Survey, 2009:11) has resulted in a significant decrease in the black African population between 35 and 39 years old. The existence of a U-shaped relationship between happiness and age is also in line with the findings of international studies such as Clark et al. (1996) and Gerdtham and Johannesson (2001), as well as the South African studies of Powdthavee (2003, 2005). Hinks and Gruen (2007), however, found no evidence of a U-shaped relationship in South Africa.

[Table 3 about here]

Reported well-being increases with education in the overall sample, as having post-secondary education contributes the most to happiness levels relative to those who have no education ($p < 0.01$). Similar findings are found from evidence in developed countries (Diener et al., 1993). Education attainment was, in general, not a significant determinant of wellbeing for white and Indian people, although the impact was negative ($p < 0.10$) for the tiny sample of white people who had completed only primary school (as compared to the base case of no education). For black and coloured people, happiness is strongly positively associated with educational attainment.

The results need to be interpreted within the context of educational attainment levels by race group in South Africa. According to the South African Institute of Race Relations 2008/9 Survey (2009:381-383), the percentage of white people 20 years and older with no schooling is less than 1%, and 3.4% for coloured people, while 11.5% of black people are still in this position (much improved from 17.4% in 1997, however). Similarly, while most white individuals (73.2%) have completed grade 12 and 16.8% go on to complete higher education, while only a quarter (26%) of black (African) people complete high school and only 1.8% higher education. In this context, it is not surprising that, for race groups where the usual position is high school completion, with a relatively big proportion going on to complete some form of post-secondary education, the impact of educational attainment on welfare is less than for groups where the educational attainment levels of most people are lower.

Married people are not significantly happier than those who are single for the entire sample, as well as coloured people and white people. Black and Indian married individuals are significantly happier than their single counterparts ($p < 0.10$). In the overall sample, the divorced are less satisfied than singles ($p < 0.01$). Moreover, Coloured widows/widowers are less happy than single coloured people ($p <$

0.10). Powdthavee (2005) and Mahadea and Rawat (2008) found similar results regarding divorce while these findings are broadly in contrast to Hinks and Gruen (2007).

For the overall sample, the results show that women are less happy than men ($p < 0.01$). This finding is inconsistent with that of Hinks and Gruen (2007), who found no significant differences in happiness between men and women in South Africa. Black men are happier than black women, but results for coloured people and Indian people are insignificant. For the white sample, women are significantly happier than men ($p < 0.10$). The fact that black women are less satisfied relative to black men could be attributed to the more patriarchal societal structure in many black cultures, with women therefore still required to fulfil traditional roles. White women may have benefited from affirmative action policies in recent years, making them more satisfied than their male counterparts.

The effect of children on happiness is insignificant for all race groups and in the overall sample. This is in contrast to Mahadea and Rawat (2008), who found that children and happiness are negatively associated. In this study, however, the presence of children does not seem to affect individual life satisfaction, suggesting that other factors are more important for individual well-being.

The differences between men and women, and possibly the effect of children, can be understood in the context of the proportion of urban single parents by race and gender (Institute of Race Relations Survey, 2009:46-7): 52% of black (African) urban parents are single, while only 24% of white parents are in this group. Of African single parents, 79% are women (69% for white people). Only 37% of African fathers of children 15 years old or younger were present (living with the family), compared to 55.4% if coloured, 86.6% of Indian, and 86.7% of white families.

As expected, health status is significant and positively associated with reported happiness in the overall sample and is in accordance with the findings of, for example, Gerdtham and Johannesson (2001). Those who report fair health and above average health have a higher level of happiness compared to those who report a poor health status. This is true in the overall model as well as for each individual race group, with the exception of Indian people where the results are insignificant across all categories. It should be noted, however, that the small sample size of the Indian population group may offer some explanation for the insignificant findings.

Consistent with the findings of Rule (2007), religious importance seems to exhibit a positive relationship with individual happiness in the overall sample as well as for black people and Indian people. For the latter groups, for instance, individuals who view religion as very important are happier compared to those who attach no importance to religious activity. Post-estimation chi-square tests for

coloured people indicate that those viewing religion as important are not significantly happier than those who report religion as unimportant ($p = 0.4492$) with the results for white people indicating that those who report religion as very important are happier than those who report religion as being unimportant ($p < 0.01$). The link between happiness and religion is strongest for Indian people, as satisfaction is most strongly associated with Indian people who attach great value to religious activities, than those who regard them as unimportant.

Absolute income is positively related to happiness but is only significant in the total sample and for black people. Historically black people have been poorer relative to other racial groups, especially white people. This is clearly demonstrated by the much higher percentage of African people in South Africa living in poverty (49%) when compared to white people (3.6%) (South African Institute of Race Relations Survey, 2009:306). The strong positive association between absolute income and life satisfaction among the black population may therefore indicate that extra income adds substantially more to well-being compared to other racial groups, where the latter may have already reached an income threshold above which happiness does not increase with additional income. These results are broadly in line with Powdthavee (2003), Hinks and Gruen (2007) and Mahadea and Rawat (2008), and therefore confirm the well-known finding of a positive relationship between happiness and absolute income.

In a similar vein, the level of relative income displays a strong positive association with happiness. The importance of positional status is especially strong within the black and coloured groups and, white people to a lesser extent. These results thus confirm the idea that individuals measure their happiness relative to those in their reference group (Clark et al., 2008) and are consistent with the South African findings of Hinks and Gruen (2007).

Finally, results from the complete sample regression suggest that the unemployed are less satisfied than the employed, even when controlling for relative and absolute income. The finding is supported by the many international studies for both developing and developed countries that report a negative association between unemployment and happiness (Clark & Oswald, 1994; Oswald, 1997; Ravallion & Lokshin, 2001; Stutzer, 2001; Graham, 2008). For the individual race groups, unemployment is only statistically significant for the black population, and this relationship is quite strong ($p < 0.001$).

According to the South African Institute of Race Relations Survey (2009:232), 27% of African people were unemployed in 2008 (using the narrow definition of unemployment) while only 4.6% of white people, 19.5% of coloured people, 12.7% of Indian people were in this category. (Using the broad definition of unemployment, the gap between African unemployment and that of other race groups

widens even further.) It is therefore conceivable that provision of employment to black individuals, even at lower wages, would improve the wellbeing of this population group significantly. Since employment would facilitate higher income and since both are positively associated with greater life satisfaction among black individuals, eradication of unemployment among black people is sure to affect general wellbeing among this ethnic group in a positive way.

6. Conclusion

Subjective wellbeing, or happiness, measures can be an important tool in designing effective development policies (Graham, 2008). However, as previous research has shown (McGregor et al., 2009), the significance of variables in different contexts can vary considerably. Although South Africa has made significant progress in the provision of material goods to previously disadvantaged citizens, the society is still split largely along racial lines in such matters as the incidence of poverty, unemployment and educational attainment.

The paper investigated differences in life satisfaction amongst different race groups in South Africa using data from the National Income Dynamics Study conducted in 2008. The overall results of this paper indicate that black South Africans still report much lower levels of happiness than other race groups, supporting the findings of previous research (Powdthavee, 2003; Hinks & Gruen, 2007; Møller, 2007; Mahadea & Rawat, 2008). Higher levels of educational attainment increase satisfaction for the whole sample, and women are generally less happy than men (particularly black women). As found in many other studies, unemployed people have lower levels of life satisfaction than the employed, even when controlling for income and relative income. The determinants of happiness are also different for each race group: While white South Africans attached greater importance to physical health, employment status and absolute income matter greatly for black people. For coloured people and black people, positional status (as measured by relative income) is an important determinant of happiness, with religious involvement significantly contributing to the happiness of Indian people.

Such findings could have important policy implications. For example, for black South Africans, the results imply that more employment opportunities, even at lower wage rates, would improve welfare. Strongly unionised labour, which has driven up wage rates, even when unemployment has been increasing, could be seen in this context as counterproductive.

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Table 1: Summary statistics, by race group

	Mean	Standard deviation	Minimum	Maximum
Age				
Black	39.53	17.24	18	105
Coloured	41.53	15.61	18	94
Indian	43.04	15.27	18	78
White	48.64	16.46	18	87
Education				
Black	7.26	4.36	0	19
Coloured	7.59	3.69	0	13
Indian	9.27	3.33	0	12
White	11.26	1.43	0	18
Marital status				
Black	2.46	1.71	1	5
Coloureds	2.96	1.78	1	5
Indian	3.96	1.57	1	5
White	4.03	1.50	1	5
Gender				
Black	0.61	0.49	0	1
Coloured	0.61	0.48	0	1
Indian	0.61	0.49	0	1
White	0.56	0.50	0	1
Health status				
Black	3.44	1.28	1	5
Coloured	3.49	1.26	1	5
Indian	3.30	1.27	1	5
White	3.72	1.08	1	5
Religion				
Black	3.22	0.79	1	4
Coloured	3.60	0.63	1	4
Indian	3.57	0.71	1	4
White	3.37	0.81	1	4
Children				
Black	0.48	1.85	0	16
Coloured	0.35	1.56	0	16
Indian	0.15	0.86	0	9
White	0.09	0.79	0	12
Absolute income				
Black	2405.88	4019.77	0	90000
Coloured	2377.84	3216.47	0	42000
Indian	6172.65	6120.68	920	28000
White	8295.48	8190.51	0	70000
Employment status				
Black	0.76	0.43	0	1
Coloured	0.60	0.49	0	1
Indian	0.67	0.47	0	1
White	0.60	0.49	0	1
Relative income				
Black	2.31	0.95	1	5
Coloured	2.56	0.85	1	5
Indian	2.80	0.80	1	5
White	2.97	0.76	1	5

Note: Education refers to years of completed education; marital status = 1 if single, 2 if cohabiting, 3 if widowed, 4 if divorced/separated, 5 if married; gender = 1 if female, zero otherwise; health status = 1 if "poor", 2 if "fair", 3 if "good", 4 if "very good", 5 if "excellent"; religion = 1 if "not at all important", 2 if "unimportant", 3 if "important", 4 if "very important"; employment status = 1 if unemployed, zero otherwise; relative income = 1 if "much below average income; 2 if below average income; 3 if average income; 4 if above average income; 5 if much above average income.

Table 2: Reported life satisfaction (%), by race group

Satisfaction level of life currently	Black	Coloured	Indian	White	Total
Satisfaction scale: 1	8.88	2.85	3.54	0.59	7.33
Satisfaction scale: 2	6.36	1.64	1.01	1.19	5.22
Satisfaction scale: 3	10.98	3.13	2.53	1.66	9.03
Satisfaction scale: 4	15.82	7.89	5.56	4.15	13.67
Satisfaction scale: 5	19.27	19.85	19.19	13.64	18.97
Satisfaction scale: 6	13.14	13.43	11.11	12.57	13.12
Satisfaction scale: 7	10.03	15.13	21.21	18.27	11.54
Satisfaction scale: 8	6.46	14.31	24.75	29.54	9.52
Satisfaction scale: 9	2.39	5.26	2.02	9.25	3.29
Satisfaction scale: 10	6.65	16.50	9.09	9.13	8.33
Total	100.00	100.00	100.00	100.00	100.00
Number of observations	9,365	1,824	198	843	12,230
Pearson chi ² (27)	1500.0***				
Mean satisfaction level	5.03	6.60	6.53	7.07	5.43

Note: $p < 0.001$ ***.

Table 3: Ordered probit regression results

	Total Sample	Black	Coloured	Indian	White
Age	-0.0119*** (0.0035)	-0.0148*** (0.0039)	0.0035 (0.0099)	-0.0450 (0.0390)	-0.0323** (0.0164)
Age squared	0.0002*** (0.0000)	0.0002*** (0.0000)	0.0000 (0.0001)	0.0006 (0.0004)	0.0004*** (0.0002)
Primary school	0.1091*** (0.0336)	0.0799** (0.0365)	0.2067** (0.0905)	0.1977 (0.3126)	-0.7845* (0.9355)
Secondary school	0.1709*** (0.0360)	0.1351*** (0.0409)	0.2519*** (0.0903)	0.5007 (0.3630)	-0.5309 (0.5968)
Post secondary school	0.1898*** (0.0413)	0.1238** (0.0468)	0.3299*** (0.1150)	0.5555 (0.4364)	-0.3860 (0.6002)
Cohabitant	-0.0059 (0.0361)	0.0056 (0.0396)	-0.1184 (0.0905)	-0.4151 (1.1757)	0.0343 (0.2678)
Widowed	-0.0260 (0.0423)	0.0163 (0.0474)	-0.1887* (0.1151)	-0.3836 (0.3775)	-0.1379 (0.2158)
Divorced/Separated	-0.1487*** (0.0629)	-0.1245* (0.0813)	-0.1956 (0.1468)	-0.6067* (0.4523)	-0.2068 (0.2038)
Married	0.0352 (0.0286)	0.0578* (0.0324)	-0.1158 (0.0739)	0.5041* (0.2912)	-0.0168 (0.1548)
Female	-0.0598*** (0.0219)	-0.0891*** (0.0254)	0.0181 (0.0564)	0.1102 (0.1784)	0.1418* (0.0806)
Fair health	0.1520*** (0.0429)	0.1277** (0.0472)	0.1879 (0.1153)	0.2739 (0.2837)	0.6435* (0.2750)
Good health	0.1715*** (0.0411)	0.1229** (0.0456)	0.3087*** (0.1102)	0.5515 (0.2953)	0.7199** (0.2601)
Very good health	0.3099*** (0.0424)	0.2820*** (0.0475)	0.3312*** (0.1124)	0.4120 (0.3324)	0.9781*** (0.2621)
Excellent health	0.1993*** (0.0442)	0.1415*** (0.0495)	0.2033* (0.1166)	0.7462 (0.3336)	1.2260*** (0.2688)
Religion: unimportant	-0.0216 (0.0665)	-0.0273 (0.0718)	0.0437 (0.2769)	1.4834* (0.5682)	-0.0189 (0.2511)
Religion: important	0.0724 (0.0556)	0.0898 (0.0599)	0.1607 (0.2413)	1.1281* (0.4459)	-0.0974 (0.2091)
Religion: very important	0.3338*** (0.0567)	0.3617*** (0.0616)	0.3613 (0.2400)	1.4379*** (0.4271)	0.1133 (0.2094)
Children	-0.0002 (0.0060)	-0.0006 (0.0064)	0.0144 (0.0186)	0.1077 (0.0859)	-0.0708 (0.0525)
Absolute income	0.0657*** (0.0191)	0.1292*** (0.0258)	-0.0241 (0.0438)	0.2270 (0.2152)	0.0886 (0.0727)
Employment status	0.3863*** (0.1440)	0.7978*** (0.1896)	-0.1875 (0.3202)	2.0528 (1.8099)	0.7143 (0.6382)
Below average income	0.3369*** (0.0303)	0.3509*** (0.0326)	0.2941*** (0.0870)	-0.3745 (0.3187)	0.1556 (0.3121)
Average income	0.8265*** (0.0315)	0.8350*** (0.0345)	0.7907*** (0.0890)	0.4655* (0.2618)	0.4828* (0.3074)
Above average income	1.0912*** (0.0470)	1.1895*** (0.0540)	0.8533*** (0.1297)	0.2507 (0.4921)	0.6122 (0.3159)
Much above average income	1.3004*** (0.0851)	1.2690*** (0.0904)	1.3831*** (0.3133)	1.5012 (0.7350)	1.2568** (0.4523)
Coloured	0.5596*** (0.0305)				
Indian	0.3928*** (0.0764)				
White	0.4975*** (0.0383)				
Number of observations	10738	8281	1571	168	718
Wald χ^2	2650.43***	1456.64***	192.17***	73.01***	116.12***
Pseudo R²	0.0587	0.0430	0.0319	0.0904	0.0429

Note: $p < 0.001$ ***, $p < 0.05$ ** , $p < 0.10$ *. Robust standard errors are shown in parentheses.