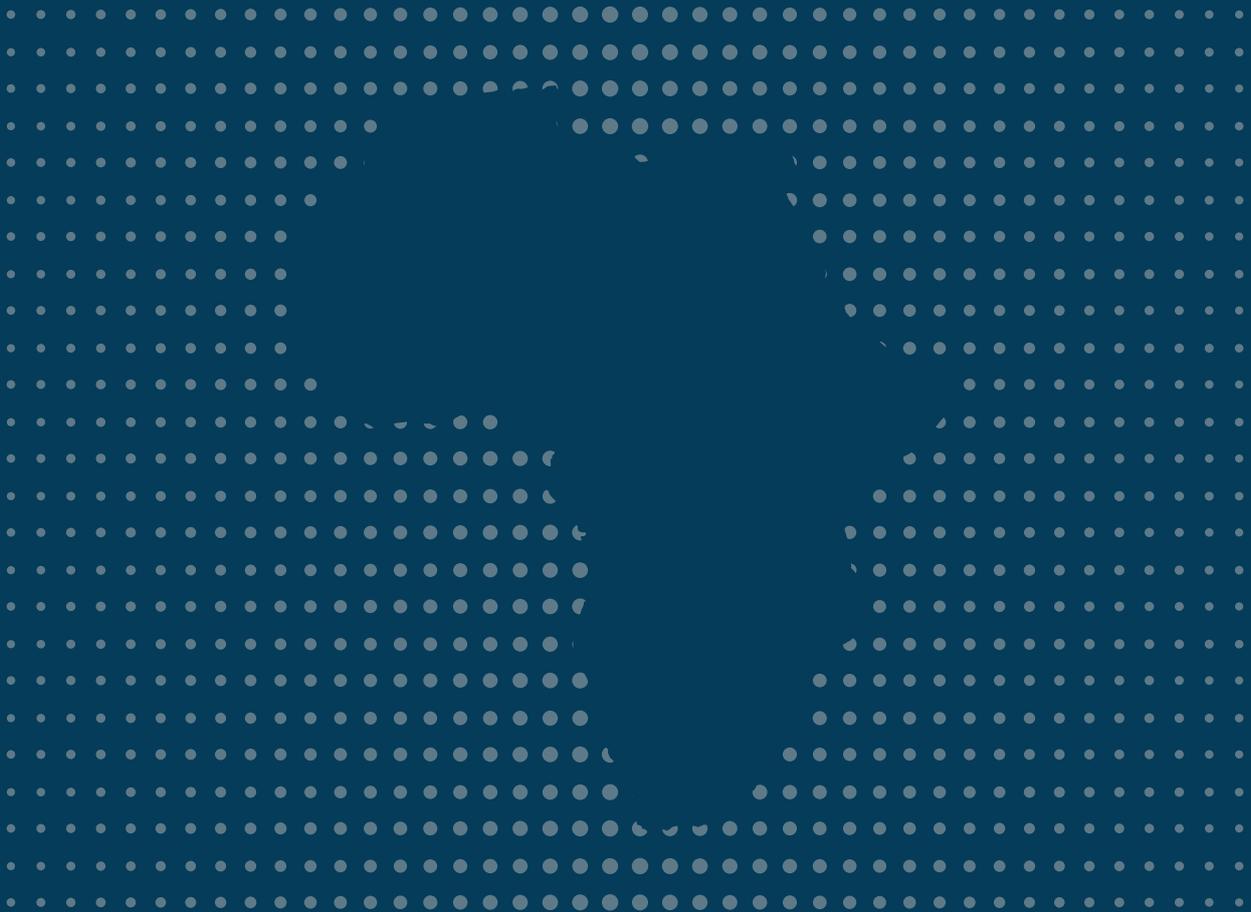




RECONCILIATION & DEVELOPMENT

WORKING PAPER SERIES | PAPER 3

Social cohesion and inequality in South Africa



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Social cohesion and inequality in South Africa

By Anda David, Nathalie Guilbert, Hiroyuki Hino,
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Research in the publication follows a problem-driven methodology, in which the scientific research problem decides the methodological approach. Geographically, the publication has a particular focus on post-conflict societies on the African continent.

About this working paper

This working paper was developed as part of a study that explored the relationship between social cohesion and economic inequality in South Africa, and the institutional changes needed to promote social cohesion and reduce inequality. It was a collaborative, two-year research project between the French Development Agency, the Institute for Justice and Reconciliation and the University of Cape Town's Poverty and Inequality Initiative. The authors of this paper formed part of this project.

About the South African Reconciliation Barometer

The South African Reconciliation Barometer (SARB) is a public opinion survey conducted by the IJR. Since its launch in 2003, the SARB has provided a nationally representative measure of citizens' attitudes to national reconciliation, social cohesion, transformation and democratic governance. The SARB is the only survey dedicated to critical measurement of reconciliation and the broader processes of social cohesion, and is the largest longitudinal data source of its kind globally.

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Abstract

We show that, although there is some improvement in the extent of interracial interactions over time, even today less than a third of South Africans often or always talk or socialise with someone from a different racial group.

In this paper, we examine recent trends in social cohesion and inequality, and the relationship between the two in South Africa, using data from the South African Reconciliation Barometer (SARB) surveys. Given the country's history of long-term racial and socioeconomic segregation, we use the extent of interracial interactions as our main approximation of social cohesion. We show that, although there is some improvement in the extent of interracial interactions over time, even today less than a third of South Africans often or always talk or socialise with someone from a different racial group. We use a multidimensional Living Standards Measure (LSM) to assess the level of well-being and the level of inequality. Our inequality analysis of this measure indicates that, since 2008, both vertical and horizontal (between races) inequality declined significantly. These trends can be attributed to progress made in the provision of basic services (i.e. water and electricity) and to ownership of household assets in South Africa. In contrast, when we focus on subjective or perceived inequality, it is clear that a large proportion of South Africans (about 70%) perceive the extent of inequality (the gap between the poor and the rich) as not having changed much or as even having worsened over time.

The key finding of our quantitative work is a significant relationship between individuals' perception of inequality and their level of interracial interactions. Individuals who perceive the gap between the rich and the poor as becoming greater are less likely to participate in interracial socialisations, while those who perceive the gap as getting smaller are more likely to participate in interracial socialisations. This finding remains strong and significant even after controlling for the influence of LSM, race, education, trust and other factors. Indeed, a number of these factors are also correlated with greater interracial interaction. Individuals who have higher education levels, a higher LSM and a better relative economic position are more likely to be involved in interracial socialisation. In both the descriptive and multivariate analysis, Africans and whites are shown to have lower levels of interracial interactions than Coloureds at all LSM levels.

Individuals who perceive the gap between the rich and the poor as becoming greater are less likely to participate in interracial socialisations, while those who perceive the gap as getting smaller are more likely to participate in interracial socialisations.

The provincial-level multivariate analysis is able to examine the relationship between a full social cohesion index and inequality in LSMs. These results suggest that vertical inequality in living standards is correlated with the level of social cohesion. Higher inequality may adversely affect social cohesion, as it reduces inclusiveness.

1. Introduction

Despite various progressive policies and legislation that have been put in place to redress the inequalities of the past, structural inequalities continue to persist in post-apartheid South Africa (NPC, 2012).¹ Currently, the estimated Gini coefficient for income inequity is 0.68, and more than half of the country's population lives below the national poverty line of R992 per month per person (Stats SA, 2017a, 2017b). In addition, although progress has been made in integrating schools and other public places, South Africans remain sharply divided along racial and socioeconomic lines (Durrheim & Dixon, 2010; NPC, 2012). These challenges could further exacerbate the existing social problems and may have an adverse effect on long-run economic development and the sustainability of democracy in the country (NPC, 2012: 458; MISTRA, 2014). As a response to these challenges, in recent years social cohesion and nation-building strategies have resurfaced in policy discussions as a means to achieving an inclusive and united South Africa (DAC, 2012; Palmary, 2015; Abrahams, 2016).

The importance of social cohesion in promoting an inclusive economy is also documented in some international literature (see Ritzen et al., 2000; Easterly et al., 2006). Among other factors, sufficient social cohesion is expected to play a key role in building quality public and private institutions, which, in turn, may affect policy reforms and development outcomes that promote economic and social inclusiveness (Easterly et al., 2006). In the context of South Africa, it is emphasised that building a cohesive society requires putting more emphasis on reducing poverty, inequalities, social divisions, and exclusions (DAC, 2012; NPC, 2012). However, empirical research that analyses the potential relationships between the level of social cohesion and the factors that relate to the building of social cohesion is very limited.

In this paper, we examine recent trends in social cohesion and inequality in South Africa, and the relationships between the two. Rigorous quantitative analysis of social cohesion requires reliable measures of social cohesion based on a coherent definition. Indeed, the development of such an indicator of social cohesion is the objective of another component of the AFD-IJR-UCT partnership project, under which this paper is prepared (see Burns, Lefko-Everett & Njozela, 2018). This social cohesion index (SCI) is compatible with a non-normative definition of social cohesion and builds on the concepts of solidarity and cooperation, within and across group boundaries. It is constructed to fit, as much as possible, the South African reality and is computed using five dimensions: the feeling of belonging, cooperation, institutional trust, relationships, and identity. In the latter part of the paper, we make use of this full SCI to examine the relationship between social cohesion and both vertical and horizontal measures of inequality.

As a response to these challenges, in recent years social cohesion and nation-building strategies have resurfaced in policy discussions as a means to achieving an inclusive and united South Africa.

For most of the paper, we focus on one key component of the SCI that belongs to the social relationships dimension, namely, the extent of interracial interactions and socialisation (IRIS). This particular component of the SCI is an important starting point for promoting social integration and social cohesion in South Africa, given that such interactions were institutionally segregated along race lines during the apartheid era, which has left a challenging legacy for South Africa's post-apartheid society (Hofmeyr & Govender, 2015). Some argue that an increase in the quality interactions between South Africans from different racial groups is important for reducing prejudice and bias (Bornman, 2016), which, in turn, may improve intergroup cooperation in respect of joint projects and policies aiming to reduce inequality and poverty (Dixon et al., 2007; Dixon et al., 2010; Durrheim & Dixon, 2010).

We draw on data from the South African Reconciliation Barometer (SARB) surveys for our analysis. The SARB is a nationally representative public opinion survey that has been conducted by the Institute for Justice and Reconciliation (IJR) since 2003. The 2001 census enumerator areas (EAs) were used as a sampling frame for the survey (IJR, 2014). Three stage sampling was used to select individuals aged 16 and above. In the first stage, sample EAs were selected using random sampling. Within each EA, households were randomly selected. Then, the specific respondent from each household was selected for an interview. A final sample of about 3 500 individuals aged 16 and above was selected (2 000 from metro areas and 1 500 from non-metro areas) to represent adult South Africans.

In this paper, we examine both objective and perceived inequality measures. To measure economic inequality objectively, we use the LSM provided by the IJR. The LSM is a composite score (an asset index) that combines various living standard indicators. The composite score is divided into ten LSM deciles. Thus, the LSM deciles represent respondents' relative position in the socio-economic distribution. We calculate measures relating to both vertical inequality (the Gini coefficient) and horizontal inequality between race groups (the group coefficient of variation) using the LSM indicator. In addition to LSM deciles, the SARB reports the respondents' perceived assessments of inequality in South Africa. Respondents were asked whether they felt that inequality had decreased or increased, or remained the same, in recent periods in South Africa compared with its level in 1994.

More than two decades since the demise of apartheid rule, the legacy of racial categorisation continues to form part of the everyday realities of South Africans.

In calculating horizontal inequality, we use race as a grouping variable in measuring such inequality. The four historical racial categories in South Africa are: African/black, Coloured, Asian/Indian and white.² The use of historical racial categories is particular to an analysis pertaining to social cohesion in the South African context, given structural legacies and socioeconomic inequalities following decades of colonial rule and apartheid. Apartheid-era laws and policies were implemented to separate citizens by racial categories through the segregation of public facilities, interaction and social events, and by limiting social contact. More than two decades since the demise of apartheid rule, the legacy of racial categorisation continues to form part of the everyday realities of South Africans (Wale & Foster, 2017). Living spaces are still mostly segregated along the lines constructed during apartheid (Christopher, 2005), and racial categories remain central in various facets of South Africans' lives – such as in the form of incidents of racism, in

individual and cultural identities, as well as in considering redress and restitution strategies (Lefko-Everett et al., 2017).

Furthermore, the importance of both inequality and race in terms of social cohesion is evident from the SARB findings, as they were identified as the primary sources of social division by the majority of respondents to the SARB's survey in 2015 (Hofmeyr & Govender, 2015). It can be argued that, for contemporary South Africans, both of these (historical) sources of division continue to pose limitations to building a cohesive society, and we explore both in our quantitative analysis.

Thus, our contribution in this paper is an attempt to add a quantitative discussion of social cohesion and inequality to the South African literature, while paying due regard to the continuing importance of race. In Section 2, we provide a brief overview of the literature and of the conceptual framework on which we base our analysis. We then focus, in Section 3, on analysing the recent trends in IRIS and inequality. In Section 4, we provide a first attempt at modelling the link between social cohesion and inequality, and Section 5 concludes the discussion.

2. Brief overview of the literature and conceptual framework

Social cohesion is a complex concept to define and measure (Chan et al., 2006). The complexity of defining social cohesion entails that, quite often, in order to characterise social cohesion, we describe it by its absence. Thus, an incohesive society can be defined by mistrust, violence, social conflicts, and marginalisation of its individuals. In the literature, however, there are theoretical confusions as to what the term 'social cohesion' constitutes (see Chan et al., 2006). The term 'social cohesion' is often linked with ideas of trust and solidarity, or social integration, and, often, it also incorporates notions such as social capital, poverty and inclusion (Chan et al., 2006). For instance, according to the Organisation for Economic Co-operation and Development (OECD), one of the major dimensions of a cohesive society is one that engages strongly with 'excessive inequalities', placing emphasis on active involvement of society in achieving social cohesion and not only on social cohesion as an outcome or status quo. On the other hand, International and Ibero-American Foundation for Administration and Public Policy sees social cohesion as an attribute of societies implying 'equality of opportunity'. Along similar lines, Langer et al. (2016) use the perception of inequality as one of the three dimensions defining the level of social cohesion of a society, along with identity and trust.

Chan et al. (2006) argue persuasively that, in defining social cohesion, it is important to distinguish between the constituents of social cohesion and the factors that may deter or promote the level of social cohesion in a society. For instance, considering inequality or poverty as one dimension of social cohesion means it is difficult to empirically investigate the potential relationship between the level of social cohesion and the level of inequality or poverty in a society. It can be argued that equality of access to services and economic opportunities is

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important in improving participation in a society, particularly for disadvantaged communities, and may improve social cohesion (Dieckhoff & Gash, 2015). Furthermore, an equitable distribution of resources is a basis for trust in institutions, reducing social tensions within families, communities and society at large (Rothstein & Uslaner, 2005).

The definition of social cohesion we will be adopting in this paper is based on the work of Hull, Lefko-Everett and Njozela (2018), who propose an approach to social cohesion which avoids normative commitments or empirical hypotheses, which can be subject to disagreement. Thus, social cohesion is seen as the extent to which people are cooperative, within and across group boundaries, without coercion or purely self-interested motivation. Based on this definition, Burns, Lefko-Everett and Njozela (2018) constructed an SCI for South Africa at provincial level. The SCI proposed builds on the concepts of solidarity and cooperation, within and across group boundaries, and is computed using five dimensions: the feeling of belonging, cooperation, institutional trust, relationships, and identity. (Indicators for each dimension are provided in Table 3A in the Appendix.) Thus, one of the main differences between our approach to social cohesion and those proposed by the OECD, the European Union (EU) or Langer et al. (2016) is that it does not make any claims regarding the state of inequality. This allows us to acknowledge that a hierarchical society can also be seen as cohesive by its members and that a certain type of social cohesion (that mostly implies trust) can coexist with some level of inequality. Such an approach leaves open for investigation the specificities of the relationship between social cohesion and inequality in the context of South Africa, which is the main aim of this paper.

Thus, social cohesion is seen as the extent to which people are cooperative, within and across group boundaries, without coercion or purely self-interested motivation.

In line with this, for most of this paper we use the extent of interracial interactions as one approximation of social cohesion in South Africa. These interracial social interactions constitute one element of the SCI (belonging to the social relations dimension) and allow for a focus on the SCI at the level of individuals. The SARB data allow us to distinguish between two different types of social interactions that capture different phenomenon: how often people talk to individuals from other racial groups on an everyday basis, and how often people socialise with individuals from other racial groups. The first outcome gives an indication of social and racial mix in terms of public spaces, while the second relates to how, and with whom, people choose to spend their free time. Both measures are very complementary.

The frequency and types of social interactions are first indicators of the 'glue' that binds a society together, as social cohesion has often been described. Indeed, when moving beyond the individual level, we can think of social cohesion as a the sum of various dimensions that make up the 'ideal society'. Considering that South Africa suffered long-term racial and socioeconomic segregation imposed by apartheid, looking at how interactions among racial groups have evolved, and at how much racial groups interact, is particularly relevant in that context.

We acknowledge that a society with greater interracial interaction does not necessarily have greater cohesion. In fact, under certain circumstances, a society may be more cohesive even with less social interaction. Interracial social interactions may be more closely related to social integration. However,

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contact theory posits that an increase in positive and sustained contact between members of different groups (e.g. racial or ethnic groups) reduces intergroup prejudice and builds positive relations between communities that are historically divided (Allport, 1954; Shiner et al., 2004; Pettigrew & Tropp, 2006). Moreover, social interaction is a necessary condition for social cohesion in South Africa (Hofmeyr & Govender, 2015) and may contribute to increasing consensus among individuals from different racial groups around issues of transformation policies aiming to reduce inequality and poverty (Dixon et al., 2010; Durrheim & Dixon, 2010).

Most of the literature analysing the link between inequality and social cohesion focuses on the effect of horizontal inequality. Stewart (2006) finds that, when it comes to conflict or social discontent within a nation, it is group behaviour of, for example, a racial or ethnic group, or a labour union, that matters most. This implies that a measure of inequality that correlates well with conflict is not the Gini coefficient, which measures inequality among individuals in a society, but horizontal inequality that measures inequality between groups (Stewart, 2006).

In contrast, when we consider social cohesion from a broader viewpoint than the absence of conflict, various studies find that vertical inequality also plays an important role. For instance, Easterly et al. (2006) consider social cohesion from the angle of divisions within a society and argue that the existence of income inequality (vertical inequality) is one of the vectors that creates cleavages. In addition, it is argued that, in order for objective inequalities (both vertical or horizontal) to have an impact on creating cleavages, individuals have to be aware of these inequalities and consider them unjust (Reitz & Banerjee, 2007; Miodownik & Nir, 2015; Must, 2016). This suggests that an individual's perception of inequality is a key dimension of inequality and is important in social cohesion analysis. For these reasons, we consider both objective and perceived inequality measures.

Although inequality may have various dimensions (e.g. political and cultural), we restrict ourselves to economic inequality here, as measured by the LSM. This LSM is a composite score (an asset index) that combines various indicators, including dwelling type, access to services (water, sanitation, electricity, telecommunications, and home security), ownership of household consumer items (refrigerator, microwave oven and television), access to domestic workers, and residence in a rural or metropolitan area (IJR, 2013: 11). The composite score is then divided into ten LSM categories (deciles), with 1 being the lowest and 10 the highest. The LSM deciles measure individuals' relative position in the distribution of the LSMs. Using the LSM deciles, we calculate both vertical inequality (the Gini coefficient) and horizontal inequality among the four race groups (the group coefficient of variation) measures.

In addition to LSM deciles, the SARB reports each respondent's perceived assessment of inequality in South Africa. Respondents were asked whether they felt that inequality had decreased or increased, or remained the same, in recent periods in South Africa compared with its level in 1994. In other words, this measure of inequality presents a respondent's perception of how the gap

between the poor and the rich changed over time. Given that the individual's perception of inequality change is the driver of his/her feelings and behaviour, this paper greatly benefits from the use of this variable, along with the objective inequality variables. To examine the relationship between inequality and social cohesion measured as the extent of IRIS, we use both an individual's LSM decile (which measures their relative position) and that individual's perception of inequality assessments.

In the section of the analysis in which we make use of the aggregate SCI measure, we use provinces as the unit of analysis in measuring SCI as well as horizontal and vertical inequalities. While provinces might not be the most natural geographic units in the context of South Africa, they differ in the role they play in the provision and quality of goods and services, and in their institutional set-ups, and thus may differ in their role in reducing inequity and promoting social cohesion. Thus, horizontal inequality measures inequalities in living standards between different racial groups within provinces, while vertical inequality measures inequalities between individuals within provinces.³

We hypothesise that the higher one's relative position in the national distribution of the LSM, the more likely one will participate in more frequent IRIS. The perception of inequality, if worsened, could reduce trust and goodwill between different individuals and hence may reduce the extent of IRIS. Likewise, a higher level of inequality within provinces (both vertical and horizontal) is expected to be associated with a lower level of social cohesion. At the end of the day, though, social cohesion and inequality are simultaneously determined and reinforce each other, and this makes it very difficult to identify a causal relation (Ferroni et al., 2007; Klasen et al., 2016). Nonetheless, we think that there is value to be added to the national discussion by this careful, empirical analysis of the relationships between social cohesion and inequality. Notably, the use of different types of inequality may help us identify the relative importance of each dimension.

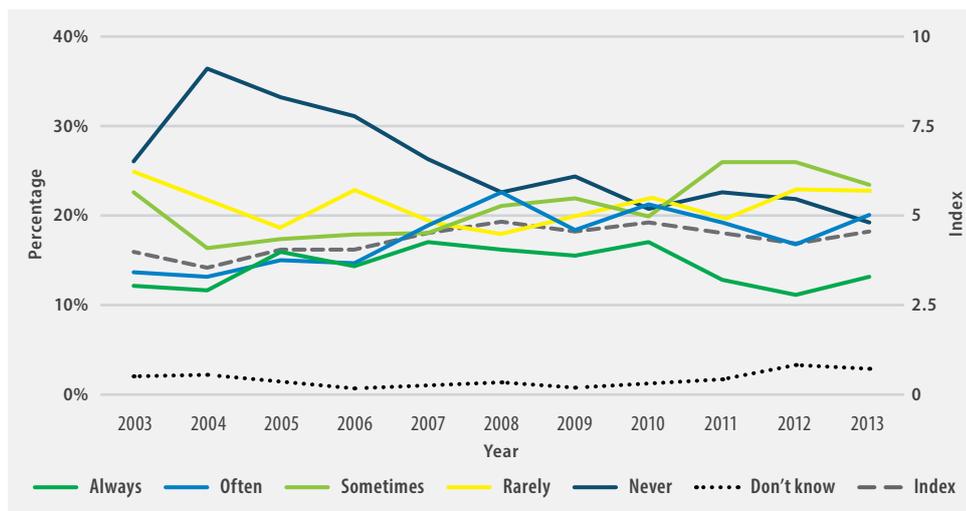
3. Trends in social cohesion and inequality in South Africa

In this section, we examine trends in social cohesion measured using the IRIS and SCI. Then, we analyse inequality trends using both objective and perception measures.

3.1 Trends in social cohesion

We first examine how indicators of individual IRIS evolved over the period 2003 to 2013. As mentioned earlier, four racial categories were used during apartheid in South Africa, namely African/black, Coloured, Asian/Indian and white, and we make use of these variables in SARB surveys – and 'race' – as they are analytically meaningful and relevant to the tracking of public opinion in post-apartheid South Africa. Then, we consider trends in social cohesion measured using the aggregate index, SCI. The SARB contains two indicators of interracial social interactions: the frequency of actual interactions on an everyday basis, and the frequency of

Figure 1: Frequency of everyday interracial talk, 2003–2013



Source: Own calculations from weighted SARB surveys, 2003–2013

socialisation with people from other race groups. Two questions were asked of respondents regarding actual interactions:

- (1) On a typical day during the week, whether at work or otherwise, how often do you talk to [other race group] people; and, (2) When socialising in your home or the homes of friends, how often do you talk to [other race group] people?

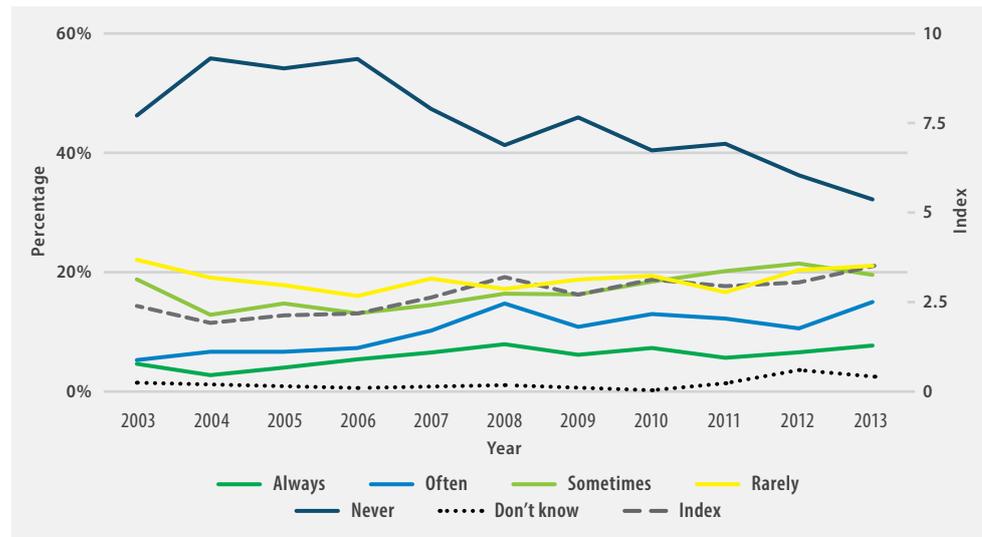
Figure 1 shows that less than a third of South Africans often or always talk with someone from a different racial group. However, the percentage of South Africans who never interact with people from other racial groups declined sharply from 2004 onwards. At the same time, the percentage of South Africans who always interact with people from other racial groups also declined, particularly from 2010. Overall, measured by an index that is the weighted average of the frequencies of interactions,⁴ the frequency of interracial talk increased steadily from 2004 to 2008, but this positive trend halted thereafter.

Figure 2 shows that, in 2013, more than 30% of South Africans never socialised with someone from a different racial group at his/her home or the home of friends, while only a quarter of South Africans socialised always or often. The percentage of South Africans who never socialise interracially fell sharply over the whole period from 2004 through 2013. Overall, as measured by the weighted average, interracial socialisation maintained a moderately positive trend between 2003 and 2013 (abstracting from a blip in 2008).

Are the moderately positive trends in interracial social contact a reflection of changes in social attitude and dispensation, or are they a result of geographical integration? The frequency of interracial interactions does not necessarily reflect the desire to interact or the extent of cohesiveness of a society. It is possible that individuals may want to interact, but that geographic and other kinds of segregation prevent them from doing so. Alternatively, they may not want to interact but their circumstances may require such interaction. Thus, individual's desire to interact interracially could be a more relevant indicator of social cohesion. At least the

However, the percentage of South Africans who never interact with people from other racial groups declined sharply from 2004 onwards. At the same time, the percentage of South Africans who always interact with people from other racial groups also declined, particularly from 2010.

Figure 2: Frequency of interracial socialising, 2003–2013

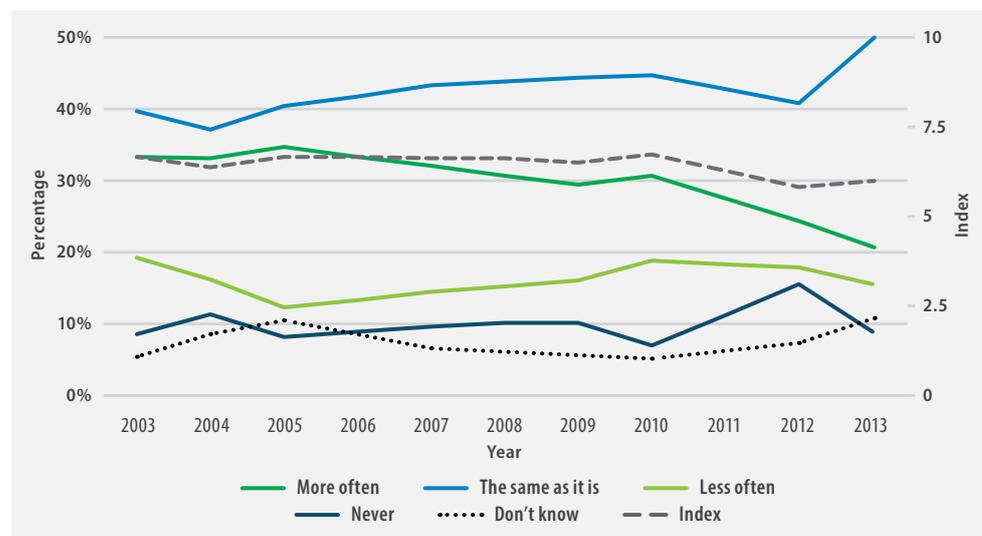


Source: Own calculations from weighted SARB surveys, 2003–2013

frequency of actual interactions and the desire to interact should be read together. In the SARB surveys, respondents were asked about their desire for more interracial interaction through the following question: *If you had a choice, would you want to talk to [other race group] people?*

Figure 3 shows that the percentage of South Africans who want to maintain the same level of interracial interactions has been on the rise since 2004 (except for a dip in 2012), and reached 50% in 2013. At the same time, however, the percentage of South Africans who wished to interact more often has experienced a declining trend since 2003, and this negative trend accelerated sharply from 2010 to 2013 (reaching 19% in 2013). Similarly, the percentage of South Africans who did not wish to interact at all increased sharply from 2010, although it declined to the 2010 level in 2013. Again, as measured by the weighted average, overall, the

Figure 3: Desire to talk to people of different races, 2003–2013



Source: Own calculations from weighted SARB surveys, 2003–2013

desire to interact interracially remained more or less unchanged to 2010, but this trend changed in a negative direction thereafter. A similar trend is observed if we look at individuals' desire to know the customs of people of other races (Figure 1A in the Appendix). Throughout the period, the percentage of South Africans who wanted to learn more about the customs and ways of people from other race groups was higher than those who wanted to know less. However, the percentage of South Africans who wanted to learn about the customs of others declined significantly between 2008 and 2013, while those who did not want to learn about others' customs remained more or less unchanged.

Throughout the period, the percentage of South Africans who wanted to learn more about the customs and ways of people from other race groups was higher than those who wanted to know less.

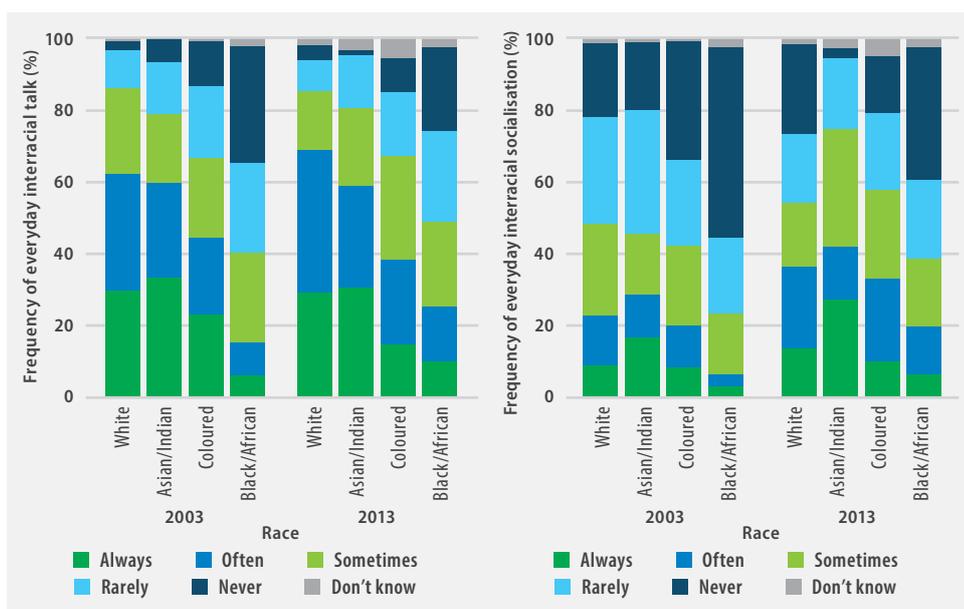
The trends in actual interracial social interactions, the desire to interact, and the desire to know about the customs of people of other races all seem to point to consistent patterns. There was a moderately positive trend to 2010, which has reversed since then. While one could not conclude from these observations alone that South African society has become less cohesive since 2010, it certainly indicates that it is important to closely examine the factors that influence interracial social interactions.

Before looking at how economic well-being and inequality influence IRIS, we first examine how IRIS varies with racial groups. In the context of South Africa, it may be taken for granted that race is an important predictor of the attitudes of individuals to people from other racial groups, and this, in turn, may affect interracial interactions. Indeed, the frequency of actual interracial social interactions as well as the attitude to such contacts differ substantially across racial groups.

Indeed, the frequency of actual interracial social interactions as well as the attitude to such contacts differ substantially across racial groups.

Figure 4 presents the frequencies of interracial talk and interracial socialisation by racial groups in 2003 and 2013. The proportion of people from the white group and the Asian/Indian group that engaged in interracial talk and socialisation was

Figure 4: Frequency of everyday interracial talk and socialisation by race, 2003 and 2013



Source: Own calculations from weighted SARB surveys, 2003 and 2013

What may be surprising is that the frequency of interracial socialisation increased substantially from 2003 to 2013 across the race groups.

always or often is much higher than for the Coloured group or the black group. The variations are much larger for interracial talk (about 65% for the white group compared with about 30% for the black group in 2013) than interracial socialisation (about 35% for the white group and 20% for the black group in 2013).

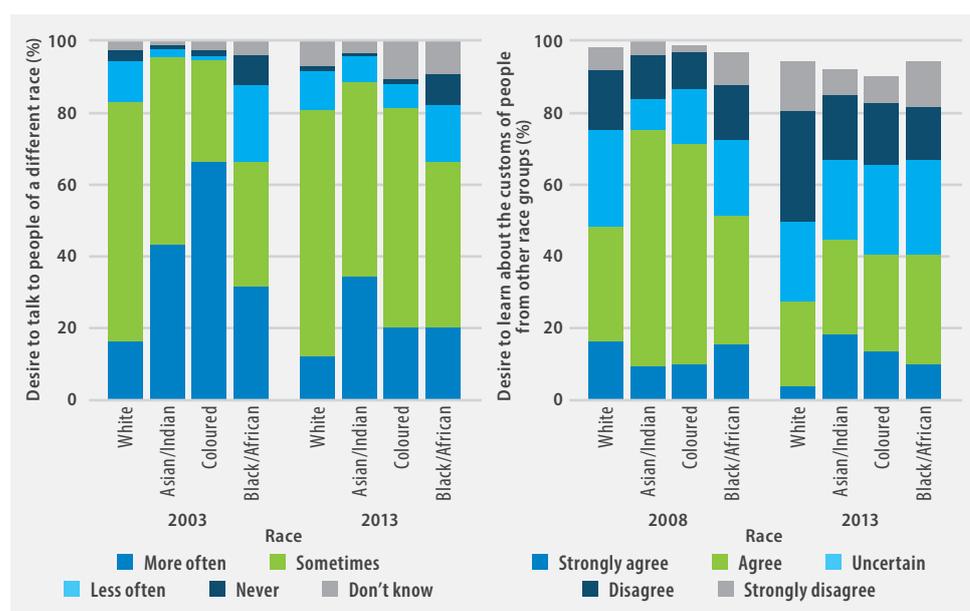
What may be surprising is that the frequency of interracial socialisation increased substantially from 2003 to 2013 across the race groups – in 2013, 35 to 40% of the white group, the Asian/Indian group and the Coloured group always, or often, engaged in interracial socialisation, while 20% of the black group did so.

Regarding the desire to interact, Figure 5 shows that, for the white group, a vast majority preferred the status quo in 2003, and this was an even larger majority in 2013. In contrast, two-thirds of the Coloured group desired to have greater interracial interactions in 2003, while only a fraction wanted fewer or no interactions. The situation changed fundamentally in 2013 – only 10% of the Coloured group desired to have more interracial interactions, and a large majority wanted to keep the status quo. As for the black group, a much smaller share desired to have more interactions or maintain the status quo in 2003. There was a further shift away from greater interaction by 2013, with a significant proportion of blacks preferring the status quo.

The extent of IRIS is only one component of a multidimensional concept of social cohesion. Figure 6 provides the trends in social cohesion between 2009 and 2013 based on the more aggregated social cohesion measure, the SCI. The figure indicates that there was a slight increase in social cohesion in 2010 compared with its level in 2009, after which the social cohesion measure decreased significantly.

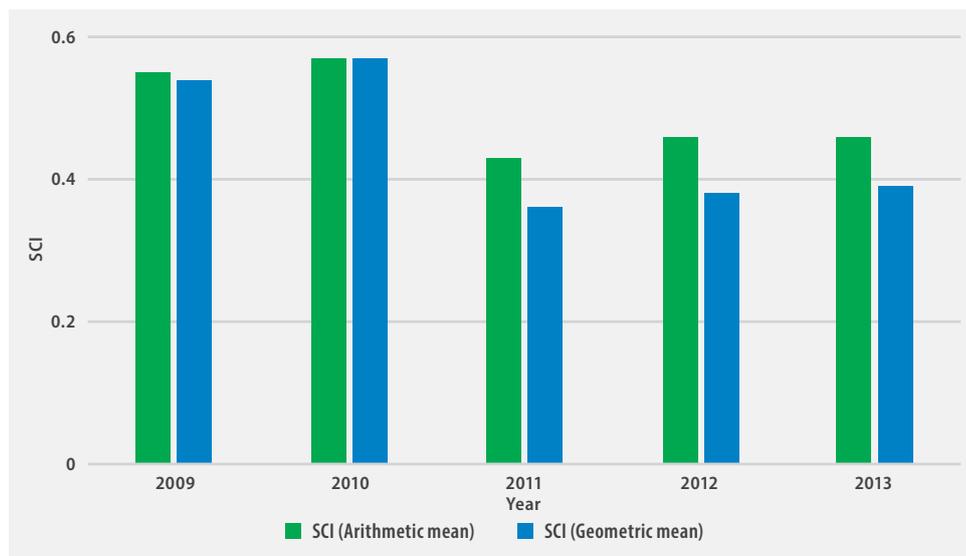
All in all, the attitude to interracial social interactions moved significantly toward fewer interactions between 2003 and 2013, across all race groups. Thus, by

Figure 5: Desire to talk to, and learn about the customs of people from other race groups, by race – 2003, 2008, and 2013



Source: Own calculations from weighted SARB surveys, 2003, 2008, and 2013

Figure 6: Trends in SCI, 2009–2013



Source: Data from Hull, Lefko-Everett and Njozela (2018)

2013, only a small minority across all races wanted to have more interactions, and those who wanted fewer or no interactions, or did not know, constituted a significant proportion among all races. Similarly, South Africans were less inclined to learn about the customs of others, across all races. The trends in actual interracial interactions or the desire to interact suggest no improvement in recent years among all race groups. These trends are consistent with the trends observed when we use our aggregate and multidimensional SCI.

3.2 Objective and perceived assessments of inequality

To correctly understand the relationship between inequality and social cohesion, it is not enough to highlight one element of many important aspects of inequality in a society, such as the Gini coefficient of the national income distribution. Rather, in the South African context, in particular, inequality needs to be assessed in terms of race (both horizontal and vertical inequality), and in terms of broader measures of the quality of life. In addition to objective measures of inequality, individuals' perception of inequality is a key dimension of inequality to consider in social cohesion analysis (Reitz & Banerjee, 2007; Must, 2016).

In this subsection, we present the results of both objective and subjective assessments of inequality in South Africa. As previously mentioned, for the objective analysis of inequality, we use the LSM deciles (provided by the IJR). The LSM measure is seen as a more reliable and stable measure of the long-term well-being of individuals than income. However, we do not have access to raw LSM data since 2003. Thus, our inequality analysis here is based on the LSM deciles.

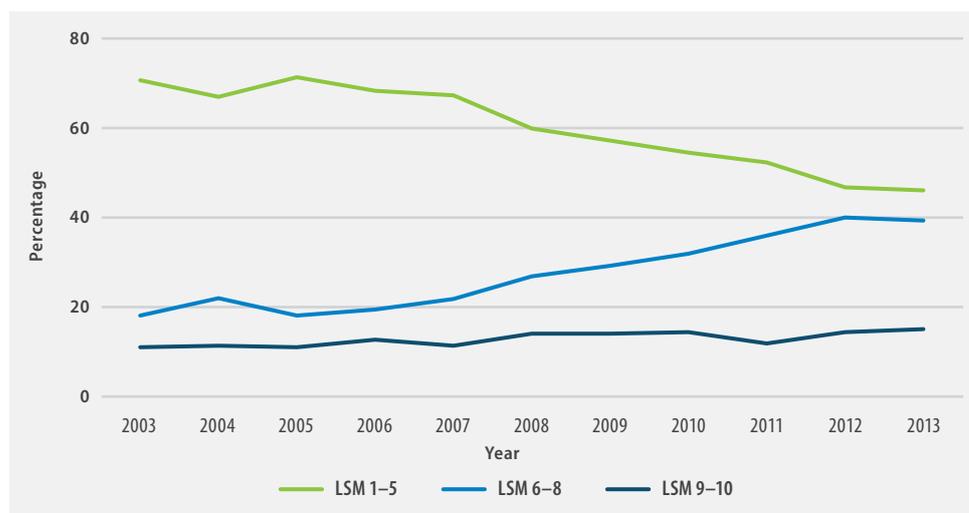
Figure 7 shows significant improvement in living standards over the past decade in South Africa. The percentage of South Africans in the lower half of LSM categories, namely LSM 1–5, declined from 71% in 2003 to 46% in 2013. On the other hand, the percentage of those in the LSM 6–8 categories doubled, and the

Similarly, South Africans were less inclined to learn about the customs of others, across all races. The trends in actual interracial interactions or the desire to interact suggest no improvement in recent years among all race groups.

Rather, in the South African context, in particular, inequality needs to be assessed in terms of race (both horizontal and vertical inequality), and in terms of broader measures of the quality of life.

Figure 7 shows significant improvement in living standards over the past decade in South Africa.

Figure 7: Percentage of South Africans in three LSM categories, 2003–2013



Source: Own calculations from weighted SARB surveys, 2003–2013

percentage of those in the highest LSM categories (LSM 9–10) increased by about a third.

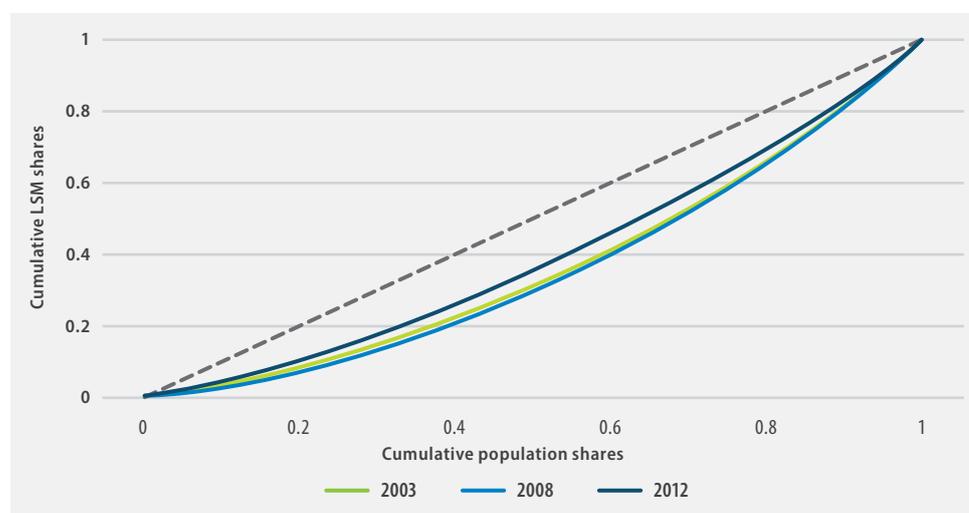
3.2.1 Vertical inequality

Figure 8 presents the Lorenz curves of the LSM, created using LSM deciles.⁵ As can be seen, the 2003 and 2008 Lorenz curves lie almost on top of each other. The 2012 curve is closer to the line of equality. The figure suggests that vertical inequality slightly increased from 2003 to 2008, and then significantly declined in 2012.

Table 1 presents Gini estimates for LSMs by race. Based on the Gini estimates, inequality increased from 2003 to 2008 for all race groups, but decreased by a

The figure suggests that vertical inequality slightly increased from 2003 to 2008, and then significantly declined in 2012.

Figure 8: Lorenz curves for LSM, 2003–2012



Source: Own calculations from weighted SARB surveys, 2003, 2008, and 2012

larger margin by 2012, except for the Asian/Indian group. The Gini coefficient of the black group is the highest among the four groups in each of the data sets.

Table 1: Gini estimates of LSM by race, 2003, 2008, and 2012			
	2003	2008	2012
Population	0.267	0.284	0.207
Race			
African/Black	0.214	0.265	0.193
Coloured	0.144	0.173	0.111
Indian/Asian	0.107	0.098	0.099
White	0.072	0.097	0.067

Source: Own calculations from weighted SARB surveys, 2003, 2008, and 2012

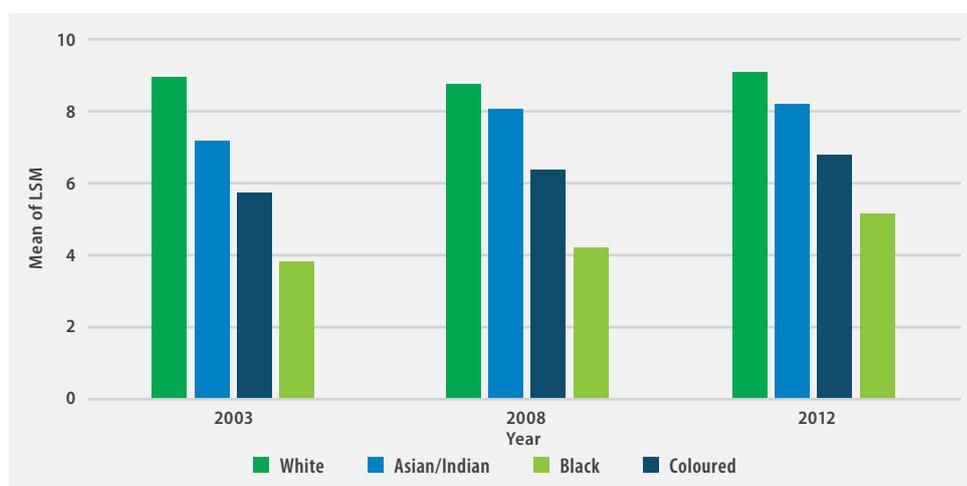
To be noted as well is that the national Gini is higher than any of the intragroup Ginis. This suggests that disparities between intergroup LSM distributions are a major factor for overall inequality.

3.2.2 Horizontal inequality between race groups

Figure 9 presents means of LSM scores by race, for 2003, 2008 and 2012. In 2003 and 2008, the mean LSM scores for the white group were at least two times greater than for the black group, but this gap was significantly reduced in 2012. Overall, Figure 9 indicates that horizontal inequality as measured by the means was very great between race groups. However, it declined steadily and substantially over the period. Table 1A (in the Appendix) shows that the LSM scores of blacks were less than half that of whites in 2003 and 2008. In 2012, the positions of the black group relative to the Coloured and Indian groups improved significantly, although it only improved marginally relative to the white group. The relative LSM scores between racial groups suggest that, while the black group's relative position improved between 2003 and 2013, the LSM scores of the Coloured group declined relative to both the whites and the Indian groups.

Overall, Figure 9 indicates that horizontal inequality as measured by the means was very great between race groups. However, it declined steadily and substantially over the period.

Figure 9: Change in LSM by race – 2003, 2008, and 2013



Source: Own calculations from weighted SARB surveys, 2003, 2008, and 2012

Moving beyond averages, horizontal inequality in the LSM can be measured by the group coefficient of variation (GCV). This is the standard deviation of the group means divided by the grand mean or mean of means. Following Stewart et al. (2010), we weight by group sizes to ensure that changes in the position of different groups have different effects. As can be seen from Table 2 for racial groups, horizontal inequality steadily declined between 2003 and 2012.

Table 2: Horizontal inequalities in LSM – GCV by race and ethnicity			
	2003	2008	2012
Race	0.3813	0.3237	0.2270

Source: Own calculations from weighted SARB surveys, 2003, 2008, and 2012.

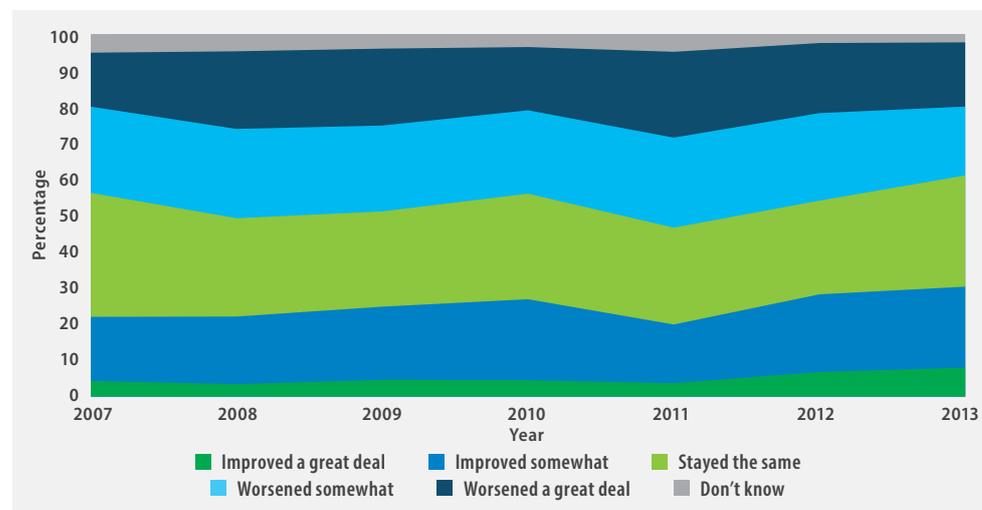
3.2.3 Perceived inequality

Results from Figure 10 suggest the proportion of South Africans who perceived that the gap between the poor and the rich as having decreased (improved) a great deal or somewhat increased over time. However, about 70% of South Africans perceived this gap as either having remained the same or as having worsened over time.

Figure 10 provides trends in the perception of recent changes in inequality in South Africa. In the IJR data set, each individual was asked to evaluate how the extent of inequality that is, the gap between the poor and the rich, had changed since 1994 in South Africa. The perceived inequality measure variable is coded from 1 to 6 (see the 6 categories in Figure 10). Results from Figure 10 suggest the proportion of South Africans who perceived that the gap between the poor and the rich as having decreased (improved) a great deal or somewhat increased over time.⁶ However, about 70% of South Africans perceived this gap as either having remained the same or as having worsened over time.

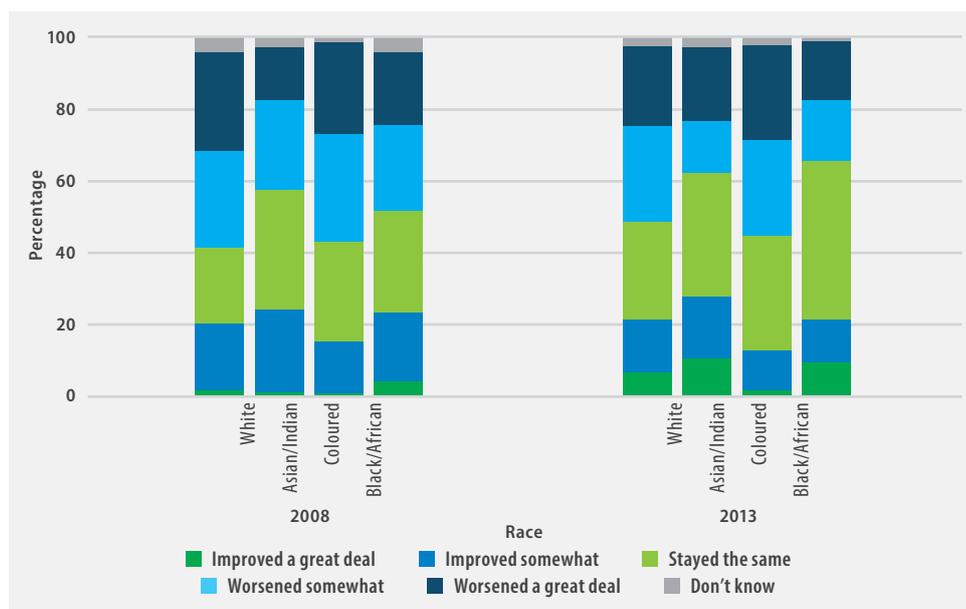
Figure 11 presents the distribution of perceived inequality by race for 2008 and 2013. In both periods, the overall sentiment was negative. In 2008, across all race groups, only around 20% of respondents felt that the inequality gap had improved (decreased) somewhat or a great deal. The proportion of those who

Figure 10: Perceived inequality gap between the poor and the rich (2007–2013)



Source: Own calculations from weighted SARB surveys, 2007–2013

Figure 11: Perceived inequality by race group, 2008 and 2013



Source: Own calculations from weighted SARB surveys, 2008 and 2013

perceived inequality as having worsened somewhat or a great deal was substantially higher for the white and Coloured groups (about 50%) than for the black group (about 40%). From 2008 to 2013, perceived inequality improved for the white group and even more so, for the black group.

In sum, based on our objective inequality analysis, we show that horizontal inequality declined sharply between 2003 and 2012, while vertical inequality declined between 2008 and 2012, after having shown an increase between 2003 and 2008. The decline in living standard inequality is consistent with the fact that there has been a significant improvement in access to basic services (i.e. water and electricity) and ownership of household assets in South Africa in recent years (as seen in Figure 7). Given that dummy variables were used to measure asset ownership, an improvement in asset ownership at the bottom of the distribution (category LSM 1–5, in Figure 7) is expected to lead to a reduction in the asset inequality measure, since there will be very little change at the upper end of the distribution. However, asset indices calculated based on binary data do not allow us to take into account the value or quality of different assets or the real returns (Wittenberg & Leibbrandt, 2017: 24). Thus, asset indices do not give us a true measure of wealth or asset ownership, although these inequality measures capture improvements in living standards, which may not be reflected by income inequality measures.⁷

Analysis of individuals' perception data suggests that large proportions of South Africans perceived the extent of inequality as not having changed much or as having worsened over time. Thus these perception measures reflect the findings of other studies showing that income inequality has not improved in South Africa since 1993 (Leibbrandt et al., 2011). These findings indicate that the different inequality measures capture different dimensions of inequality.

The decline in living standard inequality is consistent with the fact that there has been a significant improvement in access to basic services (i.e. water and electricity) and ownership of household assets in South Africa in recent years.

3.3 Inequality and IRIS

In the conceptual framework, we hypothesise that inequality is one factor that may affect the extent of IRIS. Having profiled IRIS and inequalities separately above, here we provide a descriptive analysis of these potential relationships. This leads into the regression analysis in the next section.

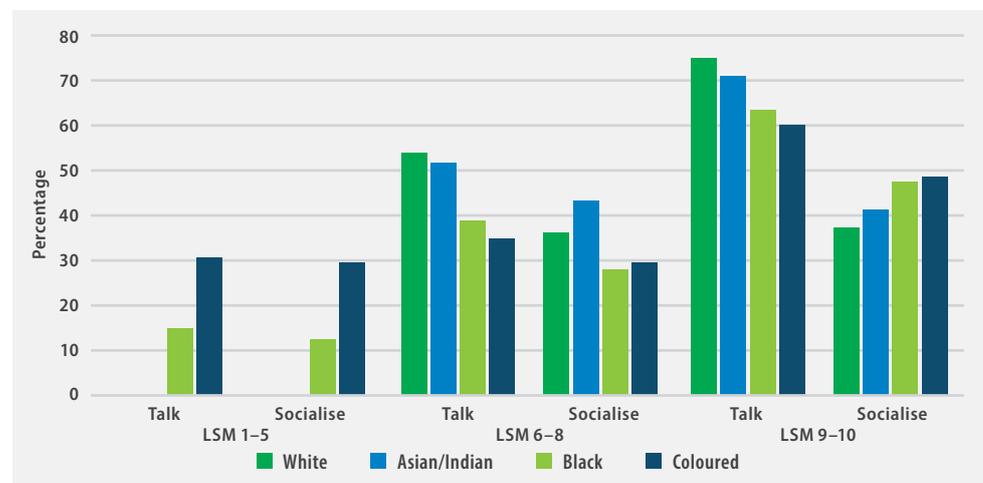
Figure 12 presents the frequency of IRIS by race, controlling for LSM scores. In the lower LSM group, LSM 1–5, the Coloured group is two to three times more likely to engage in IRIS (to talk or socialise) than the black group. (There was no person in the white group and Asian/Indian group in LSM 1–5.) For those in the LSM 6–8 category, the white group engages in interracial talk the most, followed by the Asian/Indian group, the black group and the Coloured group, in that order. For socialising, the Asian/Indian group engages in interracial contacts the most, followed by the white group, the Coloured group, and the black group, in that order. In respect of the highest categories, LSM 9–10, the white group engages in interracial talk the most, but the least as regards socialising, compared with the other races. The black group in these highest categories engages in interracial socialising more than or the same as any other race, and is involved in interracial talk more often than the Coloured group.

The figure suggests that the frequency of IRIS is substantially different among racial groups at each LSM category. Thus, the differences by race are marked. Moreover, the patterns of differences in IRIS among race groups are different, depending on the level of LSM and also the nature of such contacts (talking or socialising).

The figure suggests that the frequency of IRIS is substantially different among racial groups at each LSM category. Thus, the differences by race are marked.

Figure 13 presents the frequency of IRIS by race, controlling for the perception of inequality measures. The left panel of Figure 13 shows that the black group is least likely to interact (both talk and socialise), irrespective of perceived inequality. On the other hand, among the Coloured group, those who feel that

Figure 12: Interracial talk and socialisation by LSM and race group, 2013 (often + always)

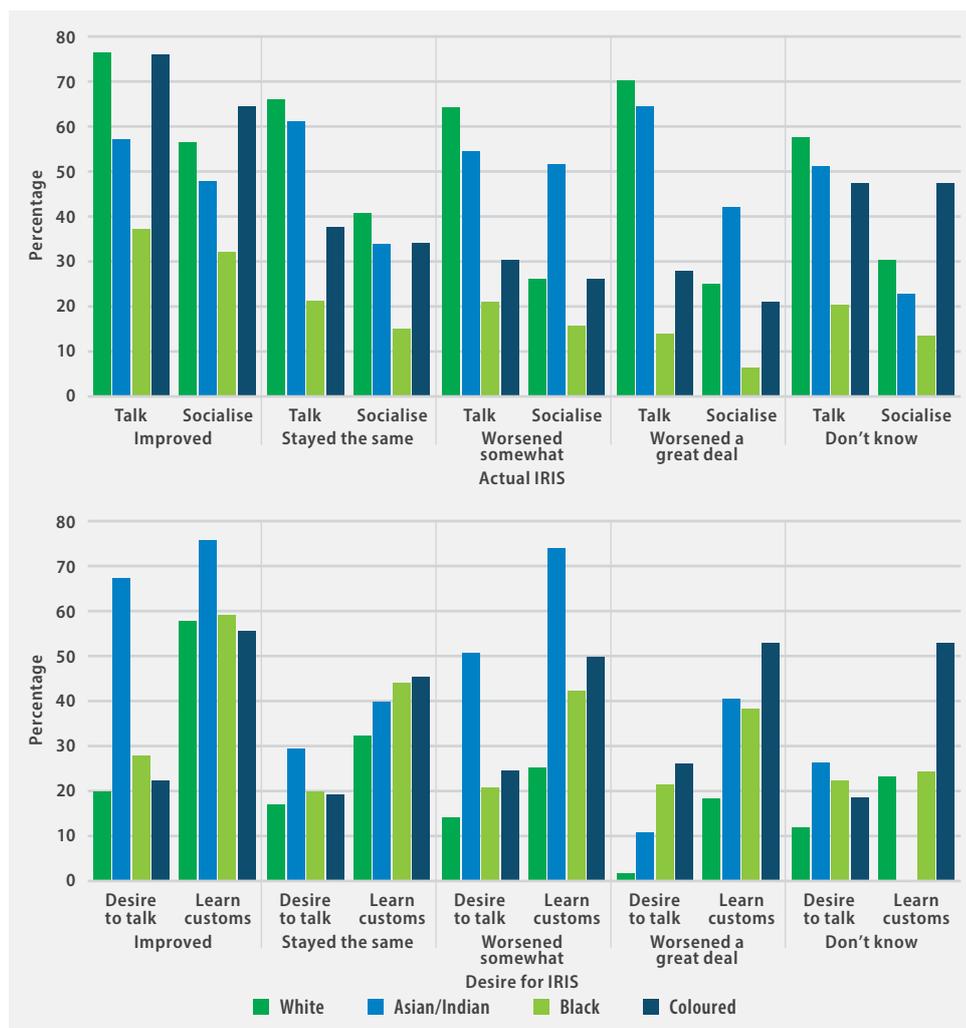


Source: Own calculations from weighted SARB surveys, 2003, 2008, and 2012

inequality improved engage in interracial interactions as much as, or more than, the white group, but those who feel that inequality worsened a great deal are involved in interracial interactions much less than the white group or the Asian/Indian group.

Finally, the left panel of Figure 13 shows that interracial socialisation increases as perceived inequality improves (from ‘worsened a great deal’ to ‘improved a great deal’), across race groups. Similarly, for all race groups, the desire to interact is significantly lower among those who perceive that inequality has worsened a great deal (the right panel of Figure 13). These findings are important in suggesting a positive link between perceived change in inequality and social cohesion via interracial socialisation. While the seeming correlations between the frequencies of IRIS, on the one hand, and race, LSM, and perceived inequality, on the other, are interesting, the apparent correlations may be created by other factors. We try to disentangle some of these interrelationships by estimating a multivariate model of interracial social interactions in the next section.

Figure 13: Actual IRIS and desire to talk by perception of inequality and race, 2013



Source: Own calculations from weighted SARB survey, 2013

4. Relationship between social cohesion and inequality

In this section, we use regression analysis to examine the relationship between social cohesion and inequality in South Africa. We start by following on from the analysis in the previous section namely, the individual-level analysis using interracial interactions as our proxy measure of social cohesion. Then, we analyse the relationship between social cohesion and inequality using our multidimensional measure of social cohesion, SCI, at the provincial level.

4.1 Interracial interactions and perception of inequality

In this subsection, we use regression analysis to examine the correlates of individuals, IRIS. The regression approach is useful in providing conditional correlations, that is, looking at, for example, the correlation between inequality and social interactions by holding race and a number of other potentially important factors constant that are expected to affect the extent of IRIS. As a measure of well-being, we use both LSM status and an individual's perception of change in inequality in order to estimate these relationships, and we specify the following equation

$$IRIS = \alpha + \beta_1 Inequality + \beta_2 LSM + \beta_3 Race + \beta_4 Trust + X\Phi + \varepsilon_i \quad [1]$$

where IRIS is a categorical variable indicating the frequency of interracial social interactions (we use both actual interactions and the desire to interact)⁸, and inequality indicates individuals' perceptions of inequality change coded from 1 to 6 (see the 6 categories in Figure 10). The LSM is the LSM in deciles, with 1 indicating the lowest LSM and 10 the highest LSM). Trust indicates an individual's degree of agreement with the statement that people from other race groups are untrustworthy. Race is a categorical variable indicating the four race groups. These variables were discussed in some detail in the descriptive analysis above. The additional control variable, X , were too. These include: age, gender, education level of the respondent, an urban/rural dummy, a time dummy, individuals' perceptions of the economic situation in South Africa within the next two years of each survey year (coded as: 1 – get better; 2 – stay the same; 3 – get worse; 4 – don't know).

We estimate Equation 1 using an ordered probit model. We also create an index using a weighted average of five IRIS? data points (never – 0; rarely – 2.5; sometimes – 5.0; often – 7.5; always – 10.0) and use Ordinary Least Squares (OLS) to estimate this model. In both models, standard errors are clustered at the metro level. Although information on IRIS was collected between 2003 and 2013, we could only use data from four rounds of SARB (2007, 2010, 2012, and 2013) to estimate this model. This is because the variable measuring individuals' perceptions of inequality was only available after 2007, and information on our other variables was missing in some of the survey rounds between 2007 and 2013.⁹ We pooled all the observations across the four survey rounds. The pooled observations include 14 184 observations, of which 13 866 individuals have information on all indicators included in the regression model. Table 3 presents estimation results from

the OLS and ordered probit models. Overall, the direction and significance level of coefficient estimates in the OLS and ordered probit models are similar. Given this, we use coefficient estimates from the OLS model to interpret results.

As a robustness check, we also estimate Equation 1 using a larger sample size (Table 2A in the Appendix) in which we exclude the perceived inequality variable and use data from eight rounds, that is, all the years between 2003 and 2007, 2010, 2012, and 2013. In this case, the pooled data includes 27 426 individuals with information on all indicators included in the regression model (excluding the inequality variable). Using the larger sample size only slightly changes the size and significance of the remaining coefficient estimates. The R-square estimates are also similar for all equations, except in the case of the desire-to-talk mode. Increasing the sample size increases the R-square from 0.087 to 0.177.

Coefficient estimates on the perceived inequality measure indicate a significant relationship between individuals' perceptions of inequality and the extent of their IRIS. In particular, the coefficient estimates on this variable are highly significant when we look at the interracial socialisation variable (at the 1% level of significance), which is the better measure for capturing the quality of interracial interactions. Compared with the base category of those perceiving the gap between the rich and the poor as remaining the same, those individuals who perceive the gap between the rich and the poor as getting worse are less likely to participate in interracial socialisations, while those who perceive the gap as getting better are more likely to participate in interracial socialisations.

When we measure IRIS as the desire to talk, the perception of inequality is significant only for those who perceive inequality as having worsened somewhat and those who report that they do not know about the gap. Individuals who perceive inequality as having worsened somewhat and those who report that they do not know about the gap report a lower frequency of actual interactions and lower desire to interact. These results are the same whether we use the OLS or probit model estimation approaches.

It is hard to understate the importance of this result. We have interrogated this relationship between IRIS and perceived inequality in depth in both our descriptive analysis and in our multivariate estimations and have found a strong positive relationship. Earlier in the paper, we showed that trends in perceptions of inequality do not closely follow the trends in objective measures of inequality. At the end of the day, it is each individual's perception of inequality rather than the Gini coefficient or the coefficient of variation that they carry into their daily interactions and decision-making. It is therefore important to find that, in controlling for important differences by race, education, age and trust of individuals, and whether they are at the lower or upper ends of the LSM distribution, a substantial percentage of South Africans who perceive inequality as not having improved have lower IRIS relative to those who have more positive perceptions.

Compared with the base category of those perceiving the gap between the rich and the poor as remaining the same, those individuals who perceive the gap between the rich and the poor as getting worse are less likely to participate in interracial socialisations, while those who perceive that the gap as getting better are more likely to participate in interracial socialisations.

These results suggest that individuals who have a better relative economic position and those who are optimistic about future economic conditions in the country are more likely to be involved in IRIS. However, as this is a correlation rather than a causal relationship, it could also be read to imply that those who interact more with other race groups are more likely to be optimistic about the future.

Thus the opportunities to engage in IRIS (both talking and socialisation) seem to be greater the higher the level of education.

The coefficient estimates on the living standard decile variable (LSM) are positive and significant in all model estimates. These results suggest that the higher the relative position of the individuals in the LSM distribution, the more likely they will be involved in interracial talks and socialisation and the more likely they will desire to interact. Likewise, individuals' perceptions of future economic conditions in South Africa are significantly related to the extent of their IRIS. Relative to those who perceive economic conditions in the country as remaining the same, those who perceive the situation as getting better are more likely to interact and to report a greater desire to interact. These results suggest that individuals who have a better relative economic position and those who are optimistic about future economic conditions in the country are more likely to be involved in IRIS. However, as this is a correlation rather than a causal relationship, it could also be read to imply that those who interact more with other race groups are more likely to be optimistic about the future.

We find a positive relationship between education and the extent of IRIS. Relative to individuals with primary or less education, individuals who have completed a higher level of education (Matric and above) are more likely to engage in actual IRIS and to report greater desire to interact. The higher the level of education, the higher the level of significance and the size of the coefficient estimate. Individuals with some high school education are also more likely to report a greater desire to talk than those with a primary-level education. However, having some high school education is not significantly related to actual talking and socialisation. The one exception here is that the coefficient on this variable is marginally significant in the actual-talk model in Table 2A in the Appendix (at the 10% level of significance). Thus the opportunities to engage in IRIS (both talking and socialisation) seem to be greater the higher the level of education. This suggests an impact for educational achievement. However, it is hard to be definitive about this, because, in the context of South Africa, there is still relatively less racial mixing in high schools and primary schools compared with those who complete Matric and go on to tertiary education. Thus, there is less opportunity to interact with individuals from other racial groups.

The estimation results in Table 3 show that individuals' demographic characteristics, such as age, gender, and race, are each significantly related to the level of IRIS. The earlier descriptive analysis highlighted important racial differences. This remains true in the estimation results, but there are some important differences. Looking at the race variable, relative to the black group, individuals from Asian and Coloured race groups are more likely to interact (to talk and socialise) and to report greater desire to talk, all other factors being held constant. Although whites participate more in actual interracial talk than blacks, the coefficient estimate is not significant when it comes to interracial socialisation and the desire to interact. Thus, it looks as though Asian and Coloured groups are more likely to interact than either the black or white groups, but that these latter groups do not differ much. However, the results in Table 2A in the Appendix indicate that the coefficient estimate for whites is positive and significant for interracial socialisation, and is negative and marginally significant (at the 10% level of significance) when it comes to the desire to talk. This is more in line with the earlier descriptive analysis.

Table 3: Estimating the likelihood of interracial interactions						
	OLS			Ordered probit		
	Talk	Socialise	Desire to talk	Talk	Socialise	Desire to talk
Age (base = <35)						
> = 35 & <60	0.35***	0.03	-0.17**	0.12***	0.01	-0.08***
> = 60	-0.71***	-0.47***	-0.65***	-0.27***	-0.19***	-0.24***
Female						
Female	-0.44***	-0.11***	-0.14***	-0.16***	-0.05***	-0.04***
Education (base = primary or less)						
Some high school	0.28	0.16	0.59***	0.12**	0.10**	0.21***
Matric	0.79***	0.58***	0.61***	0.28***	0.24***	0.20***
College/university	1.32***	0.99***	0.88***	0.47***	0.36***	0.31***
Living standards (LSM)						
Living standards (LSM)	0.36***	0.31***	0.10**	0.12***	0.11***	0.03**
Perception of inequality (base = stayed the same)						
Improved a great deal	0.31	0.65***	0.13	0.11*	0.21***	0.07
Improved somewhat	0.27***	0.34***	0.18	0.09***	0.11***	0.07
Worsened somewhat	-0.11**	-0.41***	-0.12**	-0.03**	-0.15***	-0.05***
Worsened a great deal	-0.15	-0.70***	-0.05	-0.05	-0.28***	-0.01
Don't know	-0.42***	-0.52***	-0.78***	-0.18***	-0.24***	-0.24***
Race (base = black)						
White	1.01***	0.29	-0.13	0.33***	0.09	-0.09**
Indian/Asian	1.28***	1.50***	0.70***	0.43***	0.50***	0.24***
Coloured	1.00***	1.52***	0.64***	0.34***	0.52***	0.22***
People from another group are untrustworthy (base = uncertain)						
Agree	0.12**	0.21**	-0.12	0.03*	0.06**	-0.04
Disagree	0.23*	0.12	0.50***	0.07	0.04	0.20***
Don't know	-0.90***	-0.65***	-0.82***	-0.37***	-0.32***	-0.26***
Economic situation in SA in the next 2 years (base = stay the same)						
Get better	0.49***	0.28***	0.52***	0.17***	0.09***	0.20***
Get worse	-0.17	-0.32	-0.17	-0.06	-0.11	-0.06
Don't know	-0.03	-0.32*	0.12	-0.02	-0.15**	0.07
Urban	0.27***	-0.07	0.37**	0.10***	-0.01	0.13**
Observations	13 866	13 866	13 866	13 866	13 866	13 866
Adj. R-squared	0.222	0.161	0.0871			

Source: Own estimates using data from IJR and Stats SA. Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

In all cases, females are less likely to participate in IRIS and report less desire to talk with people from other race groups, compared with their male counterparts. Likewise, compared with younger individuals (aged <35), those who are in the older age group (> = 60) are less likely to engage in interracial talk or to socialise

with individuals from other race groups, and also report less desire to do so. Those who are in the age group between 35 and 60 report more actual interracial talk but less desire to talk compared with the younger individuals. These results suggest that females and individuals who are older than 60 years may have less opportunity to interact with individuals from other racial groups, and this may lead to reporting less desire to interact.

However, it is also possible that individuals may have the opportunity to participate in actual interracial talks but may still report less desire to interact more. For instance, the estimated coefficient for those who are in the age group 35 to 60 is positive and significant in the actual-talk model, is positive and insignificant in the socialisation model, and is negative and significant in the desire-to-talk model. Thus, although these groups of individuals may have the opportunity to engage in actual interracial talks, they report less desire to interact more. Perhaps the quality of interactions is important in order to induce greater desire to talk in addition to the frequency of actual talks. For example, using data from South Africa, Bornman (2016) finds that black respondents who reported that their contact experience was pleasant also reported positive outgroup attitude (i.e. liked whites), while respondents who reported outgroup contact as not pleasant/uncertain also reported uncertainty regarding their attitudes to whites.

In all equations, individuals who report that they do not know to what extent people from other racial groups are trustworthy, report less IRIS of all forms.

The relationship between trust and IRIS is ambiguous. In the case of actual interactions, the coefficient estimates on the trust variable are positive and significant for individuals who both agree and disagree with a statement that individuals from other racial groups are untrustworthy (at the 5% and 10% level of significance, respectively). Although the coefficient estimates in the socialisation equation are positive for those who report both agreeing and disagreeing with the statement that people from other racial groups are untrustworthy, it is significant only for those who agree. Compared with those who are uncertain, individuals who perceive people from other racial groups as trustworthy report greater desire to interact, while the coefficient estimates for those who report agreement is not significant (although this is negative and significant in Table 2A in the Appendix). In all equations, individuals who report that they do not know to what extent people from other racial groups are trustworthy, report less IRIS of all forms.

While individuals who perceive the gap between the rich and the poor as decreasing are more likely to socialise with individuals from other race groups, those who perceive this gap as increasing are less likely to socialise.

Lastly, the coefficient estimate on the urban dummy variable suggests that individuals who live in urban areas are more likely to engage in interracial talk and are more likely to report greater desire to interact, compared with those in rural areas. However, the coefficient estimate is not significant when it comes to interracial socialisation (although it is marginally significant in Table 2A in the Appendix). It is interesting to note that, although interracial interaction is more likely in the urban context, it is not significantly associated with more interracial socialisation.

In summary, after controlling for various factors, we find a robust positive relationship between individuals' perceptions of inequality and the extent of their IRIS. While individuals who perceive the gap between the rich and the poor as decreasing are more likely to socialise with individuals from other race groups, those who perceive this gap as increasing are less likely to socialise. We also find

a strong and positive relationship between higher living standard measures such as LSM scores and education, on the one hand, and interracial interactions on the other.

4.2 Social cohesion and vertical and horizontal inequality

In the subsection above, we analysed individual interracial social interactions as a unit of analysis for social cohesion. However, social cohesion is a complex and multidimensional concept with interracial social interactions being just one element of social cohesion, and one that belongs to the social relations dimension in our composite SCI. In addition, the concept of social cohesion requires a more aggregated point of view, as it implies cohesion among individuals in a given society. Furthermore, if we are interested in analysing the relationship between objective measures of inequality, such as horizontal inequality among different race groups, we need to go beyond the individual-level analysis, at which only the perception of inequality can be measured.

For this purpose, we now go on to use the SCI to analyse the relationship between social cohesion and inequality measured within provinces. We are aware that provinces might not be the most natural geographic units in the context of South Africa and that one might prefer to analyse social cohesion either at the national level or at the community level. Unfortunately, we do not have enough points in time that would allow us an analysis of the determinants of the evolution of social cohesion at the national level, nor do we have representative data at the community level in order to capture the factors affecting the variation of social cohesion among communities or over time.

We not only try to pin down the linkages between social cohesion and vertical inequality (of living standard measures), but also try to capture how this is linked to horizontal inequalities. In addition to inequality measures, we expect that other factors such as the level of economic development, crime rates, and racial heterogeneity within a province may affect social cohesion. In order to control for these factors, we have included in our regression model measures at the provincial level of gross domestic product (GDP), crime rates, and a fractionalisation index.¹⁰ Thus, in order to estimate the relationship between inequality and social cohesion, we specify the following regression model

$$SCI_{p,t} = \alpha_0 + \alpha_1 Gini_VI_{p,t} + \alpha_2 GCV_HI_{p,t} + \alpha_3 GDP_{p,t-1} + \alpha_4 Crime_{p,t-1} + \gamma_t + \alpha_p + \varepsilon_{p,t} \quad [2]$$

where, *Gini_VI* is the within province vertical inequality measure and *GCV_HI* is the group coefficient of variation (GCV), which is the standard deviation of the group means divided by the grand mean or mean of means and captures horizontal inequality at the provincial level. We also use an alternative indicator, the Theil T index to measure vertical inequality within provinces.¹¹ Provincial-level inequality measures are based on the living standard measure. However, in contrast to the previous sections where we used the LSM deciles provided by the IJR, we have calculated our own LSM index (which is a continuous variable) for each individual in order to calculate the inequality indices at provincial level.

The dependent variable, SCI, is calculated at the provincial level as the geometric mean of five dimensions (the feeling of belonging, cooperation, institutional trust, relationships and identity). An increase in the index's value indicates an increase in the society's cohesiveness. The variable GDP_p measures GDP at provincial level (lagged by one year), $Crime_p$ is a measure of crime rates, α_p is province fixed effects and γ_t indicates time dummy, which ranges between 2009 and 2013.

The model is estimated using both Least Squares Dummy Variables and panel fixed effects approaches. Table 4 presents estimation results for Equation 2 in Columns (1) and (3). We also add a fractionalisation index (computed as a Herfindahl index¹²) in order to take into account the racial diversity of each province (Table 4A in the Appendix).

Table 4: Social cohesion and inequality				
Variables	Least Squares Dummy Variables		Panel fixed effects	
	(1)	(2)	(3)	(4)
Gini coefficient	-0.19 (0.13)		-0.19* (0.10)	
Theil's T		-0.10** (0.04)		-0.10*** (0.03)
Coefficient of variation	0.01 (0.03)	0.01 (0.02)	0.01 (0.03)	0.01 (0.02)
Log GDPpc(t - 1)	0.09 (0.81)	0.14 (0.77)	0.09 (0.74)	0.14 (0.73)
Crime (t - 1)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Time dummy	Yes	Yes	Yes	Yes
Province dummy	Yes	Yes	No	No
Observations	45	45	45	45
R-squared	0.57	0.58	0.39	0.41
Adj. R-squared	0.325	0.345	0.257	0.280

Source: Own estimates using data from IJR and Stats SA. Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

The estimated results from the panel fixed effects specification indicate that the coefficient estimates of the Gini and the Theil's T index are negative and significant. These results suggest that, after controlling for both time and province fixed effects, vertical inequality in living standards is correlated with the level of social cohesion. Higher inequality may adversely affect social cohesion, as it reduces inclusiveness (by adversely affecting the relative position of individuals) in the society and hence weakens individuals' sense of belonging and cooperation. Thus, policies that reduce inequality may improve the extent of social cohesion of the society.

On the other hand, the coefficient estimate on horizontal inequality is not significant in all the specifications. While this result might seem contrary to the findings of Stewart (2016), where horizontal inequality has a significant impact on the probability of violent conflict, we would like to highlight that our outcome is broader than conflict. Likewise, while the coefficient estimates on the GDP variable are positive, they are not statistically significant. The extent of crime is also not an important factor in explaining provincial-level social cohesion. However, these results are to be interpreted with some caution given the small size of our sample.

5. Conclusions

In this paper, we examine recent trends in social cohesion and inequality, and the relationship between the two, in South Africa. We consider different dimensions of inequality, including objective measures of vertical and horizontal inequality and individuals' perceptions of inequality. We use two approximations to measure social cohesion in our analysis. A full SCI is constructed for South Africa by Hull, Lefko-Everett and Njozela (2018) at provincial level using five dimensions. For most of our analysis, though, we use one component of this SCI, the extent of IRIS as our approximation of social cohesion in South Africa. While it is only one component of the SCI, it is an important one in the South African context.

With regard to social cohesion, our analysis of trends in the extent of individuals' IRIS suggests that there was some improvement in the extent of IRIS between 2003 and 2010, which declined slightly thereafter. The increase in IRIS since 2003 may reflect the increased possibility of interracial mixing in post-apartheid South Africa. However, although the percentage of South Africans who never interacted or socialised interracially decreased over the whole period from 2003 through to 2013, during the same periods, less than a third of South Africans often or always talked or socialised with someone from a different racial group. The trends in actual interracial social interactions, the desire to interact, and the desire to know the customs of people of other races all seem to point to consistent patterns. There was a moderately positive trend up to 2010, which has reversed since then. The trends in actual interracial interactions or the desire to interact suggest no improvement in recent years among all race groups. Using data from 2009 onwards, we also find a declining trend in social cohesion from 2010 when we use our aggregate SCI.

Our analysis of trends in inequality suggest that vertical inequality, as measured by the Gini coefficient of the LSM, slightly increased from 2003 to 2008, and then significantly declined in 2012, while horizontal inequality of the LSM between race groups steadily declined between 2003 and 2012. The decrease in the LSM inequality in recent years is consistent with the fact that there has been significant progress in the provision of basic services (i.e. water and electricity) and in ownership of household assets in South Africa.

In contrast to the observed improvements in reducing inequality in LSM indicators, analysis of perception data suggests that a large proportion of

The trends in actual interracial interactions or the desire to interact suggest no improvement in recent years among all race groups. Using data from 2009 onwards, we also find a declining trend in social cohesion from 2010 when we use our aggregate SCI.

South Africans (about 70%) perceived the extent of inequality (the gap between the poor and the rich) as not having changed much or as having worsened over time. Such negative subjective assessments of inequality are more in line with the findings of other studies which show that income inequality in South Africa has not changed much since 1993 (Leibbrandt et al., 2011). Although LSM indices (asset indices) better capture improvements in living standard measures, asset ownership measures, which are measured using dummy variables, do not give us a true measure of wealth or asset ownership inequality in South Africa. The results of our inequality analyses suggest that the different inequality measures capture different dimensions of inequality. This implies that it is important to consider all dimensions of inequality measures in assessing progress in reducing well-being inequality.

We use regression analysis to examine the factors that influence social cohesion in the country. Estimation results indicate that various factors affect the extent of individuals' IRIS and their desire to interact. We find a significant relationship between individuals' perception of inequality and their level of IRIS. Individuals who perceived the gap between the rich and the poor as getting worse are less likely to participate in interracial socialisation, while those who perceived the gap as decreasing are more likely to participate in interracial socialisation. These findings are important in suggesting a positive link between perceived inequality and social cohesion via interracial socialisation. Likewise, a higher relative position in the LSM distribution is associated with a higher extent of IRIS, as well as desire to interact.

These results may suggest that experiencing better economic conditions measured in terms of education and LSM may improve the opportunity for individuals from different racial groups to interact.

Education is also a significant factor in explaining IRIS. Relative to individuals with primary or less education, individuals who completed a higher level of education (Matric and above) are more likely to engage in actual IRIS and to report greater desire to interact. These results may suggest that experiencing better economic conditions measured in terms of education and LSM may improve the opportunity for individuals from different racial groups to interact. Thus, availability of public spaces, for example recreational places, and better-integrated education systems are expected to improve interracial interactions. However, such measures do not necessarily guarantee improved contact, as a number of previous case studies in South Africa show that individuals tend to informally self-segregate in schools or other public spaces (see Dixon & Durrheim, 2003; Foster, 2005; Finchilescu & Tredoux, 2010).

Overcoming remaining prejudices, interracial mistrust, and negative attitudes to integration remain vital, too, in the process of building social cohesion in South Africa.

Considering these findings, it might be said that addressing inequalities in education and addressing spatial separations alone will not necessarily guarantee a more cohesive society – although these are important as part of the process. Overcoming remaining prejudices, interracial mistrust, and negative attitudes to integration remain vital, too, in the process of building social cohesion in South Africa. Further studies may want to explore causes of informal segregation in greater depth, especially in order to improve interracial contact in South Africa (Finchilescu & Tredoux, 2010). In particular,

it would be of interest to explore the impact of strategies to address inequality in comparison with those aimed at building interracial trust and addressing racial prejudice and its respective impacts on social cohesion.

Lastly, our analysis of the relationship between social cohesion, measured using the aggregate SCI, and inequality at provincial level indicates that provinces with higher vertical inequality (inequality between individuals) have lower social cohesion compared with those with less inequality. In contrast, we find no significant relationship between the extent of social cohesion and horizontal inequality measures (inequality between race groups). However, results from the SCI regression analysis should be interpreted with some caution given that our sample size is very small.

Endnotes

- 1 National Planning Commission. (2012). *National Development Plan 2030*.
- 2 Four racial categories were used during apartheid in South Africa, namely African/black, Coloured, Asian/Indian and white. These categories – and ‘race’ – are used in this paper for analytic purposes only.
- 3 Information on the row variables used to calculate the LSM deciles in the IJR data sets is only available from 2009. Thus, in Section 3, we use the LSM deciles to show long term trends in inequality (from 2003 to 2013). However, for the purposes of analysing the relationship between SCI and inequality in our regression analysis (in Section 4), we calculate our own LSM index using data from 2009 onwards. In calculating our own indices, we used uncentred principal component analysis, which is proposed by Wittenberg and Leibbrandt (2017). The variables included in the indices are similar to the ones used by the IJR to calculate the LSM indices and deciles.
- 4 The index is created as a weighted average of five response categories (never/don’t know – 0; rarely – 2.5; sometimes – 5.0; often – 7.5; always – 10.0).
- 5 It will be recalled that the further a Lorenz curve lies from the 45° line of equality, the more unequal the distribution and the higher the value of the Gini coefficient.
- 6 Data on this variable is available only from 2007.
- 7 For example, if everyone’s income increased by the same proportion, income inequality measured using Gini coefficients would not change. However, ‘dummy variables cannot be rescaled in this way. The way in which we measure asset inequality will make asset ownership more common at the bottom, leave it unchanged at the top, and thus reduce inequality’ (Wittenberg & Leibbrandt, 2017: 24).
- 8 The interracial talk and interracial socialisation variables are coded from 1 to 5 (1 – never; 2 – rarely; 3 – sometimes; 4 – often; and 5 – always), while responses to the desire-to-talk question are coded from 1 to 4 (1 – never; 2 – less often; 3 – about the same as now; 4 – more often).
- 9 For example, information on the desire to talk is missing in the 2008 and 2011 survey rounds, while we have missing data for education in 2008, and for LSM in 2009.
- 10 Population and GDP data are obtained from Stats SA, while data on crime are from the South African Police Service.
- 11 We use the Theil T index, which belongs to the generalised entropy inequality measures, the GE measures. The formula is given by:

$$T_T = \frac{1}{N} \sum_{i=1}^N \left(\frac{y_i}{\mu} \right) \ln \left(\frac{y_i}{\mu} \right)$$

The formula for the Gini coefficient is given by:

$$G = \frac{\sum_{i=1}^N \sum_{j=1}^N \frac{|y_i - y_j|}{2N\mu}}{\sum_{i=1}^N y_i}$$

- 12 The Hefindahl index used here is an adaptation of the index used to compute the partition of a market among firms.

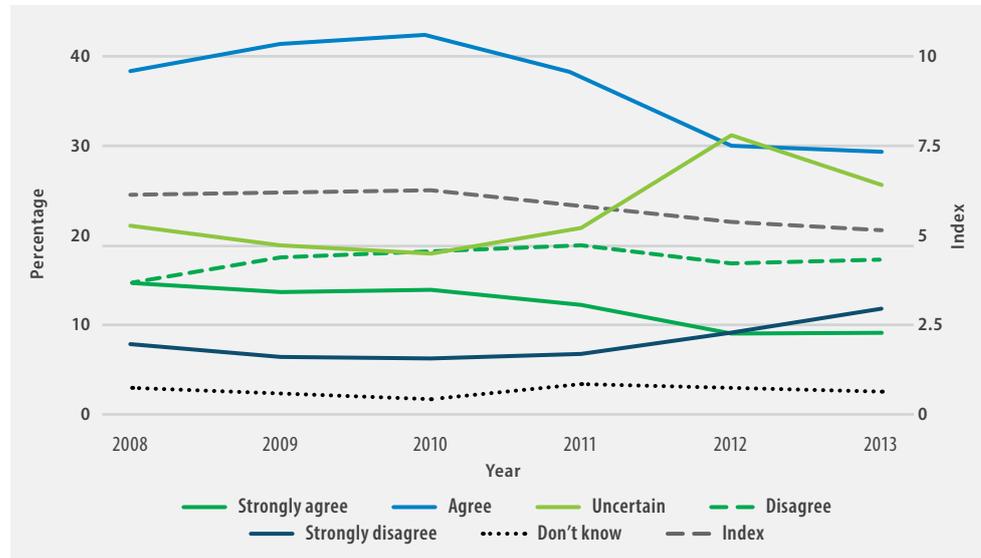
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Appendix: Tables and figures

Figure 1A: Desire to learn more about the customs of people from other race groups, 2008–2013



Source: Own calculations from weighted SARB surveys, 2008–2013

Table 1A: Relative LSM scores between racial groups, 2003, 2008 and 2012

	2003	2008	2012
Black/white	0.444	0.444	0.500
Black/Coloured	0.667	0.667	0.833
Black/Indian	0.571	0.500	0.625
Coloured/white	0.667	0.667	0.600
Coloured/Indian	0.857	0.750	0.750
Indian/white	0.778	0.889	0.800

Source: Own calculations from weighted SARB surveys, 2003, 2008, and 2012

Table 2A: Estimating the likelihood of interracial interactions							
	OLS				Ordered probit		
	Talk	Socialise	Desire to talk		Talk	Socialise	Desire to talk
Age (base = <35)							
> = 35 & <60	0.33***	0.05	-0.14***		0.12***	0.02	-0.06***
> = 60	-0.89***	-0.47***	-0.53***		-0.34***	-0.19***	-0.19***
Female	-0.54***	-0.13***	-0.09***		-0.19***	-0.05***	-0.03***
Education (base = primary or less)							
Some high school	0.26*	0.14	0.49***		0.11***	0.10**	0.17***
Matric	0.80***	0.50***	0.54***		0.29***	0.23***	0.18***
College/university	1.16***	0.87***	0.67***		0.41***	0.33***	0.23***
Living standards LSM	0.36***	0.29***	0.06**		0.13***	0.11***	0.02**
Race (base = black)							
White	1.19***	0.41**	-0.22*		0.39***	0.14**	-0.12***
Indian/Asian	1.45***	1.29***	0.52***		0.48***	0.44***	0.17***
Coloured	1.23***	1.40***	0.89***		0.41***	0.50***	0.35***
People from other group are untrustworthy (base = uncertain)							
Agree	-0.03	0.03	-0.16**		-0.01	-0.00	-0.06**
Disagree	0.45***	0.32**	0.42***		0.15***	0.10***	0.17***
Don't know	-0.82***	-0.61***	-0.90***		-0.33***	-0.31***	-0.30***
Economic situation in SA in the next 2 years (base = stay the same)							
Get better	0.38***	0.30***	0.43***		0.13***	0.10***	0.16***
Get worse	-0.16*	-0.39**	-0.11**		-0.05*	-0.14***	-0.04***
Don't know	-0.05	-0.29**	-0.11		-0.04	-0.16***	-0.03
Urban	0.20**	-0.09*	0.33*		0.08**	-0.01	0.12*
Observations	27 426	27 426	27 426		27 426	27 426	27 426
R-squared	0.256	0.162	0.177				

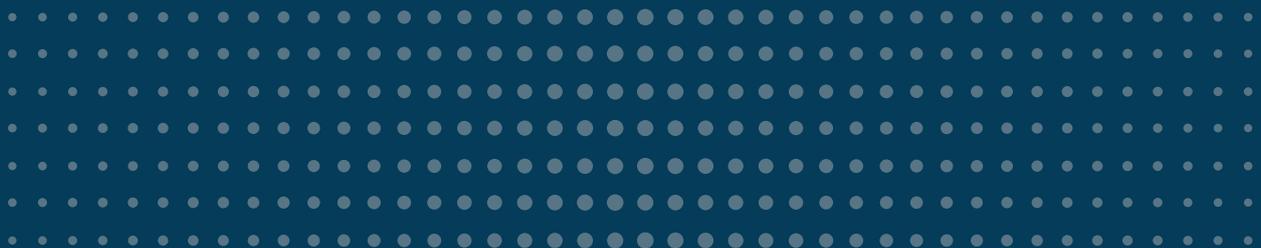
Source: Own estimates using SARB surveys (2003–2013). Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 3A: Questions used to create the SCI	
Belonging	
In South Africa, all religious groups enjoy equal rights.	
My mother tongue language gets the recognition it deserves in a democratic South Africa.	
Cooperation	
Please think back on the last year. How often, if ever, have you participated in demonstrations (added 2011)?	
Institutions	
Please indicate how much confidence you have in local government.	
Please indicate how much confidence you have in Parliament.	
Please indicate how much confidence you have in the police.	
Please indicate how much confidence you have in the legal system in general.	
Relations	
On a typical day during the week, whether at work or otherwise, how often do you talk to people of racial groups other than yours?	
If you had a choice, would you want to talk to people of racial groups other than yours?	
Are people of racial groups other than yours untrustworthy?	
Identity	
When you think of yourself and your daily interaction with others, which group do you primarily belong to?	
When you think of yourself and your daily interaction with others, which group do you secondarily belong to?	
How important is this primary identity to you?	
It is desirable to create one united South African nation out of all the different groups who live in this country.	
It is possible to create one united South African nation out of all the different groups who live in this country.	

Table 4A: Social cohesion and inequality index diversity index				
Variables	Least Squares Dummy Variables		Panel fixed effects	
	(1)	(2)	(3)	(4)
Gini coefficient	-0.20 (0.13)		-0.20* (0.09)	
Theil's T		-0.09* (0.05)		-0.09** (0.03)
Coefficient of variation	0.01 (0.02)	0.01 (0.02)	0.01 (0.02)	0.01 (0.02)
Log GDPpc (t - 1)	0.17 (0.76)	0.19 (0.73)	0.17 (0.69)	0.19 (0.70)
Crime (t - 1)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)	0.00 (0.00)
Hefindahl index	0.06 (0.04) (0.56)	0.06 (0.04) (0.54)	0.06 (0.03)	0.06 (0.03)
Time dummy	Yes	Yes	Yes	Yes
Province dummy	Yes	Yes	No	No
Constant	-1.55 (9.71)	-1.91 (9.40)	-1.47 (8.54)	-1.82 (8.69)
Observations	45	45	45	45
R-squared	0.60	0.61	0.43	0.45
Adj. R-squared	0.348	0.364	0.289	0.307

ABOUT THE INSTITUTE FOR JUSTICE AND RECONCILIATION

The Institute for Justice and Reconciliation (IJR) was launched in 2000 by officials who worked in the South African Truth and Reconciliation Commission, with the aim of ensuring that lessons learnt from South Africa's transition from apartheid to democracy are taken into account and utilised in advancing the interests of national reconciliation across Africa. IJR works with partner organisations across Africa to promote reconciliation and socio-economic justice in countries emerging from conflict or undergoing democratic transition. IJR is based in Cape Town, South Africa. For more information, visit <http://www.ijr.org.za>, and for comments or enquiries contact info@ijr.org.za.



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