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## A Closer Look at the Age Structure of Academic Staff in Public Universities in South Africa

### Abstract

It takes a minimum of between 24 and 27 years for an individual to qualify to be employed as an academic in a university in South Africa. Age is therefore one of the important factors that influence where one is situated on the academic career ladder. The paper analyses data on the age structure of academic staff in public universities in South Africa. Various policy documents expressed concern that the academic staff contingent in the country was ageing, while the postgraduate pipeline was not adequate to allow for the full replacement of those who exist the system through retirement or natural attrition. Consequently, the government embarked on developing and implementing programmes aimed at building capacity at the lower end of the academic career ladder to facilitate natural succession within the academic career path. The results from the analysis of the relevant datasets show that the distribution of academic staff in terms of age remains close to what can be considered to be a normal distribution; and that there are no significant differences in the results when the datasets are disaggregated by university. This suggests that the interventions developed and implemented to address the issue of the ageing structure of academic staff are being effective.

The paper recommends that, going forward, the focus of interventions by government should be on addressing the continuing inequitable participation of the different South African population groups in academia. It is also critical to look into the inability of the university system to attract and/or retain South African academics, which has resulted in the proportion of international academics becoming disproportionately high.

**Keywords:** Academic staff, age structure, data, policy, public universities

### Introduction

Academic staff are a critical component of any university community globally. They work at the coalfaces of all three core functions of universities, namely teaching and learning, research and community engagement or engaged scholarship. They provide the core competencies and institutional capabilities that are valuable in making universities able to discharge their missions. The way the academics carry out their work has a high level of influence on the success of students and the overall ability of a university to discharge its core mandates. It also gives any particular university a unique identity (Kiziltepe 2020). It is for this reason that universities strive to ensure that they employ sufficient numbers of suitably qualified and experienced academic staff, and that

the academic staff are continuously developed so that they are able to adapt to changes to their role that are brought about by developments in technology, as well as by socio-economic, cultural, and other societal factors (Chabaya 2020).

In South Africa, the situation regarding academic staff has not been ideal. Issues such as small academic-to-student ratios, gender imbalances, unrepresentative racial profiles, skewed age structure, and low proportions of staff with doctorate qualifications, are identified as problematic in relation to the academic staff contingent in the country. These have prompted policy documents to assert that the higher education sector is in a state of crisis in relation to the size, composition, and capacity of academic staff (DHET 2015). The government has therefore developed and implemented programmes to assist public universities to have adequate numbers of capable academic staff who are representative of a democratic South Africa. It is also considering the recommendations of the Ministerial Task Team on the Recruitment, Retention and Progression of Black South African Academics (DHET, 2019).

In relation to composition of the academic staff, the challenge is not only about demographic representation, but it also about the age structure of the extant academic staff nationally. The term 'age structure' is used to refer to the proportion of the total population in each age group (Crossman 2019; Tarsi & Tuff 2010), where, in this case, the 'population' refers to all academic staff at the twenty six public universities in South Africa. In this regard, the *Report of Stakeholder Summit on Higher Education Transformation* (DHET, 2010) made an observation that a revitalisation of the academic profession is of paramount importance for the future of higher education in South Africa. It went on to make the key point that the revitalisation of the academic profession should be multi-pronged in its approach in an attempt to deal with a number of issues including an ageing academic population. Three years later, the *White Paper on Post-Secondary Education and Training*

(DHET, 2013) similarly identified the age profile of academic staff as a serious issue of concern. It made an observation that significant numbers of academic staff were approaching retirement age, and not enough young people were becoming academics after they have obtained their degrees. The Framework for Staffing South Africa's Universities (DHET, 2015) also confirmed that the multi-faceted challenge concerning academic staff include the issue of ageing of the current academic workforce.

This paper analyses available sets of academic staff data from the public universities in South Africa with a view towards testing whether the concerns about the age structure of the academic staff are founded or unfounded. It is aimed at seeking an answer to the question of whether indeed the academic staff contingent in South Africa is ageing.

## Background

It is generally acknowledged that universities in most countries are becoming increasingly hierarchical in their organisation with skewed staff compositions, including among instructional and research staff (Gornitzka & Larsen 2004; Krücken et al. 2013). However, it remains unclear to what degree these developments are uniform across different institutional and national contexts (Stage & Aagaard 2020).

As alluded to in the introduction, above, the main concern with the age structure of academic staff in South Africa is that there are more academic staff who are approaching the retirement age, while not sufficient young academics are in the pipeline to naturally succeed them. It is important to note that the concern about ageing academic staff it is not unique to South Africa. The work of Gross (1977), (Karpiak, 2000), Muller (2013), Flaherty (2020), and Savage and Olejniczak (2021), among others, suggests that this concern is also expressed in

many other higher education systems around the globe.

Lost in the discourse about the implications of the age structure of academic staff is the fact that age and expertise intersect in one way or another. For example, an ageing or 'super-senior' professoriate provides a wealth of experience and knowledge advantages in terms of supervising doctoral students for reseeding the academy, and in terms of productivity in research and innovation (Muller 2013), not only in terms of the quantum of output but also the contribution of super-seniors to the development and evolution of ideas (Savage & Olejniczak 2021). However, the ageing academic staff structure may unintentionally block the academic career pipeline by holding onto posts that could be restructured to allow new, younger academics to enter into full-time university employment or to be promoted through its ranks. However, this assumes that there is an existing imbalance in the structuring of academic posts.

Approaching the ageing problem from the other end of the spectrum, a university that employs mainly young and relatively inexperienced academic staff will not have highly qualified and highly experienced academics. It may therefore struggle to find supervisors for postgraduate students, secure research funding through established global networks and participate in cutting-edge research in their respective fields. This suggests that countering the concerns about the ageing academic staff by simply focusing on developing the lower end of the academic career ladder may address the important issue of creating a strong pipeline of academics for the future, but may not offer solution to the challenges of providing sufficient competent supervisors for postgraduate students, and being competitive in terms of securing funds for research projects. Thus, interventions such as the New Generation of Academics Programme (nGAP), which is designed to support the recruitment, development, and retention of early-career academics, and which allows appointees with limited formal

experience to enter an academic career ( Jansen 2019, 2021), have the effect of resulting in the expansion of the lower end of the academic hierarchy (Fumasoli et al. 2015; Milojevic et al. 2019). Such programmes need to be complemented with some measures to keep enough numbers of relatively old senior academics in the system.

### **Intersection between age, knowledge, competence, and experience**

Universities as knowledge-intensive institutions require academic staff with the requisite knowledge and expertise. Unfortunately, acquiring and building such knowledge and expertise takes many years. Therefore, as discussed above, holding all other factors constant, there is strong intersection between age, on the one hand, and the levels of knowledge, competence, and experience of academics, on the other. Entry into and exit from formal academic employment is a factor of age. It is highly unlikely that the required qualifications to secure a position at a university in South Africa will be obtained by anyone younger than 24 years of age – calculated by taking the school-leaving age of 18 plus three years for a bachelor's degree, one for an honours degree and two for a master's degree. For academic positions that require a doctoral degree as a minimum requirement, it is highly unlikely that individuals younger than 27 years would qualify. This is based on the assumption that that a doctoral degree takes 3 years of study. This is similar to the situation in a country such as Germany where the official minimum age to secure a tenure track assistant professorship is 27 years of age (Fumasoli et al. 2015).

At the other end of the age gamut, the age of retirement for academic staff employed by public universities in South Africa is usually 65, although many universities allow for extended employment for selected academic staff. In 2019, 114 academic

staff older than 65 were employed at South African public universities, which equates to 0.6% of the total academic staff body (Bunting et al. 2021).

The age factor, as discussed above, coupled with employment regulations – both institutional and national – make it difficult to rapidly adjust a university's staff composition to correct for any imbalances (De la Torre et al. 2016).

Both literature and policy documents are silent on the ideal age distribution of university staff in general and of academic staff, in particular. Zhang (2021) suggests that the 36 to 50 years age group possesses a good balance of relative youth, knowledge, competence, and experience than any other age bracket. He therefore recommends that universities should put policy and processes in place to ensure that academics within this age bracket should be more in number than those within any other age groups. Generally speaking, the academic staff in universities should include the old, middle age, and young, distributed in a normal curve fashion. To attain such a normal curve, the proportion of academics in different age groups should be, 25% those under 35 years, 50% those in the 36 to 50 years age bracket, and 25% those over 51 years old. The average age of academic staff in a university should be controlled at about 40 years old, and the average age of professors and associate professors should be controlled at 50 and 45 years old, respectively (Ziang 2021).

### **Data on the age structure of academic staff in South Africa**

Subbaye (2017) provides data for the period 1992 to 2014 to show declines in the proportions of professors and associate professors at the system level as well as at the country's top five research universities (University of Cape Town, University of KwaZulu-Natal, University of Stellenbosch, University of Pretoria, and University of the Witwatersrand). The datasets are not

disaggregated by age. A DHET report (2018) provides 2016 data to show the age profile of the professoriate at South African universities, but not for other levels. The data show that the majority of the professoriate is in the 45 to 54 age group with 55 to 59 year-olds constituting the second-largest group.

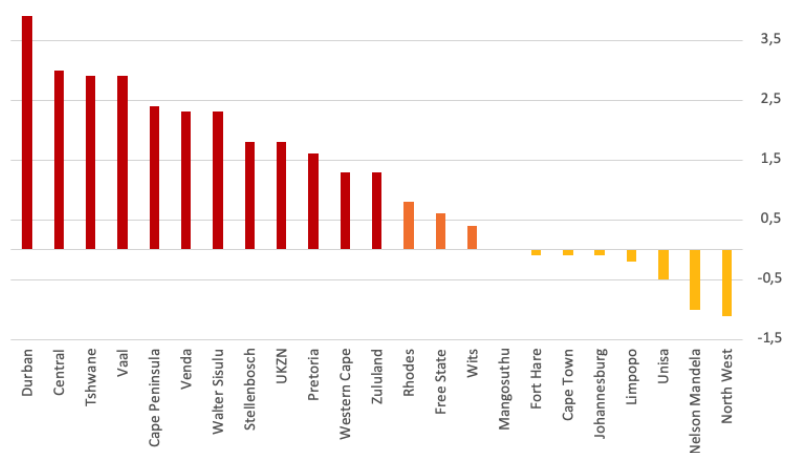
Flaherty (2020), reporting on data from "The Aging of the Tenure-Track Faculty in Higher Education: Implications for Succession and Diversity" shows that the median age of the labour force in the United States of America is 42 years versus 49 for tenure-track professors. Compared to the general working population, significantly more faculty members are aged 55 or older: 23% in general versus 37% in academe. Usher (2017) reports that in Canada in 2002, over 65s made up less than 2.0% of the professoriate whereas the 2017 data show that over 65s made up 10.3% of the professoriate. Baker (2021) reports that nearly half of all professors in the United Kingdom in 2020 were aged 55 or over.

Although one can infer staff changes by various methods, most scholars rely on a quantitative notion of change in the proportion of specific staff categories (Stage 2019). Such an approach admittedly relies on decontextualized data alone. At the same time, comprehensive, up-to-date, and reliable data on the actual state of affairs is not readily available to inform academic and policy debates on the topic of staff composition of South Africa's public universities.

The data presented in this paper has been extracted from the comprehensive data published by Bunting et al. (2021) for the period 2007 to 2021 which, in turn, relied on the DHET's Higher Education Management Information System (HEMIS) data tables. The dependency on the data published by Bunting et al. (2021) places some limitations on the analysis but not to the extent that this paper is unable to inform and, hopefully, advance the discussion about the age profiles of South Africa's public universities.

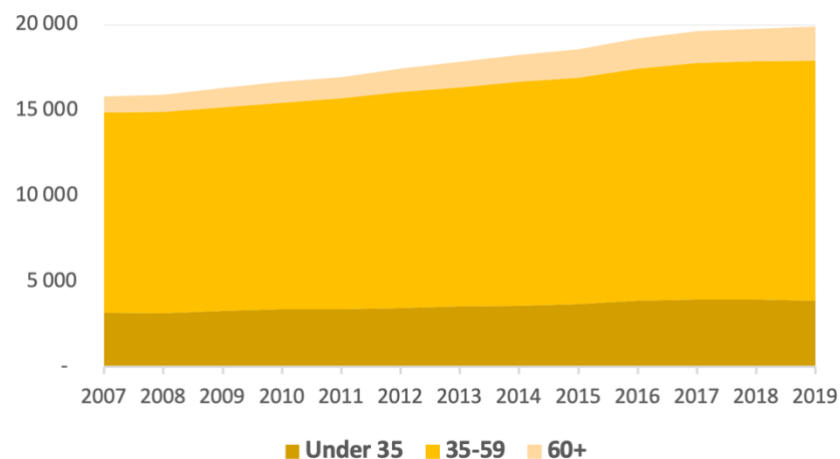
Bunting et al. (2021) find that the average age of all permanently appointed academics was 44.8 years in 2007, 45.3 years in 2013 and 45.7 years in 2019. This indicates an increase of 0.9 years over a 13-year period, and that in all three years the average age in the South African public university system was higher than the recommended average age for all academic staff of 40 years (Zhang 2021).

Figure 1 shows the change in the average age of academic staff from 2007 to 2019 for 23 of the 26 public universities in South Africa. At first glance, the data appear to show an increase in the average age at most of the country's universities.



**Figure 1: Percentage change in the average age of permanent academic staff: 2007 vs 2019**

The data in Figure 2 and Table 1 show that there has been no change in the proportion of academics under 35 years in the age structure of universities in South Africa's universities. Change is observable in the two higher age brackets where there has been a relative decrease in 35 to 59 year-olds, and an increase in academic staff 60 years and older. The proportion of academics 60 years and older increased from 6% in 2007 to 10% in 2019.



**Figure 2: Total permanent academic staff in public universities by age bracket: 2007–2019**

**Table 1: Proportion of permanent academic staff in public universities by age bracket: 2007–2019**

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
<b>Under 35</b>	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%	20%
<b>35-59</b>	74%	74%	73%	72%	73%	73%	72%	72%	71%	71%	70%	71%	71%
<b>60+</b>	6%	6%	7%	7%	7%	8%	8%	9%	9%	9%	9%	10%	10%

While data are not available in the age brackets as per Zhang's (2021) proposed distribution, Table 2 shows that the distribution of permanent academic staff in the South African public university system in 2019 approximates the 'normal' distribution proposed.

**Table 2: Proportion of permanent academic staff in public universities by age bracket: 2019**

HEMIS AGE BRACKETS (Consolidated)	2019 HEMIS DATA	ZHANG's 'Target'	ZHANG's AGE BRACKETS
<b>Under 35</b>	20%	20%	<b>Under 35</b>
<b>35-54</b>	58%	55%	<b>35-50</b>
<b>55+</b>	23%	20%	<b>51+</b>

A breakdown of the data by university (for 23 of the 26 public universities in the system), shows that academics approaching the retirement age of 65, inclusive of staff 60 years and older, ranges between 6% and 15%, and that 19 universities are in the 8-12% range (Bunting et al. 2021). This suggests that there is no single university where staff of 60 years and older constitute a significant proportion of the academic staff body.

In summary, the data show that for the period 2007 to 2019, there has been (a) an increase in the average age of academic staff at 23 of the 26 public universities in South Africa, (b) no change in the proportion of academic staff under the age of 35, and (c) an increase in the proportion of academic staff over the age of 60. The data further reveal that the distribution of academic staff in terms of age remains close to what can be considered to be a normal distribution; and that there are no significant differences in the results when the datasets are disaggregated by university.

## Conclusion

The datasets analysed do not seem to support the notion that the academic staff is ageing. This may mean that the interventions developed and implemented by the government in terms of developing a pipeline of academics to gradually replace those who were retiring, are being effective. It also implies that any negative effects articulated in government policy documents, such as the inability of young academics to enter or progress through the system to 'revitalise' it, are most likely attributable to non-age-related factors such as the inadequate growth of the system, expectations of academics to produce evermore postgraduates, and shrinking government subsidies – factors that are mostly the purview of government rather than universities. In this regard, it is recommended that the intervention programmes by government should emphasise

more on addressing critical issues such as the inequitable participation of the broad spectrum of the South African population in academia. The Ministerial Task Team on the Recruitment, Retention and Progression of Black South African Academics (DHET, 2019) found that while there had been significant improvement in the representation of black academics in the academic staff complement of universities, the population profile of academic staff at the universities remained inequitable in comparison to the general population structure of the country. Another issue that the interventions should aim at addressing is the inability of the university system in the country to recruit and retain South African academics, which result in the disproportionately large numbers of international academics among the academic staff in universities (DHET, 2019).

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