Accepted Manuscript

Intelligent career success: The case of distinguished academics

Mina Beigi, Melika Shirmohammadi, Michael Arthur

PII: S0001-8791(18)30053-8
DOI: doi:10.1016/j.jvb.2018.05.007
Reference: YJVBE 3179

To appear in: *Journal of Vocational Behavior*

Received date: 28 August 2017
Revised date: 7 May 2018
Accepted date: 9 May 2018

Please cite this article as: Mina Beigi, Melika Shirmohammadi, Michael Arthur , Intelligent career success: The case of distinguished academics. The address for the corresponding author was captured as affiliation for all authors. Please check if appropriate. Yjvbe(2017), doi:10.1016/j.jvb.2018.05.007

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

ACCEPTED MANUSCRIPT

Intelligent Career Success: The Case of Distinguished Academics

Mina Beigi*

Lecturer in Organisational Behaviour and Human Resource Management

University of Southampton

Email: M.Beigi@soton.ac.uk

Telephone: +44 (757) 047-4830

Address: Building 2, 12 University Road, Highfield, Southampton, SO17 1BJ

*. Corresponding author

Melika Shirmohammadi

PhD in Human Resource Development

Texas A&M University

Email: melika@tamu.edu

Telephone: +1 (979) 739- 1464

Address: 574, Harrington Office Building, College Station, TX, USA, 77843

Michael Arthur

Professor

Suffolk University

Email: marthur@suffolk.edu

Address: 370M, Sargent Hall, Boston, USA, MA 02108-2770

ACCEPTED MANUSCRIPT

ACCEPTED MANUSCRIPT

Intelligent Career Success: The Case of Distinguished Academics

Abstract

The purpose of this qualitative study is to contribute to the scholarship on career success within a boundaryless career context. Within the body of boundaryless careers research, we adopt the intelligent career framework to highlight success factors described by twenty-eight distinguished academics (DAs) and eight of their spouses to illustrate the DAs' approach to extreme success in academia. Our results further support the existence of six unidirectional links as well as further links between the framework's three "ways of knowing" that have not been thoroughly examined in the career success literature. Our findings have theoretical and practical implications for career scholars and practitioners.

Keywords: three ways of knowing; intelligent career; boundaryless career; qualitative research

ACCEPTED MANUSCRIPT

ACCEPTED MANUSCRIPT

Intelligent Career Success: The Case of Distinguished Academics

Introduction

To respond to the contingencies of contemporary work, new approaches to careers have emerged, such as protean careers (Gubler, Arnold & Coombs, 2014; Hall, 2004), boundaryless careers (Arthur & Rousseau, 1996), post corporate careers (Peiperl & Baruch, 1997), and kaleidoscope careers (Mainiero & Sullivan, 2005). Among these approaches, the boundaryless career, ideally reflecting "independence from, rather than dependence on, traditional organizational career arrangements" (Arthur & Rousseau, 1996, p. 6), has received the highest scholarly attention (Lee, Felps, & Baruch, 2014). In boundaryless contexts, building a career calls for the acquisition of career competencies to be the responsibility of the individual (DeFillippi & Arthur, 1994). In line with that observation, we adopt the same authors' definition of boundarlyless careers as "sequences of job opportunities that go beyond the boundaries of single employment settings" (DeFillippi & Arthur, 1994, p. 307).

Despite the persistent recent interest in boundaryless career contexts, there is a dearth of knowledge on career success within these contexts (Arthur, Khapova, & Wilderom, 2005; Eby, Butts, & Lockwood, 2003; Ng & Feldman, 2014). Research has shown that human capital, organizational sponsorship, demographic characteristics, and individual differences account for successful progression within an organization (Ng, Eby, Sorensen, & Feldman, 2005). However, we have limited knowledge about the contingencies of career success when an individual's career is not limited to a single organization. We need to know more about what it entails to be successful within a boundaryless career context to better inform theory-building and practice.

The purpose of this qualitative study is to contribute to the scholarship on career success within a boundaryless career context. One way to examine success factors in boundaryless

ACCEPTED MANUSCRIPT

careers is through the intelligent career framework, involving "three ways of knowing" concerned with 'knowing why', 'knowing how', and 'knowing with whom' people work (Arthur, Khapova, & Richardson, 2017; Parker, Khapova, & Arthur, 2009). Using this framework, we highlight the success factors described by twenty-eight distinguished academics (DAs) and eight of their spouses to illustrate the DAs' approach to extreme success in academia. We also extend the literature on the intelligent career framework by supporting six links between the three ways of knowing that have been theoretically discussed, but not thoroughly examined, in the career success literature. In this paper, we focus on the careers of distinguished professors who are extreme cases of career success. Academic careers, despite being well-established, have distinctive characteristics of boundaryless characteristics that we will further describe in the next section. In focusing on DAs, this study complements previous quantitative studies reporting the three ways of knowing as prerequisites of success in a boundaryless career (e.g., Colakoglu, 2011; Eby et al., 2003). We build on these authors' findings and address their call for further investigation of the relationships involved.

We draw part of our data from another study that looked at the interface between professional and personal lives of DAs (Beigi, Wang, & Arthur, 2017). The intelligent career framework was not adopted in the original study, and did not guide our research questions, but emerged while reanalyzing the data set. We present it in the next section for clarity of reading.

Literature Review

Career Success

Career success is "the accomplishment of desirable work-related outcomes at any point in a person's work experiences over time" (Arthur et al., 2005, p. 179). The transition from "old" (i.e., traditional, organization-based) to "new" (i.e., contemporary, boundaryless) careers

ACCEPTED MANUSCRIPT

gradually shifted scholars' focus from objective measures to subjective meanings of success (Coyle-Shapiro & Shore, 2007; Turnley & Feldman, 1999). The objective aspect of career success is mostly concerned with observable attainments such as pay and promotion (Barley, 1989; Judge & Hurst, 2008; Seibert, Kraimer, & Liden, 2001). Subjective career success refers to an individual's judgments of his or her career based on perceptions of personal career attainments (Gunz & Heslin, 2005).

Examining career success from only objective and subjective perspectives has been criticized for not capturing all possible dimensions people may use to make sense of their career success (Arthur et al., 2005; Heslin, 2005). Thus, questions regarding the relative importance of each measure of success (Lee et al., 2014; Stumpf & Tymon, 2012) and their interdependencies over time call for further research (Abele & Spurk, 2009; Spurk & Abele, 2014). Moreover, in response to the above criticisms, scholars have focused on the meaning individuals associate with their career as life themes (Savickas, 2009), explored multi-dimensional models of career success (Dries, Pepermans, & Carlier, 2008; Mayhofer et al., 2016), and approached career success from a social construction lens, as a dynamic concept (Dries, Pepermans, & Carlier, 2008). Lately, Heslin and Turban (2016) argued that career success is an emergent process— as opposed to a cumulative outcome— being more about the quality of the journey than the destination.

Boundaryless Career Success

Despite the extensive interest in boundaryless careers (Lee et al., 2014), they have not been widely explored in mainstream career success literature (Ng et al.; 2005; Ng & Feldman, 2014). Arthur et al.'s (2005) review showed that few of the 80 studies conducted over 11 years conceptualized or operationalized career success in ways that could help in further understanding

ACCEPTED MANUSCRIPT

boundaryless careers. Recent meta-analysis studies on career success found almost no study involving both career success and boundaryless career variables (Ng & Feldman, 2014). Given the persistent labor market conditions underlying employment mobility (Kirschenbaum & Mano-Negrin, 1999; Maree, 2017), and the growth of horizontal mobility in organizations as an alternative to upward mobility (Chudzikowski, 2012), traditional career success approaches might fail to explain the behavior of those who seek to find success in a boundaryless career context (Arthur et al., 2005; Culie et al., 2014).

Career success factors highlighted in traditional career success scholarship emphasize human capital, organizational sponsorship, demographic and personality predictors to examine career success (Ng et al., 2005). In contrast, the intelligent career framework, inspired by the boundaryless career, suggests that success stems from personal experience involving *why*, *how*, and *with whom* one works and can be achieved through following one's own path. Instead of responding to visible and flattering definitions of success, pursuing what one wants can bring personal success, and along the way further economic success (Arthur et al., 2017). Intelligent career success depends on taking ownership of one's career and investing in three specific competency areas that go beyond any single employment setting (DeFillippi & Arthur, 1996).

The Intelligent Career Framework and Career Success

Initial writing on the competency-based view of individual careers (DeFillippi & Arthur, 1994) built on scholarship about the "core competencies" of the knowledge-driven firm – it's culture, know-how, and networks). DeFillippi and Arthur (1994) urged an uncommon argument at the time: individuals could think about their contributions to the knowledge economy on their own terms, rather than as subordinates of the firms that employed them. The notion that people can take responsibility for their careers was further developed through the subsequent "intelligent

ACCEPTED MANUSCRIPT

careers" article (Arthur, Claman, & DeFillippi, 1995), which articulated that such careers depend on three "ways of knowing" concerned with *why*, *how*, and *with whom*[1] to work.

Broadly defined, *why* reflects the motivation to work and career identity; *how* concerns job-related skills and knowledge; and *with whom* addresses relevant relationships and networks (Parker, 2008). *Why* answers the critical question 'Why do I work?' It represents the extent to which the individual identifies with the organization, occupation or industry, his/her non-work circumstances and adaptability (Parker & Arthur, 2015). *How* targets the question of 'How do I work?'. Investment in *how* competencies includes developing knowledge, expertise, and skills that are needed to perform successfully along a career path over time (Arthur et al., 2017). *With whom* concentrates on questions of 'With whom do you work?' and includes answers to questions about both personal and professional networks within and outside organizational contexts (Parker & Arthur, 2015).

We identified three previous quantitative studies that examined the impact of the three ways of knowing on career success. Eby et al.'s (2003) analysis of survey data from 411 participants (alumni) provided initial support for the predictive value of three ways of knowing for perceived career success. Colakoglu (2011) showed that the three ways of knowing are essential for individuals to construct autonomous and self-directed careers as well as to reduce the uncertainty of their boundaryless careers. Such career autonomy was then instrumental in attaining subjective career success. Born and Witteloostuijn (2013) confirmed the usefulness of the three ways of knowing for explaining subjective career success (i.e., career satisfaction) and objective career success (i.e., individual revenue) among freelance workers. This study will

[1] In the remainder of this paper, we use short forms of *why*, *how*, and *with whom* in reference to the 'knowing why', 'knowing how', and 'knowing with whom,' as used in Arthur et al.'s (2017) recent intelligent career book.

ACCEPTED MANUSCRIPT

complement those findings by asking open-ended questions regarding success in a boundaryless world, which might yield success factors missed in earlier quantitative studies.

Links between the three ways of knowing

One integral aspect of intelligent career theory since its emergence has been the interrelationships among the three ways of knowing (Sullivan & Arthur, 2006). However, these relationships have rarely been studied (Parker et al., 2009). A number of applications of this framework have used the term "career capital", which refers to the non-financial assets that accrue to people making investments in the three ways of knowing (Arthur, Inkson, & Pringle, 1999; Singh, Ragins, & Tharenou, 2009). However, empirical research has often examined these variables in isolation, and with little consensus on how to operationalize the three categories (e.g., Dickmann & Dohery, 2008; Jokinen, Brewster, & Suutari, 2008; Suutari, & Mäkelä, 2007).

Parker and colleagues (2009) reviewed the interrelationships among *why*, *how*, and *with whom* and demonstrated how the bi-directional links across the three ways of knowing were aligned with separate scholarly perspectives. For example, the link from *why* to *how* was aligned with ideas from vocational guidance (that individual differences predicted job satisfaction); while the link from *how* to *why* was aligned with ideas about job design (that the nature of jobs affected individual motivation). The authors also showed that one can find similar contrasts by circling the rest of the framework: for example, between leadership theory (*how* to *with whom*) and theory on group norms (*with whom* to *how*); or between sociological theory on reference groups (*with whom* to *why*) and psychological views on the selection of friends (*why* to *with whom*).

To our knowledge, three qualitative studies that involved intelligent career behavior have reported evidence of links between the three ways of knowing. Parker (2005) observed

ACCEPTED MANUSCRIPT

relationships among the three ways of knowing in a study of 62 Pacific Island professionals participating in a leadership development program. Other studies are the study of the information technology clusters in Grenoble, France, by Culie et al. (2014) and the study of entrepreneurial careers by Zikic and Ezzedeen (2015). However, these studies were not directly focused on understanding career success. Thus, we return to our purpose "to contribute to the scholarship on career success within a boundaryless career context through using the intelligent career framework" posed earlier. We pursue this purpose by studying extremely successful individuals (twenty-eight DAs), and exploring six links between the three ways of knowing that have been theoretically discussed, but not fully examined, in the career success literature. Examining the DAs careers presents a unique opportunity to apply the intelligent career framework in the study of successful boundaryless careers.

Academic Careers as Boundaryless Careers

Academic careers can be characterized as boundaryless careers (De Janasz & Sullivan, 2004). An academic can move his or her career and research agenda from one university to another, which implies high mobility beyond the boundaries of a single organization (Baruch & Hall, 2004; Bauder, 2015). Empirical evidence suggests that such mobility positively impacts academics' career progression (Bedeian, Cavazos, Hunt, & Jauch, 2010) and productivity (Dubois, Rochet, & Schlenker, 2014).

From the competency-based view of careers, occupations serve as platforms for learning, which in turn enable boundaryless career activities (DeFillippi & Arthur, 1994). In turn, for academic professionals, investments in occupational/professional competencies can provide an attractive alternative to organizational dependency. Academics who are committed to their profession or discipline rather than their university can be classified as boundaryless career

ACCEPTED MANUSCRIPT

actors (Baruch & Hall, 2004). Moreover, there is evidence that professors whose identity is derived from their profession, rather than their institution, view themselves as mobile and possess boundaryless career characteristics (Feldman & Turnley, 2004; Bekhradnia & Sastry, 2005).

Commitment and contribution to the discipline help academics gain professional recognition among their peers and academic community (Bailyn, 2003; Baruch & Hall, 2004). Leading individual-centered rather than organization-centered academic careers allows academics to build relationships outside their institution (Dowd & Kaplan, 2005). This will expand their network outside the current employer and promote their physical and occupational mobility, often including international mobility (Baruch, Dickmann, Altman, & Bournois, 2013; Bekhradnia & Sastry, 2005; Maadad & Tight, 2014).

In the boundaryless academic career, advancement takes place in reputational terms as academics increase their knowledge, skills and reputation within the wider community of peers (Harley, Muller-Camen, & Collin, 2004; Loacker & Śliwa, 2016). Thus, a key success criterion becomes international reputation and recognition, measured by the number of citations to the academic's work (Baruch & Hall, 2004). A DA can be seen as an archetypical boundaryless career academic who has achieved the highest level of recognition within his/her disciplinary community.

Baruch and Hall (2004) argued that the three ways of knowing are "part of the intrinsic nature of the work in academe" (p. 248). They theoretically discussed the *why* (e.g., an urge to explore and be scientific), *how* (e.g., cerebral abilities, emotional intelligence, and resilience), and *with whom* (the right connection and networks) as characteristics of the academic career model. Empirical research has offered evidence that gathering information regarding the three

ACCEPTED MANUSCRIPT

ways of knowing through multiple mentoring relationships (De Janasz & Sullivan, 2004) or accumulation of economic, social, and cultural capital enable professors' career progress and development (Duberley & Cohen, 2010). This study will complement those studies through focusing on academics who have the highest possible rank within their organizations (distinguished professorship), whose work has both affected the mainstream research in their fields, and made a significant impact at the international level.

Methodology

This study adopted an interpretive methodology that presupposes reality and meaning are created as people engage in social interaction (Crotty, 1998). The interpretive qualitative researcher is interested in exploring and describing how people construct meaning through their worlds: that is, in how they interpret their experiences and attribute meaning to those experiences (Merriam, 2002). We share the view that generation of narrative accounts is a powerful method in career research (Cohen & Mallon, 2001). A narrative account gives valuable context to particular career events, reflects the career to date, highlights key issues of the past and the present, and projects forward to future plans (Chase, 2011; Chase 2018; Cohen, 2006; Cohen, Duberley, & Mallon, 2004).

Participants

We interviewed two groups of individuals (see Table 1). The first group consisted of 28 DAs (25 male); there were two DA couples among our participants. The DAs were employed at a research-intensive university in the US at the time of the study, and were among the top two to five percent of scholars in their fields of study worldwide. They were selected by a committee inside the university and were judged based on their contributions during their entire career, not just the period they spent at the target university. Among the participants, there were DAs whose

ACCEPTED MANUSCRIPT

work was among the most highly-cited works in their field of study, DAs who were part of a Nobel Prize-winning team, and DAs whose theoretical contributions had created a quantum leap in their field of study.

The second group of participants comprised eight DAs' spouses who provided their perspectives on the DAs' careers. As mentioned in the introduction section, our data comes from another study that focused on the DAs only. After analyzing the DAs' interviews, we decided to contact the DAs' spouses to triangulate our data.

Insert Table 1 about here

The average academic experience of the DAs was forty-one years (calculated since they obtained their Ph.D.); on average, the DAs have moved three to four times between institutions during their career journeys. Twenty-five DAs were married at the time of the study and their number of children ranged from none to six. The two DA couples had no children, and the female DA with a non-DA husband had three children. Five spouses were professionals in a variety of other fields, two were academics at the same institution, and one was a housewife.

Data Collection

Semi-structured interviews were our main data collection method (interview questions are shown in Appendix 1). However, we considered the DAs' CVs, their Wiki pages, google scholar citation records, and available online information to ask relevant follow-up questions about the DAs' achievements during the interviews. We contacted the DAs through their public emails published on the university website and made interview appointments with those who agreed to be interviewed. The majority of the interviews were done in the DAs' offices, and we asked for their consent and permission to record the interview before conducting it.

ACCEPTED MANUSCRIPT

The DAs' spouses were contacted a few months after the DAs were interviewed when we were approved by the Institutional Review Board (IRB) to expand our data collection. We wrote to the DAs, informed them about our intention to contact their spouses and asked them to pass our invitation email to their spouses if they showed interest in being interviewed. Eight spouses agreed to become part of the study. Interviews with spouses occurred at either a coffee shop or their houses. We decided not to conduct these interviews in the DAs' offices to make sure the spouses were not under pressure to talk positively about the DAs' careers. Although our consent form mentioned that we did not plan to use any identifiers when reporting our data, we emphasized it at the beginning of the interview to make the spouses feel more comfortable with sharing their ideas. Finally, during the interviews with spouses, we never revealed any of the DAs' responses— even if we noticed similarities with what the spouses were saying or when we noticed differences between the responses. The interviews lasted thirty to ninety minutes. Interview recordings were transcribed by professional transcribing services.

Data Analysis

The idea of adopting the intelligent career framework as our theoretical lens for data analysis emerged while one of the authors was engaged with analyzing part of the dataset for another project. Although we did not design our interview questions based on the intelligent career framework, while describing the interface between their personal and professional lives, the DAs shared rich descriptions of *why*, *how*, and *with whom* they worked. Therefore, we analyzed the current study's dataset informed by the intelligent career framework. Our approach is aligned with Jackson and Mazzei's (2011 and 2018) recommendations to borrow theoretical concepts from the literature and plug them into the analytic process to integrate theory and data.

ACCEPTED MANUSCRIPT

To analyze the data, first we read the transcripts a few times and coded quotations that referred to *why*, *how* and *with whom*. In the next stage, through an iterative process of adding, deleting, merging, and renaming the codes (Merriam, 2002), we grouped them and labeled them as sub-categories under the three ways of knowing. When placing sub-categories under each way of knowing, we did not confine ourselves to the existing literature, and allowed our data to speak for itself. In other words, as Jackson and Mazzei (2011 and 2018) recommend, we did not merely borrow the concepts and fit data into them. For example, the sub-categories that emerged under *how* in our analysis are different from the ones presented in the original framework or in previous empirical studies (e.g., Zikic & Ezzedeen, 2015).

The iterative process was facilitated by three authors who met frequently to discuss and reach consensus on sub-categories and labeling them. In a few cases, we had lengthy discussions and referred to the literature multiple times to decide which of the emerging sub-categories belong to which of the three ways of knowing. For example, one of the authors believed that 'family members' belonged to *why* because many individuals work to provide for their families, while the other two authors argued that based on our data, family members supported careers of the participants; therefore, this category belonged to *with whom*. This round of analysis resulted in 11 sub-categories under the three ways of knowing (details of data analysis can be made available upon request). We chose to only include the sub-categories that were reported by at least 10 DAs.

We also analysed the data collected from eight spouses based on sub-categories associated with the three ways of knowing to triangulate our data, and to see if DA spouses shared DAs' understanding of their careers or provided different perspectives. Data triangulation

ACCEPTED MANUSCRIPT

is a strategy of validation in qualitative research that includes using different sources of data to examine the phenomenon from different persons' perspectives (Flick, 2018; Patton, 2002).

In the next stage, while we were in the process of reviewing the quotations associated with each sub-category and selecting the most representative ones to be included in the manuscript, we observed that in many cases the three ways of knowing did not function separately and were connected to one another in various ways. Therefore, we reanalysed our data to see if this pattern existed among sub-categories associated with each way of knowing. Through this analysis, we learned that sub-categories under each way of knowing could be linked to other sub-categories under the other two ways of knowing, which resulted in six links (that is, *why* to *how* and *how* to *why*, *how* to *with whom*, and *with whom* to *how*, *with whom* to *why* and *why* to *with whom*). We also learned that, other than the six separate links between the three ways of knowing, our data revealed cases where one way of knowing (e.g., *why*) made a connection between two other ways of knowing (e.g., *how* and *with whom*). The second section of our findings describes these links in detail.

We used three strategies suggested by Lincoln and Guba (1985) to maintain trustworthiness in this study. First, the first author, as lead on data analysis, kept a reflexive journal to document her thoughts, reflections, and reading of the data. The journal was updated after each interview, and it played a major role in the decision to adopt the three ways of knowing framework. Appendix 2 showcases two excerpts from the reflexive journal. Second, as part of a peer debriefing process, we asked a colleague familiar with qualitative data analysis and not part of our study to comment on our data analysis and to see if it made sense. Third, we interviewed eight participants' spouses to triangulate sources of data.

ACCEPTED MANUSCRIPT

Findings

In this section, we will describe sub-categories relevant to each way of knowing, and the six links identified between the three ways of knowing, along with representative supporting quotations from the interview transcripts.

Three Ways of Knowing

Why

We asked the DAs to describe why they pursued academic careers for such an extended time, what motivated them to shape the building blocks of success one after another, and why they kept working hard (as evident in their CVs) after they were tenured and promoted to full professorship. Based on the participants' responses, we developed three sub-categories, drive, identity, and opportunity-taking, which are described below and accompanied by an example from the interview transcripts.

Drive. The DAs were extremely driven in their research careers and explorations. Their motivation for work was intrinsic and had not decreased after gaining tenure or being highly recognized by their professional communities. DA_9, who had forty-seven years of experience in his field, shared with us,

> I think … people who are successful at whatever job they have are driven just internally… For example, every Thursday … the Web of Science adds to your new citations for the week… so every Thursday the first thing I do is check. Now, that sounds ridiculous when … no one is going to give me anything … but it's all personal … that's the interesting thing; you're almost more driven. (DA_9)

Identity. The DAs believed that their academic field and research had become part of their identity; in other words, the DAs identified themselves as scientists, researchers, and later

ACCEPTED MANUSCRIPT

research mentors among others. As a result, their investment in their work went far beyond what was expected of them. DA_{11} confirmed this sub-category as follows:

> I have about 20, 25 years [left] in my head … That's dangerous … If I retire I'll go on doing it … Maybe I'll ask for a room and computer and go on doing the same thing because I don't know what else to do. That's the most exciting thing I can do (DA_{11})

Opportunity-taking. We observed that for some of the DAs, the start or acceleration of their careers depended on taking advantage of opportunities as they arose, and were not necessarily pre-planned. The opportunities emerged from multiple sources, including networks and random life events. DA_1 described his reason for entering physics as follows:

> I mean I didn't actually choose exactly the field of physics … I'm happy to have chosen the one I did but I chose it in a very haphazard way. I lived in Montréal. I went to McGill University … and there was a nuclear physics lab there … And I liked physics … Many things in life … are random… It's just who you happen to meet or what's … what's nearby or you know that kind of thing. (DA_1)

How

Informed about the large number of publications and scholarly achievements of the DAs through their CVs, we asked questions about their approach to work. We were interested in the competencies or skillsets the interviewees believed helped them remain productive while juggling their academic responsibilities. *How* comprised five sub-categories that we will briefly describe below.

A blue-ocean strategy. When the DAs shared their career story, in many cases it was evident that when selecting their research agenda, they were smart enough to adopt a blue-ocean strategy (Kim & Mauborgne, 2004). This strategy involves finding a research topic that is

ACCEPTED MANUSCRIPT

unexplored, giving them a higher chance of success and recognition for their work. The DAs sought out research areas that were untapped, and this led to them making significant contributions to their field. DA_{11}'s approach to selecting research topic illustrates this strategy:

> What I try and do is not do problems that lots of other people are doing, … because then you're in a constant rat race to move forward … I'm pretty careful about picking things … that are important but they're not hot. (DA_{11})

Hard work, persistence, and sacrifice. The DAs persistently worked hard, spent long hours at work, and worked non-traditional hours for decades. Working over the weekends and nights, not having children in a few cases, or other sacrifices freed hours for the DAs to work and to expand their research agenda in addition to their regular teaching, service, and research responsibilities. As DA_{12} asserted, "You don't have to work as hard as I work, but if you want to be successful you have to be willing to put in a lot of hours" (DA_{12}).

Remaining active and updated. The DAs updated themselves on a regular basis. Some DAs wrote research grants regularly, which required them to have comprehensive knowledge of their field and its needs. Some DAs had systematic approaches that helped them remain up-to-date, some followed authors with similar research interests, and some read the updated literature based on their ongoing projects and scholarly commitments. For example, DA_6 said,

> … every day I read literally everything about what's happening in my field. Astronomy is a small field; there are only about 6,000 astronomers in the world and so it's still a science where I can … scan through and see what everyone is doing around the world and so I can keep on top of it. I love it. (DA_6)

Prioritizing. The DAs were aware of their priorities at different stages of their careers, monitored their schedules, and made sure they did not spend time on tasks that were not a

ACCEPTED MANUSCRIPT

priority. For example, when planning their workday, the DAs prioritized what best helped their research and writing, and they refused projects that would distract them from their priorities. DA_4 who was the head of a research centre shared with us,

> I was always pushed really hard to keep in mind that publishing and, you know, your research is the key to success. Everything else is secondary. So even when I was department head, and since I've been here, I've kept a very active profile. (DA_4)

Developing work habits and saving space. Almost all the DAs saved some space for concentrating on their research writing (e.g., not doing anything but writing one day a week, writing over the weekends, keeping the door closed at certain times). A few DAs told us that they were constantly involved with writing unless they were busy with other academic or personal responsibilities. When describing his work style, DA_2 said, "I'm very much a creature of habit … I believe that to write you have to write as much as you can, whether you want to or not … and since I generally enjoy doing it that's okay" (DA_2).

With whom

The DAs worked with multiple groups and collaborators over their careers, and they all had families who played key roles in their careers. For the DAs, *with whom* consisted of three main groups described below.

Mentoring graduate students. The fact that our DA interviewees worked for a research-intensive university gave them the opportunity to advise Ph.D. graduate students. After a rigorous admission process, the DAs would do their best to mentor the students, and part of that was teaching them how to conduct research and write scholarly papers. In the majority of cases, this paved the way for enhancing their number of publications or developing future collaborators. Accordingly, DA_5 asserted, "Most of [my] papers were with my grad students or my postdocs as

ACCEPTED MANUSCRIPT

first author, so I consider a very serious part of my job training PhD students, Master students and postdocs … it's very important for me … to get them to publish" (DA_5).

Networking and national and international collaborations. The DAs worked with colleagues and research teams both inside and outside their immediate institutions. The initiation of the scholarly collaboration could be working in the same department, networking at a research conference or symposium, having a post-doctoral assistant, approaching or being approached by someone with similar or complementary research interests, and referrals. Collaborations were highly valued by all the DAs, and they believed that internet access allowed them to increase their international collaborators. International collaborations not only allowed the DAs to gain novel experiences but also, in some cases, would set the stage for them to become established as global figures in their field of research. Along the same lines, DA_{10} argued, "I need [to collaborate] because I don't have all the instrumentation that I need, that I could use for my projects" (DA_{10}).

Family members. Our findings showed that the DAs received full support from their spouses and family members. In many cases, the DAs' family supported them, or when they had to travel and be away from their family when they needed to devote extensive hours to their academic work. In addition, the DAs' family members showed flexibility when the DAs moved institutions to benefit their career or when assuming responsibility for extra household chores. Along the same line, DA_{28} shared,

> I've been really fortunate. I feel like my family … has never … complained about things. In fact, … when things are very stressful, and [my husband] knows that I'm … stressed at home, he'll say, 'Just go to work' you know, so I always have this safety net of they're always willing to sacrifice just to make sure that my work [matters]. (DA_{28})

ACCEPTED MANUSCRIPT

Spouse Perspectives

Despite focusing on the DAs' careers only, we interviewed eight of their spouses and analysed their data against our findings to triangulate our data and compare their viewpoints with that of the DAs. Three of the sub-categories (drive, remaining active and updated, and family members) were mentioned by all the spouses; the other sub-categories were mentioned by at least four spouses. Below, we describe the spouses' views on the three ways of knowing.

Why

The spouses believed that the DAs were extremely driven in their work, identified with their careers, and had taken benefit of opportunities they encountered in their careers. The three sub-categories of *why* are evident in the three quotations below.

> It's just part of him … he loves it. He loves the students and he loves teaching, and he loves research … he enjoys math. He enjoys work. (Drive; $Spouse_3$)
>
> … the idea of retirement … we've been talking about it for three or five years … it's a transition because … once he's not a nuclear physicist anymore, what is he? (Identity; $Spouse_1$)
>
> Did he tell you the story of why he went into genetics? … he had decided he would go to dental school …the only thing left was genetics … [he tried so hard to pass the course despite not having taken the prerequisites and] he was totally fascinated … then went into grad school rather than into dentistry, which was a good thing … (Opportunity-taking; $Spouse_5$)

How

Although the skills and competencies needed to conduct an academic job are not necessarily observable by others, each sub-category in *how* was mentioned by at least four

ACCEPTED MANUSCRIPT

spouses; the five examples below illustrate spouses' perceptions of *how* DAs pursued their academic careers.

> … he always thought that he could do whatever he set his mind to … in terms of his career, I think that in some of the stuff, he's been out front. So that he writes the article and makes - draws things together. (A blue-ocean strategy; $Spouse_2$)
>
> … he likes what he's doing … [he works] seven days a week. (Hard work, persistence, and sacrifice; $Spouse_2$)
>
> Right now, I think he has at least two book projects … that he … has committed for the next couple of years; and … he's definitely still … producing a lot of work. (Remaining active and updated; $Spouse_7$)
>
> When I talked to [my husband] or I need to talk to him about something, he [prioritizes] me. (Prioritizing; $Spouse_1$)
>
> He is incredibly aware of how much time he spends doing things … So he could tell … that month was terrible for research … he tracks. (Developing work habits and saving space; $Spouse_7$)

With whom

Similar to what the DAs shared with us, DAs' spouses highlighted the importance of *with whom* the DAs worked for their successful careers as shown in the following quotations.

> Now [he puts] much more of a focus on students … in response to some of the things he saw. (Mentoring graduate students; $Spouse_2$)
>
> He's … enormously collaborative, which is frankly not that common … from my perspective and from some other people who I've talked to in the sciences. It's not that

ACCEPTED MANUSCRIPT

common in the humanities and in the liberal arts. (Networking and national and international collaborations; $Spouse_7$)

I manage everything [at home when he needs] to focus on science. (Family members; $Spouse_6$)

Links among the Three Ways of Knowing

Through our analysis, we learned that the three ways of knowing did not function separately and were connected to one another in various ways. This was evident through examples of sub-categories in each way of knowing that informed sub-categories in the other two ways of knowing. Below, we describe the six possible links from one way of knowing to another and illustrate those links through examples from the interview transcripts. For clarity, when describing each link, we only emphasize the three ways of knowing and do not mention their associated sub-categories. However, all examples include at least two of the sub-categories described in the previous section.

Why* to *how

Our analysis demonstrated several pathways from *why* to *how*. The DAs' motivation for their work through their career and their curiosity for finding answers to unsolved problems (*why*), informed the strategies they adopted for their professional decisions and work styles (*how*). Identifying themselves with their specialties and research areas (*why*) helped the DAs determine their priorities, motivated them to remain updated in their fields of study, and continue their passionate hard work (*how*). When telling us why he was intrinsically motivated to do research work, DA_1 shared with us an example of how passion and identity (*why*) informed his hard work (*how*):

ACCEPTED MANUSCRIPT

> I have been always a scientist ... It's been something I've wanted to do. I don't think I ever thought I'm doing this to get ahead or to be better than the next guy … the whole idea of science is I want to know an answer… it all has to come from within (*why*) … the myth of the-the smart guy in the corner who can do everything in no time at all and never write it up but just be a genius … I've never met such a person … if you don't work hard (*how*) you don't get the first look. (DA_1)

We also observed that when the DAs valued opportunities (*why*), it paved their way for exploring new challenging research areas (*how*) and helped them take actions that were not available otherwise. DA_{10}, who said she was fortunate to have the opportunity to explore an untapped research area within her field, shared:

> I've always been one to … believe in carpe diem … seize the day. I am excited about things that chemistry applies to (*why*), and when we moved to [this institution] I wanted to expand my horizons and so I looked in a new direction and I saw an area there that … I thought I could … use some of my knowledge to contribute to that area (*how*). (DA_{10})

How* to *why

The DAs' approach to work and their day-to-day work decisions and actions (*how*) also informed or confirmed their work values, identity, and motivations (*why*). Remaining up-to-date, working on untapped research topics, and sacrificing their personal or family time (*how*) led to publishing scholarly works, securing grants, or other achievements that confirmed their identity (*why*) and encouraged the DAs to keep up the work they had chosen to do. DA_1 shared with us:

> When I'm running on an experiment … I run the four to midnight shift (*how*); [therefore], I'm going to be sleeping in the next morning, and that disrupts things. But, … from my perspective, I really like my job. I'm happy about it (*why*), and I can't help but think that

ACCEPTED MANUSCRIPT

> I'm a better husband and parent as a happy person – rather than someone who drags their ass home after a day doing something they hate.

Another clear example of a *how* to *why* link was provided by DA_{13}, who asserted,

> I'm a member of an Oxford college, so I stay in my college [when I go to the UK]. But it's lonely … It rains too much. And I would miss … those near and dear to me. … there was that price (*how*). But there was this feedback of the product … I mean after all what we're supposed to do – whether you're working in your field or mine, or a chemist or a biologist or animal scientist or whatever the heck you do, our job is to … add to the sum total of human knowledge – however that is measured, not necessarily wisdom, but knowledge. And so I was doing that … that was satisfying to me (*why*).

How* to *with whom

The DAs worked hard (*how*) and in many cases worked with collaborators (*with whom*) whose complementary skills, interests and research problems would add to the DAs' skillset and impact. The DAs asserted that having an overall view of their field, reading the updated literature, and following the authors associated with them (*how*) set the stage for further collaborations and mentoring Ph.D. students (*with whom*). In many cases, such collaborations led to discoveries and success for both parties. The following quotation from DA_{12} illustrates this relationship:

> I did write one article recently, that I had to do the whole draft from beginning to end because I had delayed. And I ended up doing it maybe ten hours on a Saturday (*how*) … And then after I did it, it went around for the next two weeks to all the co-authors (*with whom*). But that's the same thing that could happen. Somebody else could do the first draft and then it would come around to me.

ACCEPTED MANUSCRIPT

Despite working extra hours or constant engagement with their work, the DAs' were mindful about their priorities (*how*) and in many cases adapted their work styles to meet family needs (*with whom*). The following quotation illustrates how DA_8 changed his work style to be able to secure his family time.

> The first few years that I came to [this state] I had an apartment here … sometimes when it got too late [to avoid the 45-minute drive] I just stayed here, worked here late (*how*), stayed overnight and … that was a bit better for the research, but it was not the right thing to do for the family (*with whom*) so I gave up the apartment.

With whom* to *how

Depending on who the DAs' lived or worked with (*with whom*), their work hours, writing habits, and work-related travels would be different (*how*). For example, in cases where the DAs' had young children, their work patterns facilitated their family lives. DA_{27} articulated this link as follows,

> When I started in this profession I had very young children at home (*with whom*) and … I would, take responsibility for them … my wife … took care of the kids in the mornings … so I'd get up early and [work] and oftentimes after school I would either pick them up or do things when she was going to school … I'd typically work six days a week at that time, not seven; … as the children got older probably for the last … twenty years I've worked seven days a week (*how*).

The DAs also spent time on mentoring and hand-holding until their students could work as independent researchers. As DA_{28} stated,

> Writing ...[is] … where I really wanted to nurture the training of my students … it's sometimes painful the first time a student is writing a paper … it takes … us a lot of time

ACCEPTED MANUSCRIPT

> in editing and things (*with whom*). It would be faster to write it myself but I think it's important to teach them … we sit together at my computer for many hours going through every word and every line of the [draft] manuscript, and editing and going through every piece of data and the evaluated conclusions, and just sort of pulling it all together. So with the first manuscript … that the student is working on we may sit together for at least ten or twelve hours …. (*how*).

With whom* to *why

The DAs said that their collaborators and colleagues (*with whom*) inspired them, reconfirmed their identity, and motivated them (*why*) to continue the hard work. For example, DAs asserted that their careers had been formed or accelerated as a result of working with certain individuals. DA_8 confirmed this link as follows,

> Somebody joined my department on the east coast and we started working together (*with whom*) and I ran into people who were doing marine biology and other really exciting fields, and so I just thought, well, gee, this is fun … and I really liked solving problems (*why*).

As the following example from DA_7 illustrates, working with high school teachers on a topic relevant to his research interest was inspiring and motivated him in his research.

> One of the … things [that] was really important for me was that I directed … a number of [funded] seminars for high school teachers … we took … high school teachers every two summers ... to study the memory of World War II in France … [working with them] (*with whom*) was very stimulating for me (*why*).

ACCEPTED MANUSCRIPT

Why* to *with whom

The DAs were motivated to accomplish challenging research projects, and make an impact in their fields (*why*). To accomplish this goal, they were careful about decisions regarding their collaborators and co-authors (*with whom*). Despite being highly interested in their fields across their entire career journey, DA's took on different kinds of collaboration at different stages in their careers. For example, DA_{21} asserted:

> I still love astronomy, … I read literally everything about what's happening in my field… I enjoy thinking about astronomy … I think it's so cool that … every day there are new things … happening in my field that just completely surprise me (*why*) … But I am old enough… I realize that [at this stage] my talents are more in helping other people do the science, than me just doing the science … I've kind of switched from being … the person that did everything to being the person that helps other people do things in astronomy, and do science in astronomy, so switching to be sort of more of a mentor (*with whom*).

Many DAs also made it a point to say that although they were intrinsically motivated to pursue their career aspirations (*why*), it would have been difficult to succeed without the support of their families, and in particular their spouses (*with whom*), throughout their careers. Confirming this link, DA_{21} asserted:

> If you do something you really love and you're passionate about (*why*) then you'll be happy, as long as of course your personal life is also happy. So, to find that perfect equilibrium I've been blessed. My wife is wonderful (*whom*) … that was just luck. I could have picked the wrong person or they picked me and not had a good family relationship. That would … have distorted my work and my whole steady state would have been different.

ACCEPTED MANUSCRIPT

Other Links between the Three Ways of Knowing

Beyond the six separate links described above, our exploration of interview transcripts brought up cases where one way of knowing made a connection between two other ways of knowing. For example, $DA_{1,}$ who enjoys the academic job and how it worked for him, illustrated one example of how the three ways of knowing linked to one another:

> I've had some really good colleagues (*with whom*), which has helped ... I've been lucky in my collaborators ... who have come to me with some amazing problems that allowed me to do the first this, the first that *(how)*... I do read the journals so I know what's going on. … [but] I get a lot more inspiration (*why*) from people who are not in my field because they've got problems that they're really passionately interested in.

Another example is from DA_5 who shared with us that having a family allowed him to work long and remain happy:

> I'm sure I could have done a few more things maybe, if I had not had a family (*with whom*), but I don't think I would have been happy (*why*). I think that my wife and children gave me … a sense of comfort … I can't imagine working this long (*how*) if I did not have a family … I think I would have burned out long ago, so I think it's been a positive thing.

The above described links from *with whom* to *how* to *why*, and from *with whom* to *why* to *how*, as well as other examples not included here, suggest further potential for intelligent career analysis. It is to show how links among the ways of knowing develop as people pursue their careers over time.

Discussion

ACCEPTED MANUSCRIPT

This study explored the dynamics of career success in the context of a boundaryless career. Interviewing 28 DAs and eight of their spouses, we focused on the DAs' academic careers that could be regarded as boundaryless. Reanalyzing interview transcripts from another project, we found the intelligent career framework (DeFillippi & Arthur, 1996; Parker et al., 2009) to be relevant to our findings; which we therefore organized our findings around the intelligent career framework. Figure 1 provides a summary of our findings.

Insert Figure 1 about here

This study makes major contributions to the intelligent career framework and the career success literatures. Our findings support and complement studies that have argued that the three ways of knowing contribute to career success (Bron & Witteloostuijn, 2013; Colakoglu, 2011; Eby et al., 2003). In particular, our findings identified specific aspects of the three ways of knowing that accounted for becoming extremely successful in an academic career.

We reinforce and broaden the meaning of *why* presented in the literature, as career insight, proactiveness/decidedness, and openness to experience (Colakoglu, 2011; Eby et al., 2003). We suggest that in the case of exceptional success, the drive and passion for one's work, identification with the profession, and embracing opportunities as they arose infuse boundaryless career success. These findings connect to the work of Zikic and Ezzedeen (2015) on entrepreneurs who expressed an innate drive to create businesses and embodied characteristics such as passion for technology and creativity in solving business problems.

The literature describes *how* as encompassing career/job-related skills or investments in human capital (Born & Witteloostuijn, 2013; Colakoglu, 2011; Eby et al., 2003). However, our findings step beyond a conventional notion of career/job-related skills by showing that exceptional success calls for acquiring skills that are scarce and timely (e.g., a blue-ocean

ACCEPTED MANUSCRIPT

strategy). We argue that the self-regulated qualities such as prioritizing, remaining active and updated, and developing work habits could be seen as investments in intangible aspects of human capital that play key roles in career success. However, most of the conceptualizations of human capital within the mainstream career success literature have focused on tangible aspects such as education level, organization tenure, work/international experience, and employer change to predict success (Ng & Feldman, 2014).

Our study contributes to the meaning of *with whom* in bringing family (spouse and children) into the circle of relationships that play a role in career success. Previous studies on career success and intelligent framework have limited the meaning of *with whom* to professional connections (e.g., colleagues inside and outside one's organization), but we demonstrated that individuals' families can affect their career decisions, and accelerate or slow down their career progress. One explanation for this finding might be that our participants had extensive work experience as compared to samples of previous studies (Colakoglu, 2011; Eby et al., 2003). Studying MBA, EMBA alumni and EMBA students (average age of 42) revealed non-significant relationships involving *with whom* and boundarylessness. As Colakoglu (2011) put it, careers of participants in her study were "not boundaryless enough" to fully reflect the impacts of knowing *with whom* to work. In our study, reflecting on careers over the life course led to the DAs recognition of the role of family members' support in achieving career success.

Including family as part of *with whom* is timely and relevant due to recent calls for approaching the study of careers from a work-home perspective (Greenhaus & Kossek, 2014). This perspective argues that the home domain can promote career success by offering resources such as skills, social support, financial capital, and psychological resources (Greenhaus & Powell, 2006; Ruderman, Ohlott, Panzer, & King, 2002; Ten Brummelhuis & Bakker, 2012).

ACCEPTED MANUSCRIPT

This finding contributes to the mainstream career success models suggesting that family support or similar family-related variables should be examined as mediators in the relationships among career success antecedents and career success.

Our findings extend the scope of external networking behavior to a national and international scale by studying DAs whose exceptional success depended on their connections and work with domestic as well as transnational collaborators. The meaning of *with whom* in previous studies has gone as far as external networking behaviors including meeting and developing relationships with people outside one's organization or professional field (Culie et al., 2014). This study highlights how transnational communities may further contribute to success in boundaryless careers. DAs belonged to what Djelic and Quack (2010) labelled as "communities without boundaries" (p. 22). In the process of knowledge production and dissemination, professional elites and occupational groups construct transnational networks. They interact with like-minded individuals engaged in intellectual production and recognize each other as equals in this respect (Djelic & Quack, 2010). DAs' commitment to their profession inevitably formed a community where members (students, colleagues, and collaborators) shared common interests and oriented their efforts toward collective goals and provided the foundation for success. In addition, our data showed that the DAs' networks went beyond developmental/mentoring relationships and suggested a strategic mindset. The relationships and networks the DAs formed were focused on colleagues who complemented their skills and spanned across both national and international arenas.

Contrary to the majority of the studies adopting the intelligent career framework, we triangulated our data by including the DAs' spouses' perspectives with regard to the DAs' three ways of knowing. The spouses we interviewed had quite similar understandings of the pathways

ACCEPTED MANUSCRIPT

to the DAs' career success. We believe that this finding is significant because it illustrates that the three ways of knowing include both objective and subjective elements that can be identified not only by the individual pursuing a boundaryless career but also by other individuals who are interested in or supporting those careers.

As the most significant contribution to theory, we have provided empirical evidence that supports the six links among the three ways of knowing (see Parker et al., 2009). After publication of Parker et al. (2009), our study is the first to extensively examine and report on all the links between the three ways of knowing. Our analysis of the six links complements Zikic and Ezzedeen's (2015) earlier evidence of relationships between the three ways of knowing. However, our study provided a detailed elaboration on each link and directly focused on understanding career success. We have provided strong empirical evidence for the theoretical claim that it is almost impossible to separate one way of knowing from the other two.

In previous quantitative studies, authors may have avoided testing the inter-relationships between three ways of knowing because of the complexity it caused. Bron and Witteloostuijn (2013) argued that the interrelationships between the three ways of knowing may affect career success in their study (i.e., career satisfaction and individual revenue). However, the authors chose not to model these interrelations, even though warranted from a theoretical perspective, at the stage of their research. Eby et al. (2003) could not tease apart these associations in their study and encouraged future research to use research designs other than cross-sectional analysis to address the shortcoming in their findings.

Our contribution to the intelligent career framework also steps beyond showcasing the six links and introduces the role that one way of knowing can play in bridging between the two other ways of knowing (e.g., *how* bridging from *with whom* to *why*). This finding opens up new

ACCEPTED MANUSCRIPT

research possibilities. The multiplicity of interactions within the intelligent career framework suggest a capacity to explain more complex boundaryless career realities. This argument connects with an ecological view of careers that recognizes the complex and interdependent social forces in play as people's careers develop (Baruch, 2015).

The evidence that specific links were found from each of the three intelligent career components to the others, affirms that the relationships among *why, how* and *with whom* successful people work are integral aspects of the theory. This invites future applications of the intelligent career framework to more deeply examine these links rather than simply adopting the career components separately. Our findings also support the view that "these connections are likely to unfold over time" (Parker et al., 2009, p. 297). It may only be possible to fully capture what happens through research designs that accommodate the effects of time. In our study, we were limited to the retrospective sense-making of highly successful individuals over their long careers.

Finally, our findings contribute to the current knowledge about the careers of academics. We provide support for the boundaryless nature of academic careers. Critiques of the notion of boundaryless academic careers have argued that academics, even the "top researchers" are "bounded" by the promotion and tenure system at universities (Dany, Louvel, & Valette, 2011, p. 73). However, the distinguished academics' lived experiences in our study showed that their careers could be characterized as boundaryless through knowing *why*, *how*, and *with whom* to work. Also, our observation of why DAs work supports recent arguments about the entrepreneurial nature of academic careers, suggesting academics need to act as free agents although they are employed at one university (Abreu & Grinevich, 2013; Lam, 2010). Finally, academic careers have often been studied as a developmental process with a focus on conditions

ACCEPTED MANUSCRIPT

affecting tenure advancement among early-career or mid-career academics (e.g., Baldwin & Blackburn, 1981; Baldwin, DeZure, Shaw, & Moretto, 2008; Williamson & Cable, 2003). Findings of this study emerged from DAs' reflections on their life courses, which may suggest conditions that can affect success across different academic career stages.

Implications and Limitations

Similar to all qualitative studies, the findings of our study cannot be generalized (Denzin & Lincoln, 2005). However, individuals who have similar attributes to our participants and academics who are interested in becoming extremely successful in their careers might consider the sub-categories in the three ways of knowing as a road-map for planning their careers. For instance, we have suggested that adopting a blue-ocean strategy, hard work and persistence, remaining updated, prioritizing, and securing time for writing can pave the way for achieving success in one's field. In addition, our findings foster the importance of networking and national and international collaborations in an academic career and show that mentorship yields mutual benefits for academics. Other than academics themselves, academic advisors or those who employ academics can benefit from our findings. In particular, they can highlight the significance of identifying with the profession in pursuing an academic career path.

We recognize that among our participants, males outnumbered females. We focused on the careers of 28 DAs, but only three of them were females and two of their husbands were among our participating DAs. We did not find gender differences between the DAs' three ways of knowing, but our participants are by no means representative. Less than 10% of the DAs in our target institution were female. We encourage future researchers to study gender differences among a balanced participant group. We also encourage examining career challenges and

ACCEPTED MANUSCRIPT

obstacles among female professors who were trying to make it to DA-ship but did not manage to do so.

We argue that academic careers could be regarded as boundaryless; however, our participants, despite moving between institutions during their careers, belonged to a larger community in which their overall contributions to their field of study were documented and retained (e.g., by their associated academic bodies or scholarly journals). This parallels a recent shift toward professional identification (e.g., Pratt, Rockmann, & Kaufmann, 2006). However, career success may be seen differently by people who do not experience a high degree of professional recognition.

References

Abele, A. E., & Spurk, D. (2009). How do objective and subjective career success interrelate over time?. *Journal of Occupational and Organizational Psychology, 82*(4), 803-824.

Abreu, M., & Grinevich, V. (2013). The nature of academic entrepreneurship in the UK: Widening the focus on entrepreneurial activities. *Research Policy, 42*(2), 408-422.

Arthur, M. B., & Rousseau, D. M. (1996). *The boundaryless career: A new employment principle for a new organizational era*. New York: Oxford University Press.

Arthur, M. B., Claman, P. H., & DeFillippi, R. J. (1995). Intelligent enterprise, intelligent careers. *The Academy of Management Executive, 9*(4), 7-20.

Arthur, M. B., Khapova, S. N., & Richardson, J. (2017). *An Intelligent Career: Taking Ownership of Your Work and Your Life*. UK: Oxford University Press.

Arthur, M. B., Khapova, S. N., & Wilderom, C. P. (2005). Career success in a boundaryless career world. *Journal of Organizational Behavior, 26*(2), 177-202.

ACCEPTED MANUSCRIPT

Arthur, M., Inkson, K., & Pringle, J. (1999). *The new careers: Individual action and economic change*. Thousand Oaks: Sage.

Beigi, M., Wang, J., & Arthur, M. B. (2017). Work–family interface in the context of career success: A qualitative inquiry. *Human Relations*, *70*(9), 1091-1114.

Bailyn, L. (2003). Academic careers and gender equity: Lessons learned from MIT. *Gender, Work & Organization*, *10*(2), 137-153.

Baldwin, R. G., & Blackburn, R. T. (1981). The academic career as a developmental process: Implications for higher education. *The Journal of Higher Education*, *52*(6), 598-614.

Baldwin, R., DeZure, D., Shaw, A., & Moretto, K. (2008). Mapping the terrain of mid-career faculty at a research university: Implications for faculty and academic leaders. *Change: The Magazine of Higher Learning*, *40*(5), 46-55.

Barley, S. R. (1989). Careers, identities, and institutions: The legacy of the Chicago School of Sociology. In Arthur, M. B., Hall, D. T., & Lawrence, B. S. (Eds.). *Handbook of career theory*. New York: Cambridge University Press.

Baruch, Y. (2015). Organizational and labor markets as career ecosystem. In Ans De Vos, Beatrice I. J. M. Van der Heijden *Handbook of Research on Sustainable Careers*. Edward Elgar Publishing: UK.

Baruch, Y., & Hall, D. T. (2004). The academic career: a model for future careers in other sectors?. *Journal of Vocational Behavior*, *64*(2), 241-262.

Baruch, Y., Dickmann, M., Altman, Y., & Bournois, F. (2013). Exploring international work: Types and dimensions of global careers. *The International Journal of Human Resource Management*, *24*(12), 2369-2393.

ACCEPTED MANUSCRIPT

Bauder, H. (2015). The international mobility of academics: A labour market perspective. *International Migration*, *53*(1), 83-96.

Bedeian, A. G., Cavazos, D. E., Hunt, J. G., & Jauch, L. R. (2010). Doctoral degree prestige and the academic marketplace: A study of career mobility within the management discipline. *Academy of Management Learning & Education*, *9*(1), 11-25.

Bekhradnia, B., & Sastry, T. (2005). *Migration of academic staff to and from the UK*. Higher Education Policy Institute report, Oxford: HEPI.

Born, A., & Witteloostuijn, A. (2013). Drivers of freelance career success. *Journal of Organizational Behavior*, 34(1), 24-46.

Chase, S. E. (2011). Narrative Inquiry: Still a Field in the Making. In N. K. Denzin & Y. S. Lincoln, (Eds.). *The Sage Handbook of Qualitative Research*. Thousand Oaks: Sage.

Chase, S. E. (2018). Narrative Inquiry: Toward Theoretical and Methodological Maturity. In N. K. Denzin & Y. S. Lincoln, (Eds.). *The Sage Handbook of Qualitative Research*. Thousand Oaks: Sage.

Chudzikowski, K. (2012). Career transitions and career success in the 'new' career era. Journal *of Vocational Behavior*, *81*(2), 298-306.

Cohen, L. (2006). Remembrance of things past: Cultural process and practice in analysis of career stories. *Journal of Vocational Behavior*, *69*(2): 189–201.

Cohen, L., & Mallon, M. (2001). My brilliant career? Using stories as a methodological tool in careers research. *International Studies of Management & Organization, 31*(3), 48-68.

Cohen, L., Duberley, J., & Mallon, M. (2004). Social constructionism in the study of career: Accessing the parts that other approaches cannot reach. *Journal of Vocational Behavior*, *64*(3), 407-422.

ACCEPTED MANUSCRIPT

Colakoglu, S. N. (2011). The impact of career boundarylessness on subjective career success: The role of career competencies, career autonomy, and career insecurity. *Journal of Vocational Behavior, 79*(1), 47-59.

Coyle-Shapiro, J. A., & Shore, L. M. (2007). The employee–organization relationship: Where do we go from here?. *Human Resource Management Review, 17*(2), 166-179.

Crotty, M. (1998). *The foundations of social research: Meaning and perspective in the research process.* New York: Sage.

Culié, J. D., Khapova, S. N., & Arthur, M. B. (2014). Careers, clusters and employment mobility: The influences of psychological mobility and organizational support. *Journal of Vocational Behavior*, *84*(2), 164-176.

Dany, F., Louvel, S., & Valette, A. (2011). Academic careers: The limits of the 'boundaryless approach' and the power of promotion scripts. *Human Relations, 64*(7), 971-996.

De Janasz, S. C., & Sullivan, S. E. (2004). Multiple mentoring in academe: Developing the professorial network. *Journal of Vocational Behavior, 64*(2), 263-283.

DeFillippi, R. J., & Arthur, M. B. (1994). The boundaryless career: A competency-based perspective. *Journal of Organizational Behavior*, *15*(4), 307-324.

DeFillippi, R. J., & Arthur, M. B. (1996). Boundaryless contexts and careers: A competency-based perspective. In Michael B. Arthur, Denise M. Rousseau, *The Boundaryless Career: A New Employment Principle for a New Organizational Era*. UK: Oxford University.

Denzin, N. K., & Lincoln, Y. S. (2005). *The Sage handbook of qualitative research*, Thousand Oaks: Sage.

ACCEPTED MANUSCRIPT

Dickmann, M., & Doherty, N. (2008). Exploring the career capital impact of international assignments within distinct organizational contexts. *British Journal of Management, 19*(2), 145-161.

Djelic, M. L., & Quack, S. (Eds.). (2010). *Transnational communities: Shaping global economic governance*. Cambridge: Cambridge University Press.

Dowd, K. O., & Kaplan, D. M. (2005). The career life of academics: Boundaried or boundaryless?. *Human Relations, 58*(6), 699-721.

Dries, N., Pepermans, R., & Carlier, O. (2008). Career success: Constructing a multidimensional model. *Journal of Vocational Behavior, 73*(2), 254-267.

Duberley, J., & Cohen, L. (2010). Gendering career capital: An investigation of scientific careers. *Journal of Vocational Behavior, 76*(2), 187-197.

Dubois, P., Rochet, J. C., & Schlenker, J. M. (2014). Productivity and mobility in academic research: Evidence from mathematicians. *Scientometrics, 98*(3), 1669-1701.

Eby, L. T., Butts, M., & Lockwood, A. (2003). Predictors of success in the era of the boundaryless career. *Journal of Organizational Behavior, 24*(6), 689-708.

Feldman, D. C., & Turnley, W. H. (2004). Contingent employment in academic careers: Relative deprivation among adjunct faculty. *Journal of Vocational Behavior, 64*(2), 284-307.

Flick. U. (2018). Triangulation. In N. K. Denzin & Y. S. Lincoln, (Eds.). *The Sage Handbook of Qualitative Research*. Thousand Oaks: Sage.

Greenhaus J.H., Powell G.N. (2006). When work and family are allies: a theory of work-family enrichment. *Academy of Management Review, 31*:72–92.

Greenhaus, J. H., & Kossek, E. E. (2014). The contemporary career: A work–home perspective. *Annu. Rev. Organ. Psychol. Organ. Behav., 1*(1), 361-388.

ACCEPTED MANUSCRIPT

Gubler, M., Arnold, J., & Coombs, C. (2014). Reassessing the protean career concept: Empirical findings, conceptual components, and measurement. *Journal of Organizational Behavior, 35*(S1), S23-S40.

Gunz, H. P., & Heslin, P. A. (2005). Reconceptualizing career success. *Journal of Organizational Behavior, 26*(2), 105-111.

Hall, D. T. (2004). The protean career: A quarter-century journey. *Journal of Vocational Behavior, 65*(1), 1-13.

Harley, S., Muller-Camen, M., & Collin, A. (2004). From academic communities to managed organisations: The implications for academic careers in UK and German universities. *Journal of Vocational Behavior, 64*(2), 329-345.

Heslin, P. A. (2005). Conceptualizing and evaluating career success. *Journal of Organizational Behavior, 26*(2), 113-136.

Heslin, P. A. & Turban, D. B. (2016). Enabling career success. *Organizational Dynamics*. *45*(3), 155-164. DOI: 10.1016/j.orgdyn.2016.07.001

Jackson, A. Y., & Mazzei, L. A. (2011). *Thinking with theory in qualitative research: Viewing data across multiple perspectives*. Routledge.

Jackson Y. & Mazzei L. (2018). Thinking with theory: a new analytic for qualitative inquiry. In N. K. Denzin & Y. S. Lincoln, (Eds.). *The Sage Handbook of Qualitative Research*. Thousand Oaks: Sage.

Jokinen, T., Brewster, C., & Suutari, V. (2008). Career capital during international work experiences: contrasting self-initiated expatriate experiences and assigned expatriation. *The International Journal of Human Resource Management, 19*(6), 979-998.

ACCEPTED MANUSCRIPT

Judge, T. A., & Hurst, C. (2008). How the rich (and happy) get richer (and happier): Relationship of core self-evaluations to trajectories in attaining work success. *Journal of Applied Psychology*, *93*, 849–863.

Kim, W. C., & Mauborgne, R. (2005). Blue ocean strategy. *California Management Review*, *47*(3), 105-122.

Kirschenbaum, A., & Mano-Negrin, R. (1999). Underlying labor market dimensions of "opportunities": The case of employee turnover. *Human Relations*, *52*(10), 1233-1255.

Lam, A. (2010). From 'ivory tower traditionalists' to 'entrepreneurial scientists'? Academic scientists in fuzzy university—Industry boundaries. *Social Studies of Science*, *40*(2), 307-340.

Lee, C. I., Felps, W., & Baruch, Y. (2014). Toward a taxonomy of career studies through bibliometric visualization. *Journal of Vocational Behavior*, *85*(3), 339-351.

Lincoln, Y. S., & Guba, E. G. (1985). *Naturalistic inquiry*. Thousand Oaks: Sage.

Loacker, B., & Śliwa, M. (2016). Moving to stay in the same place?' Academics and theatrical artists as exemplars of the 'mobile middle. *Organization*, *23*(5), 657-679.

Maadad, N. and Tight, M. (2014). Editorial introduction. In N. Maadad & M. Tight, *Academic Mobility: International Perspectives on Higher Education Research* (pp. 1–7). Bingley: Emerald Group Publishing.

Mainiero, L. A., & Sullivan, S. E. (2005). Kaleidoscope careers: An alternate explanation for the "opt-out" revolution. *The Academy of Management Executive*, *19*(1), 106-123.

Maree, K. (Ed.). (2017). *Psychology of Career Adaptability, Employability and Resilience*. Springer.

ACCEPTED MANUSCRIPT

Mayrhofer, W., Briscoe, J. P., Hall, D. T. T., Dickmann, M., Dries, N., Dysvik, A., ... & Unite, J. (2016). Career success across the globe. *Organizational Dynamics*, *3*(45), 197-205.

Merriam, S. B. (2002). *Qualitative research in practice: Examples for discussion and analysis.* Francisco: Jossey-Bass.

Ng, T. W., & Feldman, D. C. (2014). Subjective career success: A meta-analytic review. *Journal of Vocational Behavior*, *85*(2), 169-179.

Ng, T. W., Eby, L. T., Sorensen, K. L., & Feldman, D. C. (2005). Predictors of objective and subjective career success: a meta-analysis. *Personnel Psychology*, *58*(2), 367-408.

Parker, P. & Arthur, M. B. (2015). Intelligent Career Card Sort. In M. McMahon & M. Watson (Eds.), *Career Assessment: Qualitative Approaches* (161–168), Springer.

Parker, P. (2005). Intelligent careers of Pacific Island leaders. *South Pacific Journal of Psychology*, *16*(1), 1-17.

Parker, P. (2008). Promoting employability in a "flat" world. *Journal of Employment Counseling*, *45*(1), 2-13.

Parker, P., Khapova, S. N., & Arthur, M. B. (2009). The intelligent career framework as a basis for interdisciplinary inquiry. *Journal of Vocational Behavior*, *75*(3), 291-302.

Patton, M. Q. (2002). *Qualitative evaluation and research methods*. Thousand Oaks: Sage.

Peiperl, M., & Baruch, Y. (1997). Back to square zero: The post-corporate career. *Organizational Dynamics, 25*(4), 7-22.

Pratt, M. G., Rockmann, K. W., & Kaufmann, J. B. (2006). Constructing professional identity: The role of work and identity learning cycles in the customization of identity among medical residents. *Academy of Management Journal*, *49*(2), 235-262.

ACCEPTED MANUSCRIPT

Ruderman, M. N., Ohlott, P. J., Panzer, K., & King, S. N. (2002). Benefits of multiple roles for managerial women. *Academy of Management Journal*, *45*(2), 369-386.

Savickas, M. L., Nota, L., Rossier, J., Dauwalder, J. P., Duarte, M. E., Guichard, J., ... & Van Vianen, A. E. (2009). Life designing: A paradigm for career construction in the 21st century. *Journal of Vocational Behavior*, *75*(3), 239-250.

Seibert, S. E., Kraimer, M. L., & Liden, R. C. (2001). A social capital theory of career success. *Academy of Management Journal, 44*, 219–237

Singh, R., Ragins, B. R., & Tharenou, P. (2009). What matters most? The relative role of mentoring and career capital in career success. *Journal of Vocational Behavior*, *75*(1), 56-67.

Spurk, D., & Abele, A. E. (2014). Synchronous and time-lagged effects between occupational self-efficacy and objective and subjective career success: Findings from a four-wave and 9-year longitudinal study. *Journal of Vocational Behavior*, *84*(2), 119-132.

Stumpf, S. A., & Tymon Jr, W. G. (2012). The effects of objective career success on subsequent subjective career success. *Journal of Vocational Behavior, 81*(3), 345-353.

Sullivan, S. E., & Arthur, M. B. (2006). The evolution of the boundaryless career concept: Examining physical and psychological mobility. *Journal of Vocational Behavior*, *69*(1), 19-29.

Suutari, V., & Mäkelä, K. (2007). The career capital of managers with global careers. *Journal of Managerial Psychology*, *22*(7), 628-648.

Ten Brummelhuis L.L. & Bakker A.B. (2012). A resource perspective on the work-home interface: the work-home resources model. *American Psychologist, 67*:545–56.

ACCEPTED MANUSCRIPT

Turnley, W. H., & Feldman, D. C. (1999). A discrepancy model of psychological contract violations. *Human Resource Management Review, 9*(3), 367-386.

Williamson, I. O., & Cable, D. M. (2003). Predicting early career research productivity: The case of management faculty. *Journal of Organizational Behavior, 24*(1), 25-44.

Zikic, J., & Ezzedeen, S. (2015). Towards a more integrated view of entrepreneurial careers: Qualitative investigation of the three forms of career capital and their relationships among high tech entrepreneurs. *International Journal of Entrepreneurial Behavior & Research, 21*(6), 756-777.

ACCEPTED MANUSCRIPT

ACCEPTED MANUSCRIPT

Table 1. Interviewees' Characteristics

Interviewee	Pseudonym	Sex	Professional field	# of children	Tenure
Couple One	DA_1	M	Physics and astronomy	6	50
	$Spouse_1$	F	Administrative		Non-academic
Couple Two	DA_2	M	Political Science	0	41
	$Spouse_2$	F	Volunteer work (Attorney by training)		Non-academic
Couple Three	DA_3	M	Mathematics	2	36
	$Spouse_3$	F	Professional Quilter		Non-academic
Couple Four	DA_4	M	International Studies	2	22
	$Spouse_4$	F	Lecturer; Humanities		Academic
Couple Five	DA_5	M	Veterinary Pathobiology	2	47
	$Spouse_5$	F	Retired School Teacher		Non-academic
Couple Six	DA_6	M	Physics and Astronomy	1	41
	$Spouse_6$	F	House wife		Non-academic
Couple Seven	DA_7	M	English	5	41
	$Spouse_7$	F	Associate professor; Humanities		Academic
Couple Eight	DA_8	M	Marine Biology	2	37
	$Spouse_8$	F	Retired Teacher		Non-academic

ACCEPTED MANUSCRIPT

Interviewee	Pseudonym	Sex	Professional field	# of children	Tenure
Couple Nine	DA_9	M	Chemistry	0	48
	DA_{10}	F	Chemistry		47
Couple Ten	DA_{11}	M	Statistics	0	47
	DA_{12}	F	Public Health		48
	DA_{13}	M	Chemistry	2	61
	DA14	M	History	1	43
	DA_{15}	M	Political Science	1	42
	DA_{16}	M	Bioscience	2	41
	DA_{17}	M	Public Health	2	33
	DA_{18}	M	Chemistry	3	56
	DA_{19}	M	Economics	2	55
	DA_{20}	M	Animal Science	2	46
	DA_{21}	M	Nutrition	2	29
	DA_{22}	M	Management	2	38
	DA_{23}	M	Marketing	2	36
	DA_{24}	M	Educational Science	Not known	37
	DA_{25}	M	Computer Science	2	36
	DA_{26}	M	Statistics	1	21
	DA_{27}	M	Management	2	41

ACCEPTED MANUSCRIPT

Interviewee	Pseudonym	Sex	Professional field	# of children	Tenure
	DA_{28}	F	Chemistry	3	22

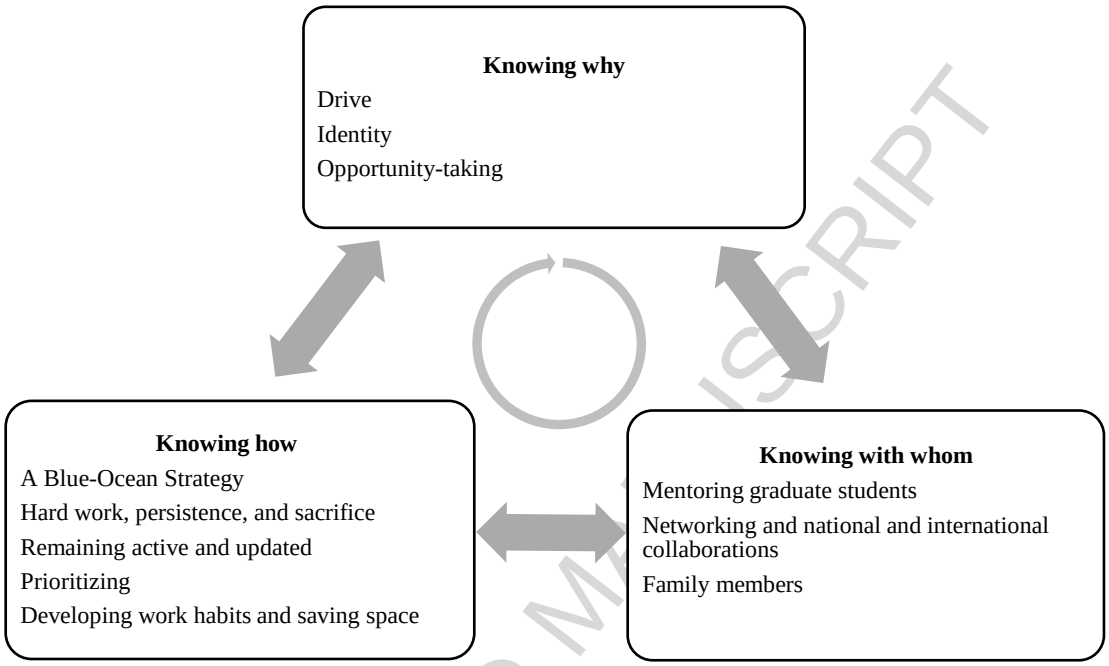

Figure 1. Intelligent Career Success among Distinguished Academics

ACCEPTED MANUSCRIPT

Appendix 1

Interview Questions

1. Can you describe a typical day in your life? Please be as specific and detailed as possible (in this question we asked follow up questions to find out how many hours the Distinguished Academics (DAs) slept, how many hours they worked, and if they were still engaged with work when away from their workplace).
2. How about weekends? How would you describe your typical weekend? (In this question, we asked follow up questions to see if the DAs were engaged with work over the weekend).
3. How has the pattern of your typical day changed during your professional life/career? For example, when you were going for tenure, when you had children, when your worked on a specific project.
4. Your CV shows that you have published X number of articles, published X number of books, been engaged with X number of research projects etc. You google scholar account also shows that your work has been cited X number of citations. How has it happened?
5. Do you have any specific writing habits/strategies that has helped you remain a prolific and highly-cited scholar?
6. You have had X number of years of experience in academia, have been a full professor for X number of years, and have been awarded distinguished professorship, which is the highest possible rank here, why do you still keep working?
7. Please describe how your professional (family) life has affected your family (professional) life?
8. Do you think your spouse would give me the same responses if I ask her the questions I asked you?
9. If one of your graduate students, who has the intention of being successful in his/her academic career, seeks your advice … what would you say?
10. Is there anything about your professional and personal lives that is relevant to your success that I did not ask and you would like to add?

ACCEPTED MANUSCRIPT

ACCEPTED MANUSCRIPT

Appendix 2

Reflexive Journal

Excerpt 1

Today, 3 September 2014 I conducted my first interview with a distinguished professor in chemistry. I prepared myself for three hours before the interview. I searched his name in the internet, browsed his CV and took notes, and read his memoire. I looked at his photos, learned about his interests and made sure I knew wrote down my questions. … I walked to the chemistry building … I was already feeling cold … I was stressed … I was let in 10 minutes early. I handed the printed version of the [interview] questions, and he started talking without allowing me to even introduce myself.

I asked him to talk about a typical day in his life. When he started … he went straight to his work life and did not mention family life in detail. He talked a lot about what he did at school on a daily basis and let me know that he was in his eighties, was not working as hard as before these days, and [that he] probably worked forty hours per week. I had seen the number of [published] articles [that appeared] in his CV, which was more than 300, and made a mental note to ask about his work hours in earlier stages of his career.

Excerpt 2

His typical day was very interesting because he did not take lunch breaks and played tennis instead. He started work early and went home at 6 [pm]. He said he does not work after he leaves school, but he works all Saturdays and most Sundays. He had written for about four hours most Saturday mornings during his career.

He told me that he had taken care of his children two days a week while his wife was teaching at a prestigious school a few years ago. He said that working in academia has given him the flexibility to help with the housework.

It was interesting to me that he loved his work so much and he was so happy with what he was doing. I guess this is going to be one of my main findings because it is being repeated in the interviews and I do not even ask if they like their jobs or not!

ACCEPTED MANUSCRIPT

Highlights

- We contribute to career success scholarship within a boundaryless career context
- We highlight success factors of extremely successful academics
- We extend the literature on the intelligent career framework
- Our findings support six unidirectional links between the three ways of knowing

ACCEPTED MANUSCRIPT