

Berthoin Antal, Ariane; Rogge, Jan-Christoph

Article — Accepted Manuscript (Postprint)

Does Academia Still Call? Experiences of Academics in Germany and the United States

Minerva

Provided in Cooperation with:
WZB Berlin Social Science Center

Suggested Citation: Berthoin Antal, Ariane; Rogge, Jan-Christoph (2020) : Does Academia Still Call? Experiences of Academics in Germany and the United States, Minerva, ISSN 1573-1871, Springer, Berlin, Vol. 58, Iss. 2, pp. 187-210, <https://doi.org/10.1007/s11024-019-09391-4>

This Version is available at:
<https://hdl.handle.net/10419/227116>

Standard-Nutzungsbedingungen:

Die Dokumente auf EconStor dürfen zu eigenen wissenschaftlichen Zwecken und zum Privatgebrauch gespeichert und kopiert werden.

Sie dürfen die Dokumente nicht für öffentliche oder kommerzielle Zwecke vervielfältigen, öffentlich ausstellen, öffentlich zugänglich machen, vertreiben oder anderweitig nutzen.

Sofern die Verfasser die Dokumente unter Open-Content-Lizenzen (insbesondere CC-Lizenzen) zur Verfügung gestellt haben sollten, gelten abweichend von diesen Nutzungsbedingungen die in der dort genannten Lizenz gewährten Nutzungsrechte.

Terms of use:

Documents in EconStor may be saved and copied for your personal and scholarly purposes.

You are not to copy documents for public or commercial purposes, to exhibit the documents publicly, to make them publicly available on the internet, or to distribute or otherwise use the documents in public.

If the documents have been made available under an Open Content Licence (especially Creative Commons Licences), you may exercise further usage rights as specified in the indicated licence.

Does Academia Still Call? Experiences of Academics in Germany and the United States

By Ariane Berthoin Antal & Jan-Christoph Rogge¹

Abstract: Given the significant transformations underway in academia, it is pertinent to ask whether the traditional notion of entering the profession in response to a calling is still relevant. This article draws together hitherto unconnected strands of German and Anglo-Saxon literature on callings, then analyzes biographical narratives of forty social scientists in Germany and the United States. The comparative analysis of the timing, sources, and nature of the respondents' decision to become academics finds that almost all exhibit a calling orientation. However, their responses no longer correspond to the classical, passive notion; instead, callings in academia have become agentic. In the context of a wider societal trend to self-realization, academia has been transformed to an activity that people pursue because they want to rather than because destiny or an external force pushes them to make such a commitment. The recognition of the social nature of callings is underscored by the significance of professional mentors and family. The unexpected predominance of similarities in the cross-national comparison of calling orientation suggests that the internationalization of academic standards and procedures and the high level of competition for few positions in both contexts may outweigh the effects of culture and tradition.

Key words: academic career, calling, agentic, Max Weber, vocation, meaningful work

¹ Acknowledgments

We thank the respondents who gave so generously of their time for the biographical narrative interviews underpinning this article; Nathalie Wachotsch for her assistance in coding the transcripts; and colleagues who commented on earlier drafts: Gervaise Dubucquet, Sandrine Frémeaux, Anna Froese, Julian Hamann and Hildegard Matthies. We also appreciate the stimulating comments from two anonymous reviewers.

Introduction: Questioning the relevance of callings to academia

In 1919 Max Weber gave a stirring inaugural lecture at the university of Munich about “science as a vocation” (Weber 1946), explaining to the young students in his audience what a calling to academia entails. He described the need for complete dedication of one’s life to the scientific endeavor, and warned that it is a hazardous affair, without any guarantee of success. Weber’s notion of academic callings still resonates in academia today, appearing in lectures, publications, and conversations, thereby serving as a beacon for the ideal academic in Germany (Reuter et al. 2016; Kreckel 2013; Oevermann 2005) as well as in other countries (Hakala 2009). But how relevant in practice is this old, normatively-derived notion in an academic context that has changed so dramatically over the past century?

Academics are witnessing an ever more rapid transformation of the system in which they work (Etzkowitz and Leydesdorff 1998; Gibbons et al. 1994). Among the changes are the introduction of New Public Management (De Boer et al. 2007), the entrepreneurial university (Slaughter and Leslie 1997), and the rise of quantitative performance indicators (Fernández-Ríos and Rodríguez-Díaz 2014; Wykes et al. 2013). Furthermore, the trend towards the projectification of research management processes and structures (Packendorff and Lindgren 2014; Torka 2018) has also increased the proportion of short-term contracts (Waaaijer 2015; Torka 2009; Kreckel and Zimmermann 2014). As a result, the academic profession, too, is undergoing profound changes that are affecting academics’ identity work (Flink and Kaldewey 2018; Ylijoki 2014) and their future orientations (Ylijoki 2010; Rogge 2015, 2017; Matthies and Torka 2019).

In order to clarify whether the notion of engaging in academia as a calling is still valid in practice today, it is useful to look into the burgeoning body of work on callings in the Anglo-Saxon management literature (e.g. Dik and Duffy 2009; Duffy and Dik 2013). It offers helpful specifications about the discernment and nature of callings in many professions, but the leading authors in the field have paid little attention to academics (Austin 2002 is an exception). This gap is surprising given that, after religious orders, academics belong to the oldest profession associated with having a calling (Schiller 1972 [1789]). We therefore lay the theoretical ground for examining callings in academia today by first presenting the similarities and differences in the way the heretofore insufficiently connected German and Anglo-Saxon bodies of literature address callings. Then we confront the theory with the experiences of forty academics with whom we conducted biographical narrative interviews in Germany and the United States.

Our empirical objective is to clarify the extent to which the concept of callings is relevant for understanding how academics engage with their work today, and which factors influence the process. The combined bodies of literature lead us to examine especially: the timing of callings, their sources, their nature, the role of other people in the process, and the personal outcome in terms of physical and psychological wellbeing. We also explore whether there is any evidence of differences between the calling-related experiences in the two national contexts and between men and women. The theoretical objective is to enrich the conceptualization of callings by connecting the German literature with the Anglo-Saxon discourse in the field, and by offering insights from the empirical material for understanding callings in academia and in other domains.

Conceptualizations of academic callings in the German literature

The groundwork for conceiving of academic callings in Germany were laid by Friedrich Schiller (1772 [1789]), who characterized the prototypical academic as an intrinsically motivated scholar who finds attraction and reward in his own diligence and is constantly searching for new discoveries and truth. He distinguished between the “*philosophischer Kopf*” (philosophical mind) and the “*Brotgelehrter*” (bread-and-butter scholar) who is more interested in earning a living and gaining external recognition than in pursuing ideas for their own sake (Schiller 1772 [1789]: 322–324). In this vein, also in the early 19th century, Wilhelm von Humboldt (1809) envisaged academia as a humanistic community of “philosophical minds” in which scholars would combine teaching and research with their students. A century later Max Weber differentiated in his landmark speech between the external conditions of the academic vocation and the inward calling to science. According to Weber, the ideal academic “engages in 'science for science's sake’” (Weber 1946: 138). Science, for Weber, was not a “problem in calculation” but involved “one’s heart and soul” (Weber 1946: 135). In his view, the inner calling for science is necessary to endure the inevitable imperfection of one’s own scientific work. Moreover, he considered the external conditions, especially the long years of waiting before a final decision is made over one’s academic fate, which he described as the core of what he called the “academic hazard”, to be a test of the inner calling to science.

Weber believed that “scientific inspiration depends upon destinies that are hidden from us, and besides upon 'gifts’” (Weber 1946: 136). He specified the relation between these two factors for scientific achievements: A calling entails an “inner devotion to the task” (Weber 1946: 137) that is an indispensable prerequisite for the gift of inspiration to bear fruit. Scholars like Karl Jaspers (1959 [1946]) continue in the

tradition laid down by Schiller and Weber by arguing that creativity and genius are “given” to some and not to others. More recently Ulrich Oevermann (2005) recognized that callings tend to emerge as a sort of experience of enlightenment in adolescence.

Although Weber did not undertake research to underpin his speech about academic callings, and the societal context in which he was speaking to students and professors from the wealthy class is quite different from today’s, his notion continues to influence public discourse (Kaube 2017) and is a central reference in German empirical studies of academic careers (e.g. Haller 2013; Kreckel and Zimmermann 2014; Reuter et al. 2016). Recent research has shown that the traditional perception of callings in academia still shape Germans scholars’ expectations about the nature of the commitment required, although the demographic backgrounds of academics and career conditions in academia² have changed quite significantly (Matthies 2015; Hamann 2016; Janßen and Sondermann 2016). As a result, young academics in Germany today face a double challenge: they are expected to respond to the traditional calling to be a philosophical mind who is entirely devoted to academic work, while the new demands of the academic system simultaneously require them to act as an entrepreneurial self who seeks to maximize his or her human capital (Funken et al. 2015). In this situation, a recent study suggests that the young academics who remain optimistic about their future are those with the advantage of having supportive senior mentors and family members (Rogge 2015).

Conceptualization of callings in the Anglo-Saxon literature

The Anglo-Saxon literature on callings does not reach as far back as the German, but it has grown considerably during the past few decades, and it is quite different in nature from the German texts. There is no consensus on the definition of calling in this strand of the literature. Nevertheless there is general agreement that pursuing a calling entails “a personally or socially meaningful engagement with one’s work” (Dik and Duffy 2015: 305). J. Stuart Bunderson and Jeffery A. Thompson (2009) distinguish between what they call a neoclassical view on callings that emphasizes a sense of destiny and gift and a modern, secular view that mainly focuses on meaningful work.

² For a thorough discussion of the changes in the German academic system from the 19th century to the present, and their effects on the differentiation and professionalization of academic careers, see Waaijer 2015.

Another key feature in definitions of callings is the matter of timing. Whereas the literature in German assumes a calling comes early in life, the Anglo-Saxon literature admits a greater diversity in timing and has recently discovered that seeking a calling may be “an ongoing process rather than something to be discovered once and for all” (Duffy and Dik 2013: 429). Research on zookeepers (Bunderson and Thompson 2009) and musicians (Dobrow Riza and Heller 2015) show that people in these professions tend to experience strong early callings, whereas studies on most other working adults indicate that the process starts later and often takes an indirect path (Duffy et al. 2012; Hirschi 2011; Hirschi and Herrmann 2013). A useful distinction that has emerged in this literature is between “discerning” and “living” a calling (Duffy and Dik 2013: 431), thereby recognizing that there are two steps in the calling process, and that people may identify something they feel called to but may not find a job in which they can fulfill it. This recognition has led scholars to study the phenomenon of unanswered callings (Berg et al. 2010; Obodaru 2017). This line of research suggests that callings may be discovered and acted upon in different ways and at different points in a lifetime.

Whereas most studies focus on individuality of callings, a recent study in the United States (Bott et al. 2017) notes the significance of support from senior professional mentors and from parents and partners to pursue a calling today. Also, there is still some debate as to whether the source of calling is an external summons or an inner directedness (Hall and Chandler 2005), which may mean a fit with one’s passion or competences (Duffy et al. 2014). Another related distinction in this literature is between a calling, job, or career orientation (Bellah et al. 1985; Wrzeniewsky et al. 1997), which is reminiscent of Schiller’s comparison between the “philosophical mind” and the “bread-and-butter scholar”. Individuals who hold a job orientation with a focus on financial rewards or a career orientation with a focus on advancement view their work as separate from the rest of life. By contrast, the identities and occupations of those who have calling orientations are inseparably linked (Berg et al. 2010: 974).

A feature of the Anglo-Saxon literature that is essentially absent from the German literature is the attention paid to identifying the outcomes of having a calling. Empirical studies show that a calling is often related to positive outcomes, such as “greater work commitment and satisfaction, and greater life meaning and satisfaction” (Duffy et al. 2012: 295). Recent studies have started to address the dark sides, noting that pursuing a calling can be a “double-edged sword” (Bunderson and Thompson 2009; Dobrow and

Tosti-Kharas 2012; Duffy et al. 2011). This new line of research resonates with the “academic hazard”, which, according to Weber, scholars must accept.

Specification of research questions

Connecting the German and Anglo-Saxon bodies of literature on callings, at this point we consider the following elements to be indicative of a calling orientation to academia: An inner drive (Berg et al. 2010; Weber 1946) to devote oneself to an activity that is experienced as meaningful (Dik and Duffy 2009; Hall and Chandler 2005) and worthy of sustaining through often long and demanding trials (Weber 1946). In the absence of these features, and when the work is described primarily as a means of making a living or of fulfilling the need for advancement, we would characterize the person as having a job or a career orientation (Bellah et al. 1985; Schiller 1972 [1789]; Wrzesniewski et al. 1997)

Whereas it is possible to formulate this working definition of callings to academia based on the combined bodies of literature, there are numerous features of callings to academia on which the German and Anglo-Saxon literature to date differ or remain unclear, namely: timing; source and nature of callings; role of others in discerning and living a calling; outcomes of callings; significance of different academic contexts; and role of gender.

Our intention here is to explore it empirically by operationalizing the dimensions specified in the two bodies of literature in order to establish whether or not the notion of engaging in academia as a calling is valid today in Germany and the United States, and, if so, also to clarify whether adjustments need to be made in characterizing the dynamics of academic callings to reflect current realities. This study therefore applies the key dimensions characterizing callings to pose the following questions:

- a) *Presence of calling orientation*: Do academics today have a calling orientation? Or do they work in academia with a job or career orientation? Are they mutually exclusive or combinable orientations?
- b) *Timing of calling*: When do people discern a calling to academia, and what conditions affect the timing?
- c) *Sources and nature of calling*: What are the sources and nature of callings to academia today?
- d) *Role of others*: How do other people affect living and discerning academic callings?

- e) *Outcomes*: What are the positive and negative personal outcomes of having a calling in academia?
- f) *Context*: To what extent and how does the national context influence the experience of discerning and living a calling?
- g) *Gender*: Do women and men experience callings to academia similarly, or are there gender-related differences?

Callings in Two Academic Contexts: Germany and the United States

So far, very few studies have examined callings cross-culturally, for example between working adults in Germany and the United States (Hagmaier and Abele 2012) and between working adults in India and the United States (Douglass et al. 2016). Germany and the United States are useful settings in which to explore callings in academia today because they represent different models of the academic career path. The *Habilitationsmodell* in Germany and the tenure track model in the United States can be considered as two ends of a continuum, as two ideal types.

The tenure track model affords young scientists the opportunity to engage in independent research and teaching at an early stage. This ideal type envisages a trial period of usually between six and seven years followed by a permanent employment contract (Kreckel and Zimmermann 2014: 57–60; Henningsson et al. 2017). The landscape of universities and colleges in the United States is structured vertically, with the research and doctoral universities at the top of the hierarchy (Kreckel and Zimmermann 2014: 54). An assistant professor who does not receive tenure can seek a tenured appointment at a lower ranked organization.

The career path in the *Habilitation* model rests on different core principles: (a) the requirement of a post-doctoral *Habilitation* to qualify for a professorship; (b) the prohibition of internal appointments (*Hausberufungsverbot*), as a consequence of which careers can progress only by moving to different institutions; (c) the “*Lehrstuhlprinzip*”, whereby academic posts are clustered around university chairs who control the direction of research and teaching in their area of expertise; (d) the treatment of all academic posts below the level of professorship as training positions (*Qualifikationsstellen*), implying that academics in these positions cannot research or teach independently (Kreckel and Zimmermann 2014: 36–38).

Research design and methods

A qualitative approach

The Anglo-Saxon literature on callings is predominantly based on quantitative research (notable exceptions include Bunderson and Thompson 2009; Duffy et al. 2012; Hagmaier and Abele 2012; Bott et al. 2017). In most of the quantitative studies, and the few existing qualitative studies, participants were primed to think about their work in terms of callings (an exception is Bunderson and Thompson 2009). By contrast, we took a qualitative approach by conducting biographical-narrative interviews, using open questions to stimulate the respondents to describe how and why they came to be where they are in academia. The intention of this approach was to allow the respondents to use their own words and to choose their own angles in characterizing their paths, without biasing them towards concepts in the literature on callings.

Sample recruitment and composition

The primary criterion for participant selection was experience working in academia after obtaining a doctoral degree in the social sciences (broadly defined, e.g., sociology, political science, geography, economics). We decided not to study academics who would need a laboratory (e.g., experimental psychologists, natural scientists) in which to continue their work, if they so desired, because we wanted to include in the life narrative the possibility of continued academic activity during retirement. A heterogeneous purposive sampling approach was used to assure a diversity of perspectives (Etikan et al. 2016). We recruited potential participants in our networks, at professional conferences, and through snowballing.

The sample (see Table 1) consists of forty academics, half of whom work in Germany, and the other work in the United States. (Three of the respondents in the United States and one in Germany originally came from a different country.) To enable us to discover potential gender differences, an equal number of women and men was recruited in Germany and the United States. In order to observe possible effects of callings stemming from changes in the academic context over time, respondents were selected from early to late career (ages ranged between early thirties to early eighties). Different kinds of academic situations are represented in the sample by including various types of institutions (research and teaching universities, business schools, and research centers outside universities) and various contractual

conditions (tenured, tenure-track, other temporary contracts, retired). The sample includes people who had work experience outside academia, as well as people who went straight to an academic post after completing their degrees. A few respondents mentioned having a parent in academia, however many more of them described themselves as being the first in the family to study at a university, and they referred to having to work in order to afford their studies. In other words, the sample is quite different from the elite young men who attended Weber's lecture at the university of Munich.

Table 1 Demographic characteristics of respondents

Characteristic	Specification	
Country	USA: 20	Germany: 20
Sex	Men: 20	Women: 20
Age range	Early 30s to early 80s	
Type of institutions:	College, university, business school, research center	
Type of contract	Tenured, tenure track, adjunct, other temporary contracts, retired	
Disciplines	Economics, education, finance, geography, history, management, political science, sociology	

Research instrument and procedure

The data used in this article were collected in the context of a large international and intergenerational study on paths into and out of academia, using a biographical narrative approach that has its roots in the Chicago School, was refined by Fritz Schütze (1983) and later by Ralf Bohnsack (2010). In this kind of interview, a stimulus is used to evoke a biographical narrative that the interviewer should not interrupt. Only after the respondent gives a clear signal that his/her narrative has ended does the interviewer start to ask further questions. A few follow-up questions were prepared in order to cover the entire life span, in case an aspect was not mentioned. Other follow-up questions emerged in response to the story-telling in order to obtain clarification.

All the interviews were conducted face-to-face in German or English, depending on the respondent's preference, and most lasted between 60-90 minutes (with a few exceptions of 40 and 120 minutes). The interviews were recorded and then fully transcribed. Identifying information was removed for analysis and code labels were assigned to anonymize the respondents.

Data analysis

Our analytical approach is designed to reveal whether the respondents spontaneously characterize their path into academia with terms that correspond to the way callings are theorized in the literature. We used qualitative content analysis (Mayring 2004) to code and interpret the interview data. We developed an initial code list deductively based on the relevant literature. Each member of the coding team (the two authors and a student assistant) independently coded the same four transcripts with the software MAXQDA. We also added some sub-codes inductively to capture aspects that came up in the interviews which we had not yet introduced from the literature. Then we discussed all our coding and expanded and modified the code list. After achieving a common understanding of the codes, the remaining 36 interviews were coded independently. At least last two members of the team reviewed each transcript and we regularly discussed changes to the code list (see appendix—in published version it will be available online).

In addition to coding the material, we wrote thumbnail sketches for all 40 cases by summarizing each interview according to our main criteria and assessed whether the respondents show signs of a calling orientation to academia. The thumbnail sketches were written by one of the authors and modified, if necessary, by the other one. We thus took a two-pronged approach for data analysis, combining the vertical cross-cutting of the data with the horizontal assessment of each individual case. This dual approach proved useful for finding commonalities and differences between the cases and for generating a general assessment of each of the respondents' orientations.

Results and discussion

We present our findings in several steps, providing insights into the richness of the data and the process through which we generated answers to our research questions. First we offer short cases to illustrate different profiles in our sample and how we categorize them in relation to callings. Then we explain our overall assessment of the presence of a calling orientation among our participants. Afterwards, we discuss our findings for each of the key features of an academic calling.

Illustrative Thumbnail Sketches

Table 2 presents two cases to illustrate how they relate to academia and how we assessed their orientation. To reflect the diversity in our sample, we chose a man and a woman in both countries; they are in different age brackets and in different kinds of academic institutions and contractual conditions. The

left hand column is a thumbnail sketch of their path, and the right hand column is our assessment of their orientation.

Table 2: Illustrative thumbnail sketches

Thumbnail sketch	Assessment
<p>Woman in Germany, 40s, temporary contract at a university Kerstin comes from a background with no academic orientation. She discovered early during her undergraduate years that she loved the intellectual work of making her own contribution. She had a sense of fit with the discipline she chose as an undergraduate. She sought out learning opportunities in different institutions and locations, and developed relationships with established scholars along the way, through which various job opportunities arose, including a period outside academia, during which she sustained her research interests. She has persisted in pursuing her commitment to academia with a series of temporary contracts.</p>	<p>Kerstin had an early calling to academia, feeling a sense of fit to the discipline and the intellectual context with colleagues. She has sustained her commitment despite not achieving a tenured position.</p>
<p>Man in US, 30s, business school, tenure track Theodore's father had served as a role model for educational achievement, but Theodore intended to work in industry. During his graduate studies he first discovered that he enjoyed teaching, then also research. The decision to stay in academia was strongly influenced by the "huge pressure" to do so at his highly ranked graduate school, however he may leave academia: "I don't feel enough that this is it, like this is what I want to be for the next 30 years."</p>	<p>Theodore does not have a calling to academia. Although he enjoys teaching in particular, he does not have the degree of commitment he identifies as necessary for academia.</p>

Presence of calling-orientation among academics

Almost all the participants in our sample described their engagement with academia in terms that correspond to having discerned and lived a calling to this occupation, although few specifically used the term "calling". In the course of their narratives they referred to all the key elements in the working definition we compiled from the literature: feeling deeply committed to their academic work, for which they are intrinsically motivated; their relationship to their work was not instrumental, it was not merely a means to an end and they were not solely focused on advancement; rather, they described it as a meaningful activity with which they identified; and they persisted in pursuing it through demanding circumstances. For example, a respondent who consciously experimented with various kinds of occupations before choosing academia explained:

I think at the heart of the notion of calling is the idea that you feel like your work is deeply meaningful. I would say that I truly feel that on the teaching side. (Man in USA, university, tenure track, in his 30s).

But our sample also includes cases which we would not consider as having a calling. Four respondents described their relationship in quite different terms than those we categorize as having discerned and lived a calling to academia. Although they enjoy some of the work, they do not express the strong intrinsic motivation and consciously place more importance on other priorities in life (e.g., family or another activity pursued in parallel), so that their academic work is a means of earning money and, sometimes, of achieving status. Their primary orientation appears to be to a job or career in academia. They are demographically diverse: men and women, in Germany and in the U.S., with different kinds of contracts (tenured professor, temporary professor, tenure-track), and in different kinds of institutions (university, business school, and college). Quotations from their interviews illustrate why we did not characterize them as having a calling orientation to academia:

I am maybe not really so intrinsically motivated most of the time...Looking back, I see that I was somewhat lacking the intense persistence [fehlender Biss] that one needs in science. (Man in Germany, temporary professor at university, in his 40s)

It was purely calculated I never wanted to be an academic... I found I enjoyed it.... The biggest driver of my career is my children. (Woman, tenured professor in US college, in her 40s)

With only four respondents lacking clear signs of a calling orientation in our sample of forty academics we could conclude that the prototypical calling to academia is alive and well, at least among social scientists in Germany and the United States. However, a closer look at our data in conjunction with the literature leads us to refine this broad-brush conclusion.

First, while it might not be surprising that the vast majority of our respondents exhibit a calling orientation, it is striking that none of them has a calling in the classical, passive sense of the term. As Bunderson and Thompson (2009: 34) note, since the 1980s researchers have been stripping away the notion's religious roots, which include an external source of calling (such as God or destiny) and a sense of duty. Instead, the modern emphasis lies on "the fulfillment that doing the work brings to the individual" (Wrzesniewski et al. 1997: 22). We found no traces in our material of the classical German nor of the neoclassical categories (destiny, personal duty and sacrifice) that Bunderson and Thompson (2009)

documented among the zookeepers they studied. The respondents in our sample came to academia through an active process of testing themselves as well as testing alternative paths. We therefore conceive of the newer view as “agentic” because it accentuates agency, self-realization, and personal passion. This view corresponds to the concept of the entrepreneurial self which stands in the tradition of studies of governmentality and focuses on self-initiative and self-responsibility (e.g. Bröckling 2016).

Second, unlike other studies which suggest that there is a clear differentiation between the a calling and a job or career orientation (Wrzesniewski et al. 1997), we found a mixture of two or three of the orientations in the narratives of most of the respondents we characterize as having a calling. Although many respondents tend to distance themselves from peers who exhibit a calculating approach to developing their careers, they nevertheless describe moments of strategic thinking in making their own decisions about their work. For example, a respondent provides a pragmatic explanation for her change from one discipline to another as:

I saw that in that discipline there are chairs, in this other discipline there are none, so I go where there are chairs—it did not require actually changing the content of my work (Woman in Germany, tenured professor, university, in her 40s).

In light of the escalating competitive pressure in academia it could even be argued that academics today need to be intrinsically motivated and devoted to academia while also acting as an “entrepreneurial self” (Bröckling 2016). Without strategic thinking, human capital accumulation, and performative self-presentation, it is becoming increasingly improbable to obtain a permanent post or tenure in academia. We deem a job orientation to be operative in our sample not only because few respondents mention that they would not need the money they earn from their academic activities to make ends meet, but also because some express concerns about unemployment or financial security in retirement. In a situation of growing job insecurity in academia, making a living for oneself and potentially one’s family becomes increasingly important; it may even temporarily override the sense of pursuing a calling. The situation of most academics today is very different from the men with wealthy sponsors or families of Weber’s times. We therefore conclude that callings in academia do not preclude working with a job or career orientation. Contrary to Schiller’s expectation, academics today may have to be both a “*philosophischer Kopf*” and a “*Brotgelehrter*”.

Timing of discerning and living callings in academia

The traditional German literature presupposes that academic callings are experienced early in life, usually in adolescence. Our sample shows that callings can emerge at various points in the life span, and that there is a time lapse, which can extend over many years, between discerning and living a calling in academia. Although none of the respondents remembered having an early calling to become an academic, a few did indeed describe having experienced a strong desire in childhood or adolescence to go into science, to teach, or to address a social issue that they later pursued in academia. For example, one explained:

I was driven from a ... a young age to ... education and learning, and ... it is a thrill to be in the classroom, particularly with undergraduate students. That is an honour and a gift. (Woman in US, tenured, university, in her 50s)

The majority of the respondents in our sample said that they had not really planned to enter academia as a profession. Although many started to develop a taste for it while studying for their first or second degree (Bachelors, Masters, *Diplom*), very few envisaged at that point that they would turn this interest into a possibly life-long commitment. The transition from being simply interested in academia to actually discerning a calling that they wanted to commit themselves to happened for most of these respondents during their doctoral studies.

While I was writing the book [doctoral thesis], the feeling grew in me that I was enjoying what I was doing, it fulfilled me, and that I would actually like to continue doing this. (Man in Germany, temporary contract, research center, in his 40s)

Another timing feature that emerged from the narratives is that a life span can entail sustaining a calling to academia while working in a different domain, then returning to academia to live the calling. A few respondents who had discerned a calling to academia during their studies but were discouraged by the tight academic labor market when they completed their degree, sustained their interest while pursuing another activity such consulting or school teaching. There, they continued to read and write academic articles, then returned to live their calling in academia. A man in Germany described how he felt while he was working in a job outside academia:

I sensed that it was still burning, [...] the academic fire was still there. (Now tenured professor, university, in his 40s)

In light of these findings, we concur with Bott et al. (2017: 123) that the timing of callings is variable rather than fixed. A modern notion of calling must therefore recognize that the timing may vary by individual and by domain, both for discerning and for living one's calling.

Source of callings

Given the significance attached in the Anglo-Saxon literature to the role of external summons for discerning a calling (Dik and Duffy 2009; Duffy and Dik 2013), we looked for evidence in our data of people responding to an external summons to academia or fulfilling a destiny in following this path. But our respondents make no reference to receiving a signal from a voice or other kind of external force to enter academia. None of our respondents use expressions referring to having a gift for academia. Instead, the formulations the respondents use show a strong agentic position in their decision making.

One of the things that I noted in that was that as a young child I always knew that I wanted to be a teacher. So, there was a piece of this that I always understood and was always attracted to.

(Woman in US, tenured professor, college)

Duffy et al. (2014: 565) associate the reflection and active self-exploration that we find in our data with the notion of finding a “perfect fit between his or her skills, values, and interests and an occupation” as the source of calling. Only few respondents referred to immediately sensing a perfect fit with academia. For example, a woman in the US who chose to get her MBA after some years in industry experienced an immediate sense of fit:

The thing that kind of clinched it for me when I started to go back for the MBA...and I got on campus, and I was attending classes again ... I was like: This is what home kind of feels like in a social setting, in a kind of work environment. (Woman in US, temporary contract, business school, in her 40s)

Others talked about feeling that kind of match between their competences, interests and values with their work later in their academic life. One of the striking features of the narratives, however, is that for many of our respondents the fit was only partial: the occupation and conditions of academia do not fit their skills and interests in all ways. Unlike the zookeepers who frame even the “dirty work” they have to do as “part of their offering to society” (Bunderson and Thompson 2009: 51), many of our respondents would prefer to drop some the “dirty work” that is part of the academic enterprise (e.g., revising and resubmitting for publication, administrative work, and some teaching). This feature of a partial fit may be due to the fact

that most of the respondents did not know all that is entailed in being an academic until they took their first academic job, and only a few respondents speak about being attracted to the entire academic enterprise and way of life.

Little did I know what all academia entailed at that point. Because you don't know. You really don't. I think when I entered the PhD program, I had a little bit of an idea of the balance between teaching and research, and what the profession kind of looked like, but not really. So I just knew that I really enjoyed the life of... being in a university...in some way. (Woman in US, temporary contract, business school, in her 40s)

We therefore distinguish between an external summons as the source for a calling in the classical or passive sense of the term and an internal summons or internal motivation as the source for a calling in the secular or agentic sense. The difference can be summarized as something that one *has* to do versus something that one *wants* to do.

Nature of callings

According to the German traditional literature, the nature of academic callings is primarily a dedication to finding the truth. However, in our sample few respondents refer to the search for truth; instead most characterize their engagement in academia as driven by a learning orientation, a desire to understand phenomena. Typical examples of how the respondents described the nature of their interest in academia are:

I want to know more exactly how something works, why something works, and I then want to communicate that to others, particularly to students (Man in Germany, retired from tenured position at a research center, in his 70s)

I love academia. I am glad that I suffered through all the things that I went through. I love being in an environment, where I am always learning new things (Woman in US, tenured, business school, in her 60s).

The most prominent aspect that our respondents associate with academic work and life is autonomy. The data shows that this concept encompasses three aspects: (a) the freedom to do what one is interested in and to formulate one's own questions, (b) the freedom to choose with whom one wants to collaborate, and (c) the flexibility to organize one's work and life. Characteristic explanations are:

I am very autonomous in how I work and I can do what I like to do, which often doesn't even really feel like work. (Woman in Germany, tenured university professor, in her 50s)

I like this freedom to collaborate, and to have students from all different disciplines across the university. (Woman in the US, tenure track, university, in her 50s)

.A predominant factor in the Anglo-American literature about callings today is a pro-social orientation (Duffy and Dik 2013; Bunderson and Thompson 2009). Only about half of our respondents make any reference to their motivation to contribute to a greater good like the advancement of science or solving societal problems. A few academics in both countries recalled having embarked into academia with a desire to “change the world.” Others formulated a desire to improve society by influencing the political process with their research:

In the best case, there are policy implications, where we can somehow show the mechanisms for change... and say... here are ways of reducing educational inequality or the disadvantages of certain groups... That is what attracts me to science. (Man in Germany, temporary post, research center, in his 40s)

All the respondents we identified as “called” expressed a strong inner drive to self-realization and the desire to find meaning and purpose in their work, which corresponds to the agentic nature of callings in a secular context. Several emphasized that the sense of meaningfulness has to be internally self-generated (i.e. agentially) because feedback in academia tends to be critical.

The feeling that what one is doing somehow is meaningful or important or right, that has to come from oneself, because it does not come from peers, nor from supervisors. (Man in Germany, temporary contract, university, in his 30s)

Therefore, we conclude that the nature of calling to academia today is primarily tied to self-realization and personal meaning with only half of our respondents making references to a prosocial orientation. This finding underscores the agentic view of callings.

Role of others in perceiving and living a calling

The literature on academic careers emphasizes the role of mentors at the outset (Funken et al. 2015, Bott et al. 2017), and indeed the presence of senior academics comes through in almost all the interviews. Most respondents who have discerned and are living a calling in academia describe one or

more strong professional mentors investing in them and providing advice. Sometimes the influence came early and awakened an interest in academia, in the form of a parent role model or an exciting teacher at school. In a few cases, a positive experience with a professor in undergraduate studies was significant for awakening interest in a topic or as a role model. Some respondents report that working with a professor as a student assistant during Master or *Diplom* studies helped them discover what is entailed in being an academic, and such early jobs also laid the ground for gaining visibility to potential mentors. In several cases the person was made aware of his or her potential by a professor or another mentor who recommended they consider undertaking a doctorate.

Actually I had a wonderful woman role model at that time while I was there [teaching in a school].

She kept encouraging me: No, no, you need to keep going on; get that PhD. That is why I went back and got my doctorate and entered into the academy. (Woman in US, retired tenured professor, university, in her 60s)

A striking feature of the narratives is how the respondents emphasize the role of others not only in discerning but also in living their calling. This is significant because the literature to date has focused on the initial discernment, and the notion of pursuing a calling is often characterized as a lonely process. For example, one respondent explained that he enjoys

pursuing ideas, crafting them, communicating them persuading others they are legit, working with others to develop them ... but there's a solitary dimension to calling that I don't necessarily feel.

(Man in US, tenure track, business school, in his 30s)

Respondents who had already discerned a calling needed advice and guidance to be able to actually live their calling. Those who had left academia to work in another domain and discovered that they had discerned a calling to academia needed an external stimulus to make the decision to reenter academia. Respondents who felt called needed help to learn the rules of the academic game.

Our data reveals that personal support from family and friends is also very important in the process of discerning and living a calling in academia. A woman who reentered academia after working in the not-for-profit-sector explained:

It was definitely a journey. You know [...] back in 199X, [...] I thought I would like to go get a doctorate, but I didn't really know how, or where, or...anything. And I didn't necessarily have the support to do it. And [...] then in 201X things had really just all come together in such a way that I

had the right personal support to do it. You know, my husband was so supportive. I had the ability and the knowledge and the connections, [...] that kind of helped me [...] understand what the process was, and how to think about things. (Woman in US, temporary contract, university, in her 40s)

These results confirm previous research in Germany on the role of mentors and personal support for holding an optimistic view of one's own future prospects (Funken et al. 2015; Rogge 2015). The significance becomes all the more evident in light of the experiences of respondents who did not have this kind of help. The absence of supportive mentors is particularly stark in the stories of the respondents we characterized as not having a calling. None of them refers to the help of advisors, they were generally left to their own devices:

Neither in my first nor my second project did anyone say to me, 'listen carefully, you are getting older, you are in this project, you are in academia, you have to decide what you want to do, to work according to the rules of academia in a way that will look good on your CV.' (Man in Germany, temporary contract, university, in his 40s)

The respondents we characterize as having a calling but whose narratives reveal an absence of professional and/or personal support tend to explicitly or implicitly portray themselves as self-made, and most still do not feel they fully belong in the academic environment.

I think I was a hybrid for a long time. I was definitely more academic than others in my activist-circles. And in my academic circles I was more of an activist than the others. And for a long time I really thought that I liked this kind of division of work until I noticed that in my institution I cannot get ahead without peer reviewed journals, and writing those kinds of articles was a completely different way of working. [...] I would say that in many ways I really am a self-made person, who happens to discover how to do things. (Woman in Germany, temporary professor, research center, in her 50s)

We therefore conclude that the support of senior mentors as well as friends and family is vital for discerning and living a calling. In that sense a calling is a social rather than purely independent phenomenon. It still entails sponsorship, albeit quite differently than the kind from which Weber's young elite benefitted.

Outcomes of having a calling to academia

The U.S. literature on callings highlights primarily positive outcomes associated with having a calling (Berg et al. 2010; Conklin 2012; Duffy et al. 2012). A few studies discovered that having a calling can actually be a double-edged sword, because the passionate dedication to work often results in self-exploitation (Muhr, Pedersen and Alvesson 2013) and lures people into winner-take-all-markets (Bunderson and Thompson 2009; Dobrow and Tosti-Kharas 2012; Rogge 2015). The metaphor that Weber used is harsher: he characterized following an academic calling as a hazardous undertaking, entailing a long period of trial with an uncertain outcome. Our findings show that engaging in an academic calling spans the gamut: the experience of fun and joy at work, associated with a sense of independence, but also frequent evidence of physical and emotional strains, including guilt and fear:

I am happy that this way I can do things that I enjoy doing and get paid for it, I find that great! And that I thereby have my independence as a woman, mother, human being, and that I can advance my own topics. I experience that as a luxury. (Woman in Germany, tenured professor, university, in her 50s)

I noticed in this phase of having a burnout that I had developed a negative personality, which also affected my private life. (Man in Germany, tenured professor, university, in his 50s)

A particular source of stress stems from living with double uncertainty inherent in the “academic hazard”: questioning one’s ability to achieve the intellectual objectives, and not knowing whether one will move out of precarious contractual conditions.

During that time [her Habilitation years] I felt like I belonged, but I was always aware: you are not yet in a secure post, you can still fall out. (Woman in Germany, tenured professor, in her 50s)

The excitement of the learning and discovery process coupled with the preponderance of negative feedback that is characteristic of the scientific venture does indeed make for a “bittersweet symphony” (Knights and Clarke 2014). The uncertainty of the outcome that Weber warned of a century ago marks the existence of academics more than ever in the competitive market for jobs and for publication space in the top-ranked journals.

Context

A key and surprising finding of this study is that there were very few differences between the way respondents experienced callings to academia in the two cultures. This finding may indicate that the

internationalization of academic standards and procedures, and the high level of competition for few positions in both contexts outweigh the effects of culture and tradition.

Noteworthy exceptions include the influence of international experience and references to health-related problems. International exposure turned out to be more significant for discerning an academic calling in the German narratives than in the United States. Periods of study or internship abroad were opportunities to discover an issue to address, or to find a method or conceptual approach that the respondent felt was exciting to work with. However, for both groups of respondents later international exposure played a role in shaping how academics could live their calling. This finding supports other research showing that periods abroad are very important for sociologists in Germany between earning a doctorate and the first tenured professorship, whereas for their peers in the United States, it is more common to take a visiting position abroad after having achieved tenure (Beyer and Massih-Tehrani 2017). Also, we find more references to health-related problems (e.g., burnout) due to stress in the narratives from our German respondents. Both differences can be associated with the different career systems in Germany and the U.S. Whereas the German model of the academic career is based on the belief that academics have to prove themselves at different locations as expressed in the traditional prohibition of internal appointments, the U.S. tenure track model is essentially an organizational career that enables academics to rise within the organizational ranks when they meet the corresponding standards. The stress our respondents in Germany feel is often associated with the long years of professional uncertainty due to the lack of junior staff positions that are unique in international comparison (Kreckel and Zimmermann 2014). In sum, we find differences in the career conditions our respondents experience in the two countries but these differences have no significant effect on the presence, timing, source, or nature of their calling, on the role of others or the outcomes of living a calling.

Gender

Another striking absence in our data relates to gender. We looked for gender differences in responses across all the coded categories. But the narratives revealed no different patterns between how men and women talk about discerning and living their callings to academia. This is a surprising finding, given the significant differences in other aspects of academic working life, for example the uneven distribution of resources (Ceci and Williams 2011). Even the decision about whether or not to combine a commitment to academia and having children did not turn out to be gendered in this sample. In fact the

topic was raised with contrary logics by two women in Germany: Although one professor explained she had chosen to pursue her academic career at the expense of having children, another said that her decision to enter academia was a way to combine having children and a meaningful career. A male respondent in the United States told a similar story. Supportive partners were mentioned by men and women. Whether or not the absence of difference in our data means that callings really are a gender-neutral process, at least in academia, is a question that needs to be examined in future research.

Implications for theory and practice

The point of departure for this article was the observation that there are two hitherto insufficiently connected strands of literature about callings--the German tradition of normatively defining academic callings and the recent Anglo-Saxon empirical body of research about callings in different occupations. This observation triggered the theoretically rooted question: by drawing the two bodies of literature together, can one gain fresh insights into the extent to which the notion of callings is relevant in academia today? The data for addressing this question was generated via biographical narrative interviews with forty social scientists in Germany and the United States.

The definition derived from the combined literature at the outset was: An inner drive (Berg et al. 2010; Weber 1946) to devote oneself to an activity that is experienced as meaningful (Dik and Duffy 2009; Hall and Chandler 2005) and worthy of sustaining through often long and demanding trials (Weber 1946). Key analytical categories identified in the two bodies of literature for understanding callings were: timing, source, nature, role of others, outcomes. We additionally looked for effects of contextual and gender differences, noting that the original audience for Weber's lecture on "Science as a Vocation" was young German men, whereas academics today come from more diverse backgrounds and include a significant proportion of women. Our study was based in two countries and the sample was gender balanced.

Our analysis of the data advances the understanding of callings in academia by shifting the perspective from a static to a dynamic, and from a passive to an agentic view of callings. In doing so, it revises the simple binary distinction of having or not having a calling that underpins most of the empirical Anglo-Saxon studies for which respondents are pre-selected on the basis of a short questionnaire. Furthermore, it shows that for most academics in Germany and the United States today, pursuing a calling necessarily includes elements of a job and career orientation, a combination of Schiller's "*philosophischer*


Kopf” and “*Brotgelehrter*”, because the projectification of academia and the increased competition for fewer tenured positions require to act as an “entrepreneurial self” (Bröckling 2016). In the following, we summarize our four key findings:

- (1) Most academics today experience what we term an agentic calling. The source of a calling to academia today is predominantly internal. None of the respondents referred to having a gift for academia. Rather, they discerned their calling after a process of active self-exploration. Traditionally, Weber (1946) and others viewed academia as something that one feels compelled to do. The gift and capacity for inspiration must be discovered and dutifully embraced (Jaspers 1959 [1946]: 107). We find almost no remnant of this view in the narratives of our respondents. In the context of a wider societal trend to self-realization, academia has been transformed to an activity that people pursue because they want to and not because destiny or an external force requires them to make such a commitment.
- (2) Discerning and living a calling is a process not a static condition. As opposed to the traditional German view of a calling as a gift, something that people possess or not, our findings show that a calling to academia develops primarily through experience and academic socialization. The majority of respondents had not planned to become academics; it was only after “stumbling” or “slipping” into it, often after testing alternative routes, that they discerned their calling. The implications of this finding are far-reaching. It not only deviates from the German traditional model of an early calling, but also from the Anglo-Saxon view of modern career planning, and from the neoclassical callings experienced in early childhood (Bunderson and Thompson 2009); instead, it supports the idea that a calling is an agentic ongoing process of testing and experimenting, a process that is not necessarily linear and may include phases of actively sustaining a calling while working in a different domain.
- (3) Callings may pertain only to certain aspects of a job or career. Unlike callings to other professions (e.g., zookeeping), few respondents spoke about being attracted to the entire academic enterprise; most felt called to particular parts of the work (e.g., research), and resented the other parts, or they were disappointed when they discovered that the part they loved (e.g., teaching) was not considered valuable by the profession.

- (4) Callings are to a great extent a relational activity in the sense that they are developed with the help of significant others. The findings of this study confirm the significance of sponsorship from professional mentors and personal support from family (Rogge 2015), thereby underscoring the social nature of the calling process.

Given these findings, we characterize the calling to academia as an agentic process of seeking and pursuing academic work that is experienced as meaningful, a process that is inspired primarily by an internal summons to self-realization and personal passion, develops through experience and socialization, and benefits from the encouragement and support of others. This definition of a calling as agentic contrasts with the classical/neoclassical definition that emphasizes an external summons--usually received early in life--which one feels duty-bound to follow. Common to both definitions is the recognition that pursuing the calling entails “hazards”, and in modern work settings may bring the risk of self-exploitation. For theory-building and future empirical research we propose conceiving of agentic and classical/neo-classical callings as two poles on a continuum with numerous potential variations between the two ideal types, as shown in Table 3.

Table 3 Agentic and classical/neoclassical callings

	Agentic		Classical/Neoclassical
Source	Predominantly internal		External
Nature	Self-realization and personal meaning		Personal meaning and pro-social motivation
Timing	Called through experience		Early calling
Role of others	Social nature of calling		Calling is rooted in oneself

Avenues for future research include examining whether the narratives of academics in other settings correspond to the findings reported here, and exploring whether the findings apply to callings to other professions. For example, is there evidence of a trend towards agentic callings in academia in other countries or are there places in which academics characterize their calling in neoclassical terms, like modern zookeepers? The sample for this study was deliberately composed of social scientists, so a follow-up study should explore whether academics in other disciplines experience the process of

discerning and living their calling differently. Furthermore, might a survey with a very large sample reveal more gender differences in how callings are experienced in academia than were found in this sample of forty academics, or are callings more gender neutral than other aspects of working life?

This research also offers insights for practitioners. Career counselors may be surprised by the finding that so many of our respondents essentially stumbled into academia, rather than entering it as a result of a clear career plan. Our findings suggest that a period of experimentation between different disciplines and also outside of academia is quite common for the phase of discernment. Career advisors should consider this point when dealing with people who are not yet certain about their future direction. Furthermore, career counsellors and deans who control budgets could build on our findings relating to the significance of mentors in discerning a calling, deciding to live it, and sustaining it during trying times by encouraging mentoring relationships and supporting networking activities, including internationally. Lastly, the worrisome finding about the negative effects on health and well-being of pursuing a calling in academia should be addressed by career counsellors, deans, and health professionals in academic institutions.

References

- Austin, Ann E. 2002. Preparing the Next Generation of Faculty: Graduate School as Socialization to the Academic Career. *The Journal of Higher Education* 73 (1): 94–122.
- Bellah, Robert N., Richard Madsen, William M. Sullivan, Ann Swidler, and Steven M. Tipton. 1985. *Habits of the Heart. Individualism and Commitment in American Life*. Berkeley, Los Angeles: University of California Press.
- Berg, Justin M., Adam M. Grant, and Victoria Johnson. 2010. When Callings Are Calling: Crafting Work and Leisure in Pursuit of Unanswered Occupational Callings. *Organization Science* 21 (5): 973–994.
- Beyer, Stephanie, and Nilgun Massih-Tehrani. 2017. Die Bedeutung von Auslandsaufenthalten auf dem Weg zur Professur - Drei Karrieresysteme im Vergleich. *WSI-Mitteilungen* 70 (5): 330–339.
- Bohnsack, Ralf. 2010. *Rekonstruktive Sozialforschung. Einführung in qualitative Methoden*, 8th ed. UTB, vol. 8242. Opladen: Budrich.
- Bott, Elizabeth M., Ryan D. Duffy, Nicole J. Borges, Tara L. Braun, Kevin P. Jordan, and Joshua F. Marino. 2017. Called to Medicine: Physicians' Experiences of Career Calling. *The Career Development Quarterly* 65 (2): 113–130.
- Bröckling, Ulrich. 2016. *The Entrepreneurial Self. Fabricating a New Type of Subject*. Los Angeles: Sage.
- Bunderson, J. Stuart, and Jeffery A. Thompson. 2009. The Call of the Wild: Zookeepers, Callings, and the Double-Edged Sword of Deeply Meaningful Work. *Administrative Science Quarterly* 54 (1): 32–57.
- Ceci, Stephen J., and Wendy M. Williams. 2011. Understanding current causes of women's underrepresentation in science. *Proceedings of the National Academy of Sciences* 108:3157–3162.
- Conklin, Thomas A. 2012. Work Worth Doing. *Journal of Management Inquiry* 21 (3): 298–317.
- De Boer, Harry, Jürgen Enders, and Uwe Schimank. 2007. On the Way towards New Public Management? The Governance of University Systems in England, the Netherlands, Austria and Germany. In *New Forms of Governance in Research Organizations: Disciplinary Approaches, Interfaces and Integration*, ed. Dorothea Jansen, 137–152. Dordrecht: Springer.
- Dik, Bryan J., and Ryan D. Duffy. 2009. Calling and Vocation at Work. *The Counseling Psychologist* 37 (3): 424–450.
- Dik, Bryan J., and Ryan D. Duffy. 2015. Strategies for discerning and living a calling. In *APA handbooks in psychology. APA handbook of career intervention, Vol. 2. Applications*, ed. Paul J. Hartung, Mark L. Savickas and W. Bruce Walsh, 305–317. Washington: American Psychological Association.
- Dobrow, Shoshana R., and Jennifer Tosti-Kharas. 2012. Listen to Your Heart?: Calling and Receptivity to Career Advice. *Journal of Career Assessment* 20 (3): 264–280.
- Dobrow Riza, Shoshana, and Daniel Heller. 2015. Follow your heart or your head? A longitudinal study of the facilitating role of calling and ability in the pursuit of a challenging career. *The Journal of Applied Psychology* 100 (3): 695–712.
- Douglass, Richard P., Ryan D. Duffy, and Kelsey L. Autin. 2016. Living a Calling, Nationality, and Life Satisfaction. *Journal of Career Assessment* 24 (2): 253–269.
- Duffy, Ryan D., and Bryan J. Dik. 2013. Research on calling: What have we learned and where are we going? *Journal of Vocational Behavior* 83 (3): 428–436.
- Duffy, Ryan D., Bryan J. Dik, and Michael F. Steger. 2011. Calling and work-related outcomes: Career commitment as a mediator. *Journal of Vocational Behavior* 78 (2): 210–218.
- Duffy, Ryan D., Pamela F. Foley, Trisha L. Raque-Bodgan, Laura Reid-Marks, Bryan J. Dik, Megan C. Castano, and Christopher M. Adams. 2012. Counseling Psychologists Who View Their Careers as a Calling. *Journal of Career Assessment* 20 (3): 293–308.
- Duffy, Ryan D., Blake A. Allan, Elizabeth M. Bott, and Bryan J. Dik. 2014. Does the Source of a Calling Matter?: External Summons, Destiny, and Perfect Fit. *Journal of Career Assessment* 22 (4): 562–574.
- Ehrenberg, Ronald G. 2012. American Higher Education in Transition. *Journal of Economic Perspectives* 26 (1): 193–216.
- Etikan, Ilker, Sulaiman Abubakar Musa, and Rukayya Sunusi Alkassim. 2016. Comparison of Convenience Sampling and Purposive Sampling. *American Journal of Theoretical and Applied Statistics* 5 (1): 1.
- Etzkowitz, Henry, and Loet Leydesdorff. 1998. The Endless Transition: A 'Triple Helix' of University Industry Government Relations. *Minerva* 36 (3): 203–208.
- Fernández-Ríos, Luis, and Javier Rodríguez-Díaz. 2014. The "impact factor style of thinking": A new theoretical framework. *International Journal of Clinical and Health Psychology* 14 (2): 154–160.

- Flink, Tim, and David Kaldewey. 2018. The new production of legitimacy: STI policy discourses beyond the contract metaphor. *Research Policy* 47 (1): 14–22.
- Funken, Christiane, Jan-Christoph Rogge, and Sinje Hörlin. 2015. *Vertrackte Karrieren. Zum Wandel der Arbeitswelten in Wirtschaft und Wissenschaft*. Frankfurt am Main: Campus.
- Gibbons, Michael, Camille Limoges, Helga Nowotny, Simon Schwartzman, Peter Scott, and Martin Trow. 1994. *The new production of knowledge. The dynamics of science and research in contemporary societies*. London: Sage Publications.
- Hagmaier, Tamara, and Andrea E. Abele. 2012. The multidimensionality of calling: Conceptualization, measurement and a bicultural perspective. *Journal of Vocational Behavior* 81 (1): 39–51.
- Hakala, Johanna. 2009. The future of the academic calling? Junior researchers in the entrepreneurial university. *Higher Education* 57 (2): 173–190.
- Hall, Douglas T., and Dawn E. Chandler. 2005. Psychological success: When the career is a calling. *Journal of Organizational Behavior* 26 (2): 155–176.
- Haller, Max (ed.) 2013 *Wissenschaft als Beruf: Bestandsaufnahme - Diagnosen – Empfehlungen. Forschung und Gesellschaft* 5. Vienna: Österreichische Akademie der Wissenschaften.
- Hamann, Julian (2016). 'Let us salute one of our kind.' How academic obituaries consecrate research biographies. *Poetics* 56: 1-14.
- Henningsson, Malin, Anders Jörnsten, and Lars Geschwind. 2017. Translating tenure track into Swedish: Tensions when implementing an academic career system. *Studies in Higher Education* 12: 1–12.
- Hirschi, Andreas. 2011. Callings in career: A typological approach to essential and optional components. *Journal of Vocational Behavior* 79 (1): 60–73.
- Hirschi, Andreas, and Anne Herrmann. 2013. Calling and career preparation: Investigating developmental patterns and temporal precedence. *Journal of Vocational Behavior* 83 (1): 51–60.
- Humboldt, Wilhelm von. 1903. Über die innere und äussere Organisation der höheren wissenschaftlichen Anstalten in Berlin. In *Gesammelte Schriften: Politische Denkschriften*. Vol.1. 1802-1810, ed. Bruno Gebhardt, 250–260. Berlin: B. Behr's Verlag.
- Hunter, Isaac, Bryan Dik, and James Banning. (2010). College students' perceptions of calling in work and life: A qualitative analysis. *Journal of Vocational Behavior*. 76 (2): 178-186.
- Jaksztat, Steffen, Nora Schindler, and Kolja Briedis. 2010. *Wissenschaftliche Karrieren. Beschäftigungsbedingungen, berufliche Orientierungen und Kompetenzen des wissenschaftlichen Nachwuchses*. HIS: Forum Hochschule 14. Hannover.
- Janßen, Melike, and Ariadne Sondermann. 2016. Universitäre Leistungsbewertungen als Bedrohung der akademischen Identität?: Ein subjektorientierter Blick auf die Beurteilung und Kontrolle wissenschaftlicher Leistungen im Zeichen von New Public Management. *Berliner Journal für Soziologie* 26 (3-4): 377–402.
- Jaspers, Karl. 1959 [1946]. *The idea of the university*. Edited by: K. W. Deutsch. Boston: Beacon Press.
- Jongmanns, Georg. 2011. *Evaluation des Wissenschaftszeitvertragsgesetzes (WissZeitVG). Gesetzesevaluation im Auftrag des Bundesministeriums für Bildung und Forschung*. Hannover.
- Kaube, Jürgen. 2017. Max Weber: Ohne Entsagung keine Forschung. *Frankfurter Allgemeine Zeitung*. 7 November 2017. http://www.faz.net/aktuell/feuilleton/geisteswissenschaften/max-webers-vortrag-wissenschaft-als-beruf-15280078.html?printPagedArticle=true#pageIndex_0. Accessed 16 November 2017.
- Knights, David, and Caroline A. Clarke. 2014. It's a Bittersweet Symphony, this Life: Fragile Academic Selves and Insecure Identities at Work. *Organization Studies* 35 (3): 335–357.
- Kreckel, Reinhard. 2013. Akademischer Nachwuchs als Beruf? Zur unzeitgemäßen Aktualität Max Webers. In *Wissenschaft als Beruf: Bestandsaufnahme - Diagnosen - Empfehlungen, Forschung und Gesellschaft* 5. ed. Max Haller, 54–67. Vienna: Österreichische Akademie der Wissenschaften.
- Kreckel, Reinhard, and Karin Zimmermann. 2014. *Hasard oder Laufbahn. Akademische Karrierestrukturen im internationalen Vergleich*, Hochschulforschung Halle-Wittenberg. Leipzig: AVA.
- Matthies, Hildegard. 2015. Die Responsivität wissenschaftlicher Karrieren. In *Die Responsivität der Wissenschaft: Wissenschaftliches Handeln in Zeiten neuer Wissenschaftspolitik*, ed. Hildegard Matthies, Dagmar Simon and Marc Torca, 177–208. Science studies. Bielefeld: transcript.
- Matthies, Hildegard and Marc Torca. 2019. Academic Habitus and Institutional Change: Comparing Two Generations of German Scholars. *Minerva*. 57 (3): 345–371.
- Mayring, Philipp. 2004. Qualitative Content Analysis. In *A Companion to Qualitative Research*, ed. Uwe Flick, Ernst von Kardorff and Ines Steinke, 266–269. London: Sage.

- Muhr, Sarah Louise, Michael Pedersen, and Mats Alvesson. 2013. Workload, Aspiration, and Fun: Problems of Balancing Self-Exploitation and Self-Exploration. In *Managing 'Human Resources' by Exploiting People's Potentials. Research in the Sociology of Organizations*, Vol. 37, ed. Mikael Holmqvist and André Spicer. 193-220. Bingley, U.K: Emerald.
- Obodaru, Otilia. 2017. Forgone, but not Forgotten: Toward a Theory of Forgone Professional Identities. *Academy of Management Journal* 60 (2): 523–553.
- Oevermann, Ulrich. 2005. Wissenschaft als Beruf: Die Professionalisierung wissenschaftlichen Handelns und die gegenwärtige Universitätsentwicklung. *die hochschule* (1): 15–51.
- Packendorff, Johann and Monika Lindgren (2014) Projectification and its consequences: Narrow and broad conceptualisations. *South African Journal of Economic and Management Sciences* 17(1): 7-21.
- Reuter, Julia, Oliver Berli, and Manuela Tischler (eds.). 2016. *Wissenschaftliche Karriere als Hasard. Eine Sondierung*. Frankfurt, New York: Campus Verlag.
- Rogge, Jan-Christoph. 2015. The winner takes it all?: Die Zukunftsperspektiven des wissenschaftlichen Mittelbaus auf dem akademischen Quasi-Markt. *KZfSS Kölner Zeitschrift für Soziologie und Sozialpsychologie* 67 (4): 685–707.
- Rogge, Jan-Christoph. 2017. Wissenschaft zwischen Lebensform und Karrierejob. Dissertation, TU Berlin, Berlin. <http://dx.doi.org/10.14279/depositonce-6401>. Accessed 9 February 2018.
- Schiller, Friedrich von. 1972 [1789]. The Nature and Value of Universal History: An Inaugural Lecture. *History and Theory* 11 (3): 321-334.
- Schuster, Jack H., and Martin J. Finkelstein. 2006. *The American Faculty. The Restructuring of Academic Work and Careers*. Baltimore: Johns Hopkins University Press.
- Schütze, Fritz. 1983. Biographieforschung und narratives Interview. *Neue Praxis* 13 (3): 283–293.
- Slaughter, Sheila, and Larry L. Leslie. 1997. *Academic capitalism. Politics, policies, and the entrepreneurial university*. Baltimore: Johns Hopkins University Press.
- Torka, Marc. 2009. *Die Projektförmigkeit der Forschung*, 1st ed. Baden-Baden: Nomos.
- Torka, Marc. 2018. Projectification of Doctoral Training? How Research Fields Respond to a New Funding Regime. *Minerva* 56(1): 59-83.
- Waaïjer, Cathelijm J. F. 2015. The Coming of Age of the Academic Career: Differentiation and Professionalization of German Academic Positions from the 19th Century to the Present. *Minerva* 53 (1): 43–67.
- Weber, Max. 1946. Science as a Vocation. In *From Max Weber: Essays in Sociology*, ed. Hans Heinrich Gerth and C. Wright Mills, 129–156. New York: Oxford University Press.
- Weber, Max. 2010 [1930]. *The Protestant Ethic and the Spirit of Capitalism*. Routledge classics. London: Routledge.
- Wrzesniewski, Amy, Clark McCauley, Paul Rozin, and Barry Schwartz. 1997. Jobs, Careers, and Callings: People's Relations to Their Work. *Journal of Research in Personality* 31 (1): 21–33.
- Wykes, Til, Sonya Lipczynska, and Martin Guha. 2013. The h-index, the citation rating, impact factors and the aspiring researcher. *Journal of Mental Health*; 22 (6): 467–473.
- Ylijoki, Oili-Helena. 2010. Future orientations in episodic labour: Short-term academics as a case in point. *Time & Society* 19 (3): 365–386.
- Ylijoki, Oili-Helena. 2014. University Under Structural Reform: A Micro-Level Perspective. *Minerva* 52 (1): 55–75.

Appendix: Coding categories relating to callings in academia

Timing of calling

- Childhood, adolescence
- At university
- Discovered after trying other discipline
- Later after other activity
- Sustained outside academia

Source of calling

- External summons
- Internal summons
- Perfect fit
- Destiny

- Other
- Nature of calling
 - Resilience
 - Devotion, dedication
 - Prioritizing work
 - Natural gift
 - Meaning of work
 - Pro-social
 - Personally meaningful
 - Academic recognition
 - Inner direction
 - Content of calling
 - Autonomy
 - Academic discipline
 - Learning orientation
 - Search for truth
 - Method
 - Topic
 - Teaching
 - Research
- Calling self-description
- Not a calling
 - Leaving academia, plans or ideas
 - Career orientation/strategic thinking
 - Job orientation
- Role of others
 - Professional mentors/advisors
 - Presence
 - Absence
 - Personal support
 - Presence
 - Absence
 - Family expectations/influence
 - Role models
 - Negative
 - Positive
 - Family
 - Professional
- Outcome
 - Emotions relating to work
 - Negative
 - Positive
 - Fun
- Work-life issues
- Context
 - Conditions
 - Hindering
 - Facilitating
 - International comparison