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Building research capacity for African institutions: confronting the research leadership gap and lessons from African research leaders

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Abstract

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Disciplines

Architectural Engineering | Architectural Technology | Cultural Resource Management and Policy Analysis | Urban, Community and Regional Planning

Comments

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Building research capacity for African institutions: confronting the research leadership gap and lessons from African research leaders

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This study explores the meaning and competencies of ‘research leadership’ in the African context and investigates strategies for developing it. Data for the study were gathered through an online survey that targeted recipients of research grants/support from key research funders to selected African institutions. The recipients of these grants were either research leaders or team members. The study employs a mixed methodology approach with empirical data drawn from focus group discussions and online surveys of English-speaking research leaders and research teams whose research work was supported by the selected funding institutions. In line with literature of leadership styles in Africa, our results suggest that preferred research leadership style for African researchers is different in some ways, especially with its attention to the ‘human touch’. Respondents preferred ‘people/relationship orientated’, ‘task-orientated’ and ‘democratic/participative’ styles of leadership, all of which have strong elements of *Ubuntu* (humaneness). The study also showed that leadership development for many in Africa involves mostly ‘learning by doing’ and informal mentoring, and less formal training opportunities. We explore policy implications of our findings with reference to research leadership development in African institutions, paying particular attention to challenges faced by female research leaders, and stress that research leadership development in Africa must be seen as a long-term and continuous activity and calls for more formal leadership development opportunities to complement the existing informal approaches.

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Introduction

African institutions¹ need strong research capacity. Robust social science and policy research, both basic and applied, is crucial in the search for solutions to the region's development challenges. It is generally recognized that strengthening social science research yields dividends in the formulation of well-informed development policies and helps ensure their implementation (EDCTP Forum, 2011). Building a strong research capacity entails not only the creation of supportive institutional environments, but also the availability of a cadre of competent researchers and experienced research leaders (Bashour, 2013; Evans, 2012; Jones, Bailey, & Lyytikäinen, 2007; Marjanovic, Hanlin, Diepeveen, & Chataway, 2012).

Addressing weak research capacity often requires training individuals at multiple levels in the research process (Camara & Toure, 2010). One link in this process that often receives inadequate attention is availability of capable research leaders. Yet the role of good research leaders in building a strong research capacity seems quite obvious—they lead and support research efforts; they manage project researchers and staff; they are primarily responsible for acquiring project funding; they are often the vocal cheerleaders; and they help sustain energy and a can-do mentality in the project team. Good research leaders offer forward vision in the fast-changing research environment, motivating staff and leading them through these changes, while stimulating innovation and creativity.

Several reasons have contributed to the dearth of effective research leaders. For instance, research training in many schools does not adequately prepare graduates to assume leadership roles. Rather, most programmes focus on different theoretical approaches, quantitative and qualitative methods, and grant writing. While these build researchers, they do not necessarily result in leadership skills development. There is, therefore, a need for intervention programmes expressly designed to develop leaders, particularly for institutions involved in research throughout Africa.

This paper focuses on capacity building and development of research leaders, not capacity-building for researchers. While general capacity building for researchers is very useful in the African context, and could potentially lead to the emergence of good research leaders, such indirect efforts cannot be substitutes for programmes designed specifically for research leadership development. The study has the following objectives: (i) review research leadership development within Africa; (ii) identify the attributes of effective research leadership; and (iii) suggest factors for consideration in research leadership capacity building in Africa. We draw on the University of Leeds Research Board list of attributes and competencies of research leaders in our analysis and employ the leader-manager leadership approach with elements of Ubuntu (humanness) in conceptualizing research leadership. We use a mixed methodology approach with empirical data drawn from focus group discussions and online surveys of English-speaking research leaders and research team members in Africa to explore the meaning and competencies of 'research leadership' in the

African context² and investigate strategies for developing it. We pay particular attention to challenges faced by female research leaders.

The rest of the paper is divided into four sections. Following this introduction is the literature review. Here we discuss theories of leadership in general, definition of 'research leadership' and research leadership development strategies within the African context. This is followed by a discussion of the methodology, focusing more on our methods of data collection. We then present and discuss our results, highlighting the preferred leadership attributes and styles and suggestions for developing good research leaders. We also explore the apparent lack of female research leaders in African institutions and offer suggestions for reversing the situation. In the final section, we summarize our findings and present our conclusions.

Literature survey

The literature review sought to understand the current state and strategic development of research leadership in Africa. Our additional objectives were to develop a framework for empirical study of the attributes and competencies of good research leaders; to capture the need for development opportunities; and to understand the institutional forms and requirements for delivering research leadership programmes.

Leadership—a definition

Despite a long history of research interest in leadership there is no consensus on what leadership means. Some researchers take the 'individual' perspective and focus on personal traits or characteristics, while proponents of the 'collective' focus on social processes within group relationships (Bolden, 2004). The implication of the former is that leadership is inherent in a few people born with this special talent, while the latter suggests that leadership is contextual, can be learnt and everyone is capable of exercising it (Rowe, 2007). Others have sought to define leadership by distinguishing it from management. Kotter (1990, p. 104), for instance, argues that: 'management is about coping with complexity' while leadership 'is about coping with change'. Thus, good leaders create a vision and strategic direction, communicate that vision to the people and customers of an organization, and then inspire, motivate and align people and the organization to achieve this vision. Bolden (2004, pp. 7–8) however stresses that this depiction 'can be misleading and potentially harmful in practice'. Mintzberg also avoids such distinctions and argues that managers have to lead and leaders have to manage (cited in Western, 2008). The 'leader-manager' view is particularly relevant to defining good research leadership, since many project drivers tend to function as both managers and leaders.

Crosscutting all the variants and evolutions of leadership concepts over the past century, the single most fundamental change in the style/definition

of leadership has been a shift from ‘hierarchical’ to ‘non-hierarchical’—to the extent that ‘leader’ and ‘follower’ roles are neither ranked nor fixed. As such, any person in a participatory/group endeavour can be either. There is an interesting parallel here to mentorship³, which challenges the teacher–learner paradigms (see Berdrow & Evers, 2011; Tang & Choi, 2005). Thus, we define a leader as any person who inspires and enables others to optimize their contribution to a group objective.

Mainstream leadership theories and styles

Leadership theories have evolved over the years from the early ‘Great Man’ traits through ‘contextual’ approaches to the current ‘dispersed leadership’ theories. Before the 1930s, the predominant view of leadership was based on the individual, control and centralization of power. The ‘Great Man’ theory argued that leaders are born and not made. The ‘Traits’ theory researchers looked for evidence of mysterious qualities and believed they were frequently passed between generations (Klingborg, Moore, & Varea-Hammond, 2006). Their focus was to identify specific personal qualities that qualify an individual for leadership. This involved observing leaders and analysing personality traits that made them successful. Not surprisingly, the number of traits identified was roughly equal to the number of studies undertaken (Bolden, Gosling, Marturano, & Dennison, 2003; Winston & Patterson, 2006). By the late 1940s, leadership studies began to look at what leaders do, rather than their personalities. These ‘Psychoanalytical’ theories looked at groups and organizations to understand what motivates individuals to lead, or to follow a particular leader. They also studied human relationships within organizations, alongside outputs and performance (Klingborg et al., 2006). Prominent researchers in this genre include the provocative work of Manfred Ket de Vries, an economist and psychoanalyst, whose focus on the dark side of leadership led him to conclude that some of the traits typically associated with leaders (such as transformational leaders) can drive organizations to disastrous outcomes (Ket de Vries, 1993, 1995).

A common criticism of these leadership theories is their one-size-fits-all view, which ignored possible variety, or gender, race and other aspects of cultural diversity (Western, 2008). ‘Situational’ and ‘Contingency’ theories emerged to address this limitation. Proponents argued that good leadership is contingent on many factors, including the situation, the people, the task, the organization and other environmental variables (Bolden et al., 2003). Thus, different leadership styles were needed to fit different situations.

In recent years, leadership researchers have focused on the leader’s relationship with his/her followers and the interdependence of these roles. The result has been a shift from the individualistic view of leadership (the sole leader) to leadership as the collective (team leadership) and this has resulted in the emergence of diverse styles (Bolden et al., 2003). Early research in this genre drew from organizational behaviour and management science, and led to ‘Attribution’ theories based on how followers assign certain qualities to leaders. This led to identification of several

leadership styles, including ‘Transactional’ leadership, in which ‘one person takes the initiative in making contact with others for the purpose of an exchange of valued things’ (Burns, 1978, p. 19); and ‘Transforming leadership’ whereby ‘one or more persons engage with others in such a way that leaders and followers raise one another to higher levels of motivation and morality’ (Burns, 1978, p. 20). Other researchers who stressed Burns ideas regarding the ethical, historical and political dimensions and contextual factors of leadership preferred to describe such leaders as ‘Transformational/Charismatic’ (Steers & Black, 1994). Later iterations of the attribution theories stress the leaders’ responsibility to their followers—a kind of more ‘spiritual or value- or principle-based relationship between leaders and followers’. This has resulted in current leadership styles including ‘Servant’ leadership, which sees leadership as arising out of the desire to serve rather than a desire to control (Greenleaf, 1977; Spears, 1995); and ‘Dispersed’ leadership, which advocates a less formal model in which individuals at all levels in the organization and in all roles can exert leadership influence over their colleagues and thus influence the overall direction of the organization (Bolden et al., 2003).

Meredith Belbin’s ‘Team’ leadership style based on the 1970s study of factors that separated successful and unsuccessful teams (Belbin, 2010) is particularly relevant. Belbin identified nine distinctive roles and showed there was no ‘ideal’ leader that could perform all of these—indeed most people embraced a mix of only two or three roles while avoiding those they deemed uncomfortable. Based on this work, Belbin differentiated between the ‘solo’ and the ‘team’ leader (Table 1). As can be seen, solo leaders may be useful in a workplace for overcoming internal barriers and allowing decisions to be made and implemented urgently. However, team leadership may be more appropriate in dealing with changing and uncertain work environments and for bringing out the best in team members. Thus, a team leadership style may be more suitable to the research environment, because such leaders would allow for ‘a more holistic or participative style of leadership where teamwork, problem solving, decision-making and innovation can flourish with heightened teamwork and work performance’ (Bolden et al., 2003, p. 14).

Table 1. Comparison of solo and team leadership

Solo leader	Team leader
Plays unlimited role; interferes in everything	Chooses to limit role to team preferences; delegates roles to others
Strives for conformity; tries to mould people to particular standards	Builds on diversity; values differences between people
Collects acolytes—admirers and sycophants	Seeks talent—not threatened by people with special abilities
Directs—subordinates take their leads and cues from the solo leader	Develops colleagues—encourages the growth of personal strengths
Projects objectives—the solo leader makes it plain what everyone is expected to do	Creates mission—the team leader projects the vision and consensus which others can act on as they see fit

Source: Belbin (1993); cited in Bolden et al. (2003, p. 14).

Is leadership in Africa unique?

Studies of cross-cultural organizational behaviour have confirmed the intuitively evident observation that culture influences many of the values that underline leadership theories and styles (Dickson, Den Hartog, & Mitchelson, 2003). For instance, work motivation, the relationship between individuals and organizations, organizational commitment and how individuals manage their interdependence in organizations have all been shown to vary significantly across cultures (Gelfand, Erez, & Aycan, 2007; Mead & Métraux, 2000). Mead and Métraux (2000) present a rich and complex work of the study of cultures and offer fascinating insights into such diverse cultures as China, Thailand, Italy, Syria, France, Germany, Russia, Romania and Great Britain. Perhaps, the most prominent researcher in cross-cultural organizational behaviour is Hofstede, a social psychologist well known for his pioneering research of cross-cultural groups and organizations (Hofstede, 2001; Hofstede & Hofstede, 2005). Notwithstanding the many critiques and limitations of Hofstede's works, his cultural dimensions theory of leadership has had great influence on our understanding of globalization and cross-cultural organizational behaviour.

In a similar vein, the work of Fons Trompenaars in the field of cross-cultural communication resulted in the development of Trompenaars' model of national culture differences (Trompenaars & Hampden-Turner, 1997; Trompenaars & Voerman, 2009; Trompenaars & Woolliams, 2003). Trompenaars' model of national culture differences is a framework for cross-cultural communication applied to general business and management, developed by Trompenaars and Charles Hampden-Turner. This model of national culture differences identifies several dimensions of organizational behaviour and leadership which includes dimensions such as universalism vs. particularism, individualism vs. collectivism, neutral vs. emotional, specific vs. diffuse, achievement vs. ascription, internal vs. external control and so on. Other scholars such as Adler and Gundersen (2008) have expounded the pioneering works of Hofstede and Trompenaars to shed light on how human beings and organizations deal with each.

The works of Hofstede and Trompenaars are critical to the subject matter under discussion in this paper, given the cultural and political differences across African states. Indeed it is important to highlight the work of these authors to set the stage given that leadership is a cultural construction. Also important in our understanding of leadership and cross-cultural organization is the work of Branine (2011), especially the fact that it includes a section on Arab cultures of which there are a few in Africa and countries like Sudan that are Muslim. Branine's book, *Managing Across Cultures*, offers an excellent overview of the economic, political, social and cultural context of managing across cultures in 15 clusters of countries that are key players in today's global economy without entertaining cultural reductionism.

These major works by scholars from Europe and Africa as well as the variations they offer are significant, given that mainstream leadership

literature has been dominated ‘by work from US business schools where there is traditionally a focus on positivistic and scientific approaches to management and leadership that creates a reductionist tendency’ (Western, 2008, pp. 25–26). Goh (2009) broadens this criticism beyond the US and notes that Western leadership theories are ‘culturally bound’ and cautions against uncritical transfer of Western leadership practices to non-Western contexts. One of the most ambitious and most cited works on the relationship between culture and leadership is the Global Leadership and Organizational Behaviour Effectiveness Research (GLOBE) Project (House, Hanges, Javidan, Dorfman, & Gupta, 2004). This study showed that culture affects leadership styles as well as how followers see leaders. In sum, culture affects leadership styles, behaviours and practices, and moderates the relationship between leadership and employee outcomes (Gelfand et al., 2007).

There exists a substantial body of work on leadership for African states, particularly in contemporary history, politics, sociology and biographies. However, there is ongoing debate about the relevance of a Western-orientated leadership approach for Africa (Sorensen & Kauda, 2001; Whitley, 1994). Some, such as Littrell (2011), argue that there is no evidence of ‘unique African leadership’ among the African business community who generally accept ‘Western’ attitudes. Others insist that leadership in Africa is distinctive, especially in one aspect—the incorporation of the ‘human touch’.⁴ Jackson (2004) also argues that African leaders tend to incorporate a ‘humanistic’ as opposed to an ‘instrumental’ view, which perceives people as a means to an end. Some researchers have linked this to the concept of ‘Ubuntu’.⁵ According to Bolden and Kirk (2009), Ubuntu (now in the English lexicon, defined as an essential human virtue of compassion and humanity) offers a powerful frame of reference and a way for talking about the interdependence of social actors, which bridges the individual and the collective. Clearly, more empirical research is needed to explore the applicability of Ubuntu leadership style in business and other modern organizations in Africa.

Leadership development strategies

Leadership concepts necessarily influence the required leadership competencies and how they are acquired. For instance, if leadership is an individual activity or social process, this will affect the leadership development strategies to be adopted. If leadership is just an application of a set of principles, then development will demand more experiential training. If leadership development is a collective process, then we may challenge the traditional approach of sending only senior employees on training and encouraging others to ‘follow the leader’ (Bolden, 2005, p. 7). Similarly, any distinction between leadership and management will affect the choice of leadership development strategy. Management development involves equipping managers with the knowledge, skills and abilities to organize performance on known tasks through the application of proven solutions, while leadership development is more orientated towards building capacity

in anticipation of unforeseen challenges (Bolden, 2007). A leader-manager view will require a more comprehensive development strategy that stresses the competencies of both disciplines.

Changes in leadership theories have influenced leadership development approaches (Bolden, 2005). For instance, the traits theory placed greater emphasis on recruitment and selection and less on training. The behavioural approach led to programmes to help leaders develop appropriate and universally applicable leadership styles and practices. Situational theories are associated with strategies to develop the leader's diagnostic abilities as well as ability to use different leadership styles. The current emphasis on qualities that followers attribute to a leader has led to the proliferation of development strategies that stress the leader's ability to develop and communicate inspiring vision, and to motivate followers to have a sense of purpose beyond the material benefits from the job.

Research leadership

Thus, a clear definition of research leadership is an essential prerequisite to the discussion of research leadership development strategies. While there are overlaps between 'leadership' in general and 'research leadership', some attributes are specific to the research enterprise. Attention to the disciplinary focus is important here precisely because a good number of research leaders require specific training in specific disciplines and methodologies to improve their efficiency.

Lack of consensus of the definition of research leadership is evident in the literature. In addition, there is no agreed set for the qualities of a good research leader. Evans (2012) has noted that research leadership is a niche topic within the study of educational leadership and management, and it has received scant attention because it is obscure within the higher education leadership and management package. As a consequence, scholarship on research leadership continues to suffer underdevelopment and a starved knowledge base (Evans, 2012). Instead of giving a concise definition of who a research leader is, Evans elaborates on the emerging field of 'researcher development'.

The National Science Foundation and the National Institutes of Health both in the USA define the principal investigator or research leader as the person who takes direct responsibility for completion of a funded project, directing the research scientifically, technically, logistically and reporting directly to the funding agency (National Institutes of Health, 2011; National Science Foundation (US), 2002). She is the lead scientist for a well-defined research project. The University of Massachusetts goes further to define a principal investigator or research leader as the primary individual responsible for the preparation, conduct and administration of a research grant, cooperative agreement, training or public service project, contract or other sponsored project in compliance with applicable laws and regulations, and institutional policy governing the conduct of sponsored research (University of Massachusetts at Amherst, 2009).

Given these definitions and the foregoing literature review, we can describe a good and effective research leader as an individual or a group of individuals who are involved in managing and pushing their research teams and/or individual star performers to manage the research, and to yield output whose wider impact is evident either in the development of new products or in advancing social science and informing policy.

Defining the attributes and competencies of research leaders has also attracted some attention. The University of Leeds Research Board (2003) has developed a draft framework for internationally recognized research leaders. According to the report, the competencies for an effective research leader includes: (i) influencing the research agenda through sustained quality (and volume) of published output; (ii) shaping the development of the subject or championing the discipline; (iii) influence through networking and involvement in high-level activities; (iv) peer recognition through prizes and awards; (v) continuously evolving research strategies; (vi) ability to attract and develop good quality research students and staff; (vii) obtaining prestigious fellowships; (viii) maintaining research income; and (ix) setting very high standards (Eady, Hatton, & Double, 2002; Fielden, 2011; University of Leeds Research Board, 2003). It should be noted that this list is suggestive and not exhaustive (Bolden et al., 2003; Winston & Paterson, 2006). It should be noted that this list is suggestive and not exhaustive (Bolden et al., 2003; Winston & Paterson, 2006). In addition, it should be kept in mind that the University of Leeds model cannot be supplanted to the African context verbatim. This model would have to be modified substantially given the cultural, societal and infrastructure differences between the African states and the European context. Indeed, this is suggested by the literature on cross-cultural organizational behaviour that different organizations and social groups act in different ways culturally and otherwise. Also, these qualities do not happen in a vacuum but are supported by an enabling, motivating and research-rich environment, which provides a supporting infrastructure, a critical community of researchers and an atmosphere in which research thrives (University of Leeds Research Board, 2003). Table 2 summarizes specific attributes and competencies of research leadership.

Research leaders are visible and accountable to the research team or staff and have a commitment to further the purpose and goals of research (Evans, 1999; Jusoff, 2007; Lam, Huang, & Lau, 2012; Liden, 2012; Waldman, 2011). Skills and creativity are crucial, and leaders must be able to generate and maintain a group of creative and productive followers (Hemlin & Olsson, 2011; Winkler, 2011). Thus, good and innovative research leaders must be creative, visionary, imaginative, inspirational, insightful, foresighted and intuitive in leading their pool of researchers. Research leaders do not sit on their laurels but continue to be innovative with traits that comprise intelligence, initiative, excellent interpersonal skills, high self-esteem, a willingness to take risks and their consequences (Carucci, 2007; Jusoff, 2007; Jusoff, Samah, & Abdullah, 2009; Kantabutra, 2010; University of Leeds Research Board, 2003).

In sum, the literature on research leadership points to the need for any institution to think systemically as it develops its leadership cadre.

Table 2. Necessary attributes and competencies for research leadership

Communication skills	Self-motivation, pushes self
Time management skills	Conviction
Self-management skills	Opportunism
Interpersonal skills	Inspirational
Managing research at departmental level	Influential
Love of the subject	Embraces publicity/visibility
Drive, determination, ambition, energy, tenacity	Delivers to 'supreme best'
Vision, capacity for strategic thinking, 'thinks big'	Concerned for the common good as well as own success (self-sacrificing)
Fearlessness, initiative	Sustained influential publication record
Single-mindedness, desire to be the best	Getting grants
Infectious enthusiasm	Delivering [grant and other] outputs on time
Individuality, maverick	Attending international meetings as an invited speaker
Self-sufficiency	Holder of, and achievements with, a prestigious fellowship in some disciplines
Anticipation	Involvement with external activities

Source: University of Leeds Research Board (2003, p. 2).

Developing competencies requires a deliberate leadership culture, well-placed practices and procedures, coaching and mentoring as well as executive engagement. In this respect, it is gratifying to note that there has been considerable movement in Africa to promote research networks as a way of building capacity in research leadership (see e.g. Kaleebu & Miiro, 2012). Our review of the experiences of North American and European institutions of higher learning suggests good and effective research leaders both lead and manage i.e. the 'leadermanager'. The importance of the 'human touch' could be taken as an added dimension in the African context. In this sense, what is considered good research leadership in Africa may be similar to Gray and Carter's (2012, p. 165) description of good research leaders for American Indian/Alaska Native students in the USA: 'The research team's leadership has had to fill many different roles such as advisor, counselor, mentor, mother, and grandmother'.

Methods

To realize the study's objectives, we developed a mixed methodology based on a three-phased data collection approach.⁶ Phase 1 was desk study and it involved the review of the literature on leadership in general, including approaches, attributes and competencies of a good leader, and common development practices for acquiring them. We also explored the literature on research leadership—to help define it—and investigated whether any of the leadership approaches, competencies and development practices were specific to research leaders.

Phase 2 involved a focus group discussions held at the Research and Higher Education Forum on Post-Millennium Development Goals (MDGs) in Africa, in Nairobi, Kenya, on 18 March 2013. Two focus groups (research leaders group and research team members group) were selected from the conference attendees. The discussions focused on the roles of research leaders in Africa in the production of quality social science research; how research leaders contribute to skills formation; and the capacity development of researchers. The groups were also an opportunity to validate some of the findings from the literature review (Phase 1) and to determine the type of information that should be collected in phase four of the study.

Phase 3 of the study involved surveying two groups of researchers. One comprised ‘research leaders’—people who had led one or more members of a research team, based in Africa, and who had been funded by institutions, organizations and/or centres⁷ in the past five years. The other group comprised ‘research team members’—individuals who had been part of research teams but not in a leading capacity. The groups were given separate questionnaires administered using the online survey tool, SurveyMonkey,⁸ over a three-week period in April and May 2013. The questionnaires solicited information on attributes and competencies of good research leadership. We sought to identify the different types of research leadership in African institutions, the ideal attributes of research leadership, and how respondents ranked themselves or others on these attributes and opportunities for acquiring such competencies. Respondents were selected from the databases of various research funding agencies that funds African researchers. Thus, it is important to note that our sample was not random and therefore not rigorously representative. In addition, even though the database was made up of researchers from Anglophone and Francophone countries, given that the survey instruments were in English, only researchers with English-speaking ability participated in the study.

Results and discussion of the empirical study

The empirical part of the study involved interviews with research leaders and team members in Africa to explore the attributes and competencies of research leaders and research leadership development opportunities in Africa. Specifically, the objective was to capture the attributes and competencies of good research leadership in Africa, to discern what matters most in a research leader, to assess the need for development of this cadre and to identify what kind of support strategies are required. We also wanted to explore in greater depth the role of research leadership in addressing Africa’s social science and policy research capacity needs. The results should help inform policy and organizations on how to grow future African research leaders, and on what can be done to get more from existing leaders.

Background characteristics of respondents

A total of 464 research leaders were invited to participate in an online survey and 119 (25.6%) responded. Of the 183 research team members invited, 37 (20.2%) responded. Table 3 summarizes their background characteristics. The largest proportion (90%) of research leaders were in the age range of 30–59 years, while the majority (68%) of research team members were aged between 30 and 39 years. This is as expected and highly correlates with 80% of research leaders and 49% of team members indicating that they had a PhD degree. The others had a master's degree. Only 14% of the research leaders and 32% of team members were females—a significant gender imbalance. The majority of respondents (both research leaders and team members) were affiliated to academic institutions. The rest of the respondents came from autonomous or semi-autonomous think tanks, government-funded think tanks, non-governmental organizations (NGOs) and the public sector. The disciplinary background of research leaders was skewed towards economics (51%), and agriculture and natural resource-related management fields (30%). Team members were largely from the fields of governance which included political science, public policy, finance and administration (38%), and the social science disciplines such as sociology, geography, psychology, anthropology and so on (38%). The differences are probably a result of the databases used rather than a representation of the specializations prevailing across Africa. The majority of research team members had been involved in research for more than five years and all had either ongoing-funded research projects or had undertaken research projects of one kind or another that had been funded within the past three years.

Leadership styles and attributes

The research leaders were asked to rate their agreement with statements describing the following leadership types⁹: *paternalistic leadership* (guides the professional and personal lives of the research team members); *democratic/participative leadership* (strives to include team members in the decision-making process); *people-orientated/relations-orientated leadership* (focuses on organizing, supporting and developing research team members, and encouraging good teamwork and creative collaboration); *laissez-faire leadership* (allows research team members to work on their own); and *task-orientated leadership* (focuses on getting the job done and actively defines the work and roles required; puts structures in place; plans, organizes and monitors work). Figure 1 summarizes the ratings of various leadership styles by the research leaders. All were highly rated, but 'people-orientated/relations-orientated' was the most preferred, with 'laissez-faire' and 'paternalistic' the least liked. The results suggest research leaders in Africa prefer emphasis on organization, support, encouragement and creative collaboration, and that it is incumbent on a good research leader to actively cultivate and organize smooth collaborative efforts in a team to optimize productivity.

Table 3. Background characteristics of respondents

Characteristic	Categories	Research leaders		Team members	
		No.	%	No.	%
Institution type	Academic	82	71.3	24	66.7
	Autonomous or semi-autonomous think tank	7	6.1	5	13.9
	Government funded think tank	2	1.7	0	.0
	NGO	2	1.7	0	.0
	Public sector—ministry	11	9.6	2	5.6
	Public sector—research council	11	9.6	5	13.9
Sex	Male	99	86.1	25	67.6
	Female	16	13.9	12	32.4
Age	<30 years	2	1.7	0	.0
	30–39	27	23.5	25	67.6
	40–49	47	40.9	10	27.0
	50–59	30	26.1	2	5.4
	60 or older	9	7.8	0	.0
Disciplinary background	Governance	5	4.4	6	16.2
	Economics	59	51.3	14	37.8
	Social sciences	11	9.6	14	37.8
	Medicine and health-related	4	3.5	2	5.4
	Population studies	1	.9	0	.0
	Agriculture-related and natural resource management	35	30.4	1	2.7
Highest degree completed	Doctorate	92	80.0	18	48.7
	Master's degree	21	18.3	18	48.6
	Bachelor's degree	1	.9	0	.0
	Other	1	.9	1	2.7

Based on our literature review and in consultation with a number of experts in this field, we compiled a list of attributes and competencies of good research leaders. We asked both research leaders and team members to rate these attributes and competencies in terms of their importance for good research leadership based on their own experiences. The results of the ratings on each attribute/competency are given in Table 4. Data show a very high correlation between the two groups of respondents. (Pearson correlation coefficient of .948, $p = .000$ and χ^2 test p -value = .9999). The χ^2 test results indicate that the distributions of the observed vs. the expected frequencies are the same; the two groups are in agreement. Both groups placed the following attributes and competencies for good research leadership (in order of importance): communication skills; time management skills; delivering outputs on time; competence; vision and strategic thinking; getting grants or the ability to write winning proposals; anticipation; interpersonal skills; self-management skills; and inspirational.

The following attributes and competencies were rated as the least important by both groups: concerned for own success; maverick individuality; embraces publicity and/or visibility; infectious enthusiasm; and internationally recognized as an authority on the subject. No major differences in scoring between the two groups were observed (see Table 4).

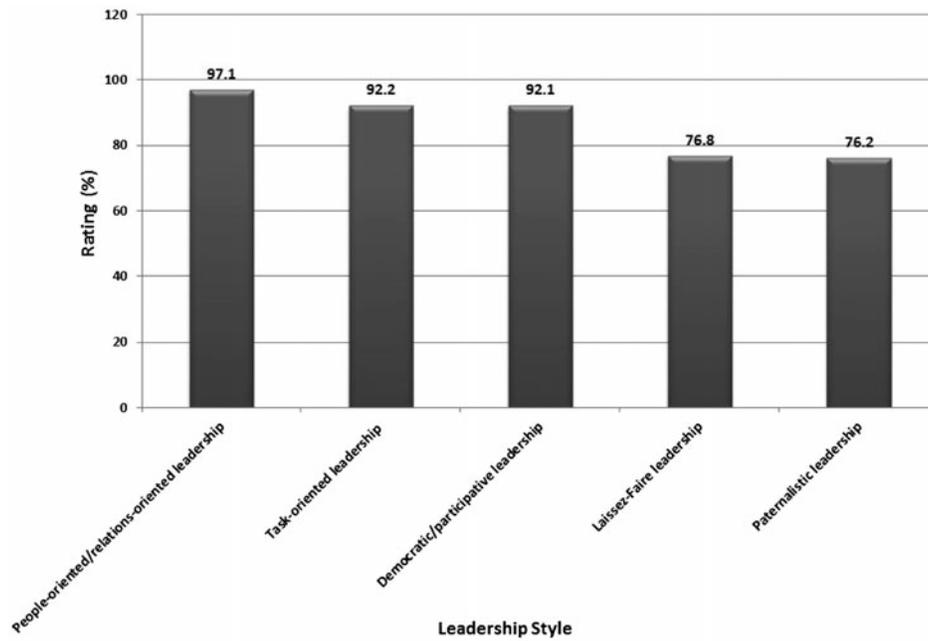


Figure 1. Leadership styles preferred by research leaders (%)

The lesson here for accelerating research leadership development in Africa is the need to integrate opportunities for the acquisitions of these attributes in programmes.

Significantly, results were very different when we asked research leaders to rate themselves on the research attributes and competencies, and asked the research team members to rate their current research leaders. Table 5 shows the percentage of responses that rated the various attributes and competencies as needing improvement. The correlation coefficient (r) this time was much lower (.521). The χ^2 test had a p -value of .0000, which means the differences in the observed and expected frequencies shown in Table 5 were not random, but statistically significant patterns. In other words, the two groups identified different areas of deficiency. The top five attributes and competencies flagged by most research leaders as needing most improvement included: getting research results into policy or practice; embracing publicity and/or visibility; raising one's international recognition as an authority in the subject; concern for own success; and maverick individuality. On the other hand, the top five attributes and competencies identified by team members as needing improvement were: internationally recognized as authority in the subject; knowing and interacting with research users; delivering outputs on time; getting grants (ability to write winning proposals); and getting research results into policy or practice.

The differences are not surprising, as these two groups have different interests. Nevertheless, there was agreement on some areas requiring improvement such as getting research results into policy or practice, and

Table 4. Important attributes and competencies of good research leaders

Attributes and competencies	Research leaders' rating (%)	Team members' rating (%)	Average rating (%)
Communication skills	98.0	99.0	98.5
Delivering outputs on time	97.1	98.0	97.6
Time management skills	97.1	97.1	97.1
Competent	96.1	97.1	96.6
Vision and strategic thinking	95.8	97.1	96.5
Anticipation	93.1	97.1	95.1
Getting grants (ability to write winning proposals)	93.7	96.1	94.9
Inspirational	92.7	95.1	93.9
Interpersonal skills	92.8	94.9	93.9
Self-management skills	92.7	94.1	93.4
Knows and interacts with research users	92.4	93.1	92.8
Love of subject	91.5	91.9	91.7
Gets research results into policy or practice	88.3	91.9	90.1
Sustained influential publication record	85.3	88.2	86.8
Ambition and/or tenaciousness	85.8	86.9	86.4
Concerned for the common good	86.8	85.9	86.4
Internationally recognized as authority in the subject	85.3	80.4	82.9
Infectious enthusiasm	78.3	84.8	81.6
Embraces publicity and/or visibility	74.0	78.8	76.4
Concerned for own success	63.4	76.8	70.1
Maverick individuality	64.3	68.7	66.5

Notes: Pearson correlation coefficient (r) = .948, p = .0000; χ^2 : p = .9999.
 Values in table are arranged in descending order of the 'Average rating'.

raising one's international recognition. This offers insights to organizations on what attributes and competencies should be emphasized in capacity-building efforts for effective research leadership in Africa. Programmes should innovatively harmonize the differences in seeking remedy.

Developing good research leaders—views from research team members

To help capture the full complexity of what makes a good research leader, we asked team members to describe their most pleasant and worst experiences in working with a research team leader and/or fellow researchers on a project. We also asked them to highlight the role the research leader or principal investigator played to make the experiences pleasant. A number of themes emerged, including the presence of a caring and non-intimidating leader and members committed to the tasks and the project. Additional themes of positive experience were good time management, meeting deadlines, team members working like a 'family' of professionals, excellent communication, team spirit and cohesion. For many, gratification came from the exchange of ideas, the use of mixed-methods approach, and the opportunity to share new knowledge and ideas with and from colleagues. Many respondents liked the fact that colleagues often came from different

Table 5. Attributes and competencies of research leadership that need improvement

Attributes and competencies	Research leaders' self-assessment	Team members assessment of research leaders	Average rating (%)
Internationally recognized as authority in the subject	20.8	35.5	28.2
Gets research results into policy or practice	25.7	19.4	22.6
Knows and interacts with research users	12.9	22.6	17.8
Embraces publicity and/or visibility	22.2	12.9	17.6
Concerned for own success	17.0	12.9	15.0
Sustained influential publication record	13.0	16.7	14.9
Delivering outputs on time	5.9	22.6	14.3
Getting grants (ability to write winning proposals)	7.9	20.0	14.0
Maverick individuality	13.7	6.7	10.2
Communication skills	4.0	16.1	10.1
Interpersonal skills	2.0	16.1	9.1
Anticipation	2.0	16.1	9.1
Time management skills	4.0	9.7	6.9
Vision and strategic thinking	5.1	6.5	5.8
Infectious enthusiasm	8.1	3.2	5.7
Ambition and/or tenaciousness	2.0	6.5	4.3
Self-management skills	1.0	6.5	3.8
Love of subject	1.0	6.5	3.8
Competent	1.0	6.5	3.8
Concerned for the common good	1.0	6.5	3.8
Inspirational	3.0	3.3	3.2

Notes: Pearson correlation coefficient (r) = .521, p = .05; χ^2 : p = .0000.

Values in the table have been sorted in descending order of the 'Average rating'.

disciplines, age categories and backgrounds. The following statements from respondents capture the flavour of working with an effective leader:

- Each member of the research team individually and collectively identified with the purpose and success of the project.
- Members regularly share ideas and experiences.
- Members monitored and reviewed the execution process for the purpose of realizing high-quality research products.
- Leadership only provided a facilitation role and contributions of all members were recognized and counted.
- There was opportunity for inter-personal interaction to explore and exchange new ideas.
- It promoted innovation and creativity, which are crucial for insightful and policy-orientated research.

The research team members described several instances when they had bad experiences, most of which had to do with ineffective research leadership. The following are examples:

- (1) leader presumes knowledge s/he does not have;
- (2) leader is not in charge of the research process and exhibits hypocritical tendencies;
- (3) leader has poor writing skills and fails to take advice from other team members;
- (4) leader is busy working on other projects and is not able to meet deadlines;
- (5) leader lacks transparency with the spending of research funds.

Several respondents indicated their leadership was more interested in financial benefits than project outcomes. Such leaders demoralized team members. The following remarks from respondents build the picture:

- The research leader took part of the money and yet failed to produce any output.
- The team was forced to borrow additional funds to complete the project.
- The team leader was not bothered with deadlines, always had a reason for not submitting a report or was not bothered at all.
- He was only available when responding to emails from the donor without consulting the co-researchers about how he should respond.
- When workshops were organized to measure progress he was busy doing his own work on a laptop computer, even during the presentations, treated co-researchers as students and just as a bunch of useless 'women'.
- He was very selfish and money-minded.
- I had to spend sleepless nights working on the reports and coordinating the project during his absence. He only said thank you when we sent the final report on his behalf.

Some questioned the optimum level of qualification for research leadership:

Most often, funding agencies prefer team leaders to be PhD holders but when it comes to real work—especially in the development of study tools and writing progress reports—these leaders often get lost and sometimes they don't know what they are writing about. At the same time, they don't want to be corrected by someone in the team who only has a master's degree, even if he is wiser and more intelligent than them.

In sum, many who had positive experience working in a research team, pointed to the importance of a good research leader. They appreciated leadership that fostered a spirit of cross-disciplinary sharing between new and experience researchers. Experience was enriched by positive debate on all aspects of a research and at different stages of the project down to the delivery of the findings. Those who indicated bad experiences pointed to the presence of a leader who had no regard for the opinion of others. Such leadership was described as weak, passive, paternalistic, clientelistic, demotivating and non-welcoming of new ideas

from others. Such leaders often acted as ‘bosses’ assigned to manage without team members’ input. Lack of transparency, effort, responsibility, respect and poor understanding of teamwork were also cited as marks of bad leadership. These results, like the results in the survey, suggest that the respondents may have ‘negatively’ interpreted the term ‘paternalistic’. In line with evidence from other research in the literature, the respondents in this study seem to be screaming out their desire for Ubuntu, but suggest it might be far from inherent or prevalent. The following responses by the research leaders to an open-ended call for suggestions to help us understand the role as a research leader suggest that Ubuntu ideas inform their leadership styles:

Yes, successful leadership in research requires transparency, accountability, flexibility, team spirit and *strong interpersonal management skills*. (emphasis added)

Personal commitment to the subject matter under study and the motivation to contribute towards humanity makes the best of a research leader.

My success is often in my vision, my initiative, my perseverance, my ability to get all the members to cooperate and my passion

Apart from my professional/technical expertise, I also improved my competence in personal mastery and soft skills

A research leader must coordinate and collaborate with all research team members rather than giving instructions and orders to others; research leaders should follow the participatory approach in any research process

Quotations by research team members also illustrate point to the need for Ubuntu-inspired leadership approach in African research settings.

The research team members were asked to give suggestions that would help research leaders become more effective. Many proposed better communication skills; creative use of all team members’ competencies; personal humility and willingness to listen to and accept the views of others. Transparency, especially on funds, was deemed crucial. This included prompt and contractually correct payments to researchers. Other suggestions included regular updates of timelines, working within deadlines, open discussion of all facets, effective planning, regular follow-up on assignments and fair distribution of tasks. The following statements are examples of what some research team members had to say:

Research leaders should be transparent, objective, humble, be seen to be concerned with the welfare and personal development of team members. Furthermore, they should be seen to have serious concern for the positive outcome of the project. They should understand that organization and their availability is important for the success of the project.

Research leaders should learn to delegate work and accept to be corrected by a junior researcher in the team. Funding agencies should also give opportunities to people who are holders of Master’s degree to be team leaders. They can be just as effective as PhD holders. During workshops where progress reports are shared, junior researchers should be given opportunities to present as a way of building capacity of future research leaders.

The lesson here is that research leadership development is important in ensuring the effective implementation of research projects and the production of high-quality research products. Also of importance is the impact of ineffective research leadership on capacity building for future leaders. These findings reinforce the need for formal research leadership training and development for current and future research leaders in Africa.

In sum, the following areas of concern must be integrated in training of research leaders:

- (1) the ethics of managing research and leading others;
- (2) managing people in a research context, particularly in an African setting;
- (3) governance, ethics and compliance;
- (4) research strategy and planning;
- (5) financial, resource and risk management.

The gender context and associated challenges

One factor evident throughout our review of the literature, focus group discussion in Nairobi, discussions with other experts and our own experiences is the paucity of female research leaders in African countries. Although largely anecdotal, this observation was confirmed by discussion of the background characteristics of respondents. To better understand why there are few female research leaders in Africa, the respondents were asked about factors that hinder women from becoming research leaders or principal investigators.

Many respondents cited historical and cultural inhibitors, reflecting unequal access to education at all levels. Here are some of the observations that put those factors in real-life context:

- In some African communities women are not expected to hold positions of authority ... women are considered to be the home-keepers.
- Some cultural practices prohibit women from taking up certain jobs, but first and more so they inhibit educational advancement for females.
- In many circumstances women do not have the higher qualifications that are required for being a principal investigator.
- In some cases men refuse to mentor women and are patriarchal in their approach, treating women as their students in research projects.
- Social responsibilities in the African context hinder women from participating meaningfully in research leadership activities. Of particular significance are domestic or household production activities, child-bearing and caring responsibilities which have to be juggled together with career demands.
- The rigor and time-consuming nature of research work vis-a-vis the demands of family life on the home front are formidable obstacles for women—especially married women and even more so when married with children.

- To work with married women and those with children, the researcher would have to somehow get connected with the husband. The husband should have trust in you that the woman is actually being mentored and developed to reach her peak in life as a researcher.
- Juggling mothering responsibilities, especially when there are under-fives at home, with being research leaders—which requires international travel as well as travel for fieldwork—can be emotionally difficult.
- Women who work in a male-dominated department may find it difficult to lead a team of men, some of whom find it difficult working under the ‘supervision’ of women.
- There are limited research mentorship programs targeting young women.
- Difficult conditions in the field (i.e. safety) can be discouraging to promising young women researchers who have the potential of becoming principal investigators.
- Patriarchal and negative cultural perceptions and socialization have discouraged women from taking any leadership positions.

Stereotyping was starkly evident:

- The major hindrance is grantsmanship—writing a proposal, submitting to a donor and getting funding. If one fails on a number of attempts, most women simply give up.
- Women’s demeanor suggests that they do not always have confidence to lead; men’s lack of support, including belittling women research leaders, does not help either; women’s frequent inability to consider research themes or activities in the context of wider strategic goals is also a major hindrance.
- Many academics, especially females, have a tendency to slow down once they reach the position of senior lecturer. Other obstacles are institutional such as the difficulty of keeping up with developments in quantitative techniques and the lack of access to online journals and databases. Women see these obstacles as insurmountable.

Such views did not resonate with all respondents, especially women.

One countered:

There are no insurmountable factors hindering women from becoming research leaders other than the compromise to get time—to reconcile and balance use of full professional opportunities and individual social life. It really depends on organization—the flexibility to balance family and research work/duties.

Respondents were also asked to offer suggestions for overcoming the gender-based constraints.¹⁰ Several called for a form of ‘Affirmative Action’ geared towards cultivating women research leaders in Africa—for instance, funding agencies and governments could create research competitions specifically for women. Another suggestion was to set aside

resources as seed money for women researchers, though others cautioned that research grant processes should be based on competence rather than 'affirmative action' which could result in complacency and limit pro-active engagement.

Other suggestions were directed at the roots of the problem—changing the culture rather than just focusing on the symptoms—and actively ensuring gender equity at all levels: in the home, in the community and at work. Measures would need to drive cultural awareness, expectation and acceptance of gender equality ... in education, literacy campaigns, opportunities in the labour force, in institutions of higher learning and among researchers, consideration of women's special roles, universal education for all, training of researchers, capacity building, mentoring, targeting and disseminating information on training opportunities, and the tailoring of training programmes. Other respondents noted that women should continue to fight for their self-confidence in all spheres, in addition to what governments are already doing to support their empowerment. The parallel need was also recognized, to sensitize men to respect women as equals, and to guide institutions on how to encourage and mentor women to be persistent and aggressive in their pursuit of research leadership. In this regard, it was suggested that all staff of institutions of higher learning should undergo gender-sensitivity training.

In sum, the relative dearth of women research leaders in Africa can be attributed to many factors, including the historic lack of educational opportunities for women; the culture of male dominance that makes many men unwilling to be led by women; the need for women researchers to balance research work with their social and domestic responsibilities, including their roles as mothers and wives; and the lack of institutional support that addresses the specific needs of women research leaders. Despite these constraints, women have, of course, shown themselves to be capable and effective research leaders when not denied the opportunity; and even when opportunity has not been readily available. As indicated by one female respondent, women in some institutions have shown that they can succeed even in the face of such obstacles and have become formidable research leaders:

... my observation and personal interactions with some women research leaders in Ghana show women can be focused and know what they are about. There are a number of women who occupy very high positions, some far higher than their male counterparts, in research leadership in Ghana.

Thus, actively addressing the roots of gender inequity in African societies with concerted efforts and assistance from governments and funding agencies will go a long way to help increase the number of women research leaders. But for this to happen, there is need to raise the number of women graduates. Elsewhere in the world (e.g. Canada and the USA), women are the majority of tertiary education graduates. In the words of one respondent, 'There is no question that with a proper mix (male and female) and effective and caring support, women can make excellent research leaders/Pis'. Meanwhile, even women who have broken the glass

ceiling continue to face constraints. Many of their challenges can however be dealt with by well thought-out programmes that specifically target women who have a successful record in research leadership.

Summary and conclusion

There is no doubt that research leaders play a crucial role in research and its translation into policy. The purpose of this study was to explore the meaning and competencies of research leadership in the African context and investigate strategies for research leadership development in the continent. Regarding the good research leadership styles, although leadership studies in Africa are still in their infancy, there are indications that research leadership in Africa is different in some ways, especially with its attention to the 'human touch'. The results indicate that respondents preferred 'people/relationship orientated', 'taskorientated' and 'democratic/participative' styles of leadership, all of which have strong elements of ubuntu. Ubuntu (humaneness) is desired and should be integral to the culture in African institutions. Thus, there is the need for carefully designed studies to probe the presence or absence of ubuntu in African research leadership.

Furthermore, both research leaders and research team members agreed on importance of the attributes and competencies: (a) research leaders should not see themselves as the boss, but as part of a team; (b) team-building skills are important so the research leader must have qualities to lead and manage a team socially and technically; (c) research leaders must have financial competencies for dealing with budget issues related to the research project; (d) research leaders also need effective communication skills to present the project to external constituencies as well as facilitate internal communication among research team members.

Regarding the gendered nature of research leadership in African institutions, respondents attributed the challenges to historical and cultural factors including lack of educational opportunities for women in some countries, the patriarchal nature of many societies, women's social and cultural roles as homemakers/mothers/wives, and institutional constraints in work environments. Some male respondents implied there was an innate tendency of many women to avoid research leadership roles, but others pointed to examples where women had excelled in leadership positions. However, even women who had broken the 'glass ceiling' as research leaders continue to face many social and institutional challenges. Suggestions for overcoming these included gender-specific leadership training and affirmative action programmes to increase the number of female researchers and research leaders.

The study also showed that leadership development for many in Africa involves mostly 'learning by doing' and informal mentoring, and less formal training opportunities. Although these approaches may have worked for some, the current system is clearly not an optimum long-term strategy for developing a cadre so important to robust research capacity. The unmet need and demand for formal research leadership development

can be seen as an opportunity, not just a problem. While respondents indicated willingness to devote time to attending training, the study did not address the ability of the researchers (or their institutions) to meet the cost. The study exposes the need to develop formal strategies to complement informal approaches. Questions emerging most strongly are: (a) What is the best institutional arrangement for delivering research leadership development in Africa? (b) What should be the role of national and international institutions in research capacity development? (c) Can African institutions and universities generate the needed resources and expertise for such programmes? (d) Should international agencies partner with African universities to deliver such programme? (e) Would interuniversity collaboration (within and across countries) be a better and more efficient strategy? (f) What roles should the private (for profit) sector play in research leadership training? In spite of these questions, it is important to realize that research leadership development must be a long-term and continuous activity, so questions about funding and sustainability should be an integral part of discussions. With reference to the gender context, there should be gender-specific programmes to address historic imbalance by helping women overcome constraints at the individual, household, community and institutional levels.

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Notes

1. Research institutions in this study include universities as well as government organizations, NGOs, think tanks and research institutes/centres.
2. We acknowledge the diversity in African states in terms of colonial history, culture, religion, political systems, etc. all of which can potentially affect the institutional and research culture in different countries. Thus, our conclusions should be treated with caution since the empirical data for the study was collected from English-speaking researchers.
3. There are several types of mentoring. Chao, Walz, and Gardner (1992) classify mentoring into formal and informal based on how the mentoring relationship is initiated. Other researchers classify mentoring into three categories based on the relationship between the mentor and the protégé: traditional (mentors performs the classic ‘godfather’ role for the protégé), step-ahead (i.e. an individual one level above in the organizational hierarchy) and peer (an individual who is one hierarchical level above the protégé or in a position that would be the protégé’s next logical step in their career progress) mentoring (Darling, 1986; Ensher, Thomas, & Murphy, 2001). Since most institutions in Africa do not have formal mentoring arrangements, we limit our discussion of mentorship to the informal traditional type.
4. The point here is not to argue that there is an overarching ‘African’ culture on the basis of ‘common otherness’. Indeed cultures across Africa are notably diverse; sometimes dramatically so, even when in close geographic proximity, and often, in ways crucial to the subject of this

study (e.g. the status of women). In similar way, the claim that leadership in Africa is characterized by human touch is not meant to insinuate that leadership in ALL non-African cultures lacks the human touch.

5. 'Ubuntu' is a highly humanistic concept of interdependence. Ubuntu 'dictates that, if we [are] to be human, we need to recognize the genuine otherness of our fellow citizens' (Louw, 2002, p. 8). It offers a powerful frame for sense-making capable of holding the paradox of individual and community in dynamic and interdependent tension. This is global, universally human and the essence of Democracy. The word Ubuntu has been adopted because it is a good summary, not a unique or new concept.
6. This study is part of a larger study commissioned by PASGR. See <http://www.pasgr.org/capacity-building-for-research-leadership-the-need-support-and-strategies-for-growing-african-research-leaders/> for the entire report from the study.
7. Respondents were selected grant recipient databases of the Africa Economic Research Consortium (AERC), Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) and International Development Research Centre (IDRC).
8. See <https://www.surveymonkey.com/>.
9. These definitions were adopted from James Manktelow and Amy Carlson's list of leadership styles available at http://www.mindtools.com/pages/article/newLDR_84.htm.
10. We acknowledge that addressing these sociocultural bias and gender-based constraints requires cultural change at the individual, household, community and institutional levels. Given that researchers are situated in a broader cultural context of their various countries, recommendation for a cultural change and suggesting ways to accomplish this is beyond the scope of this project.

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