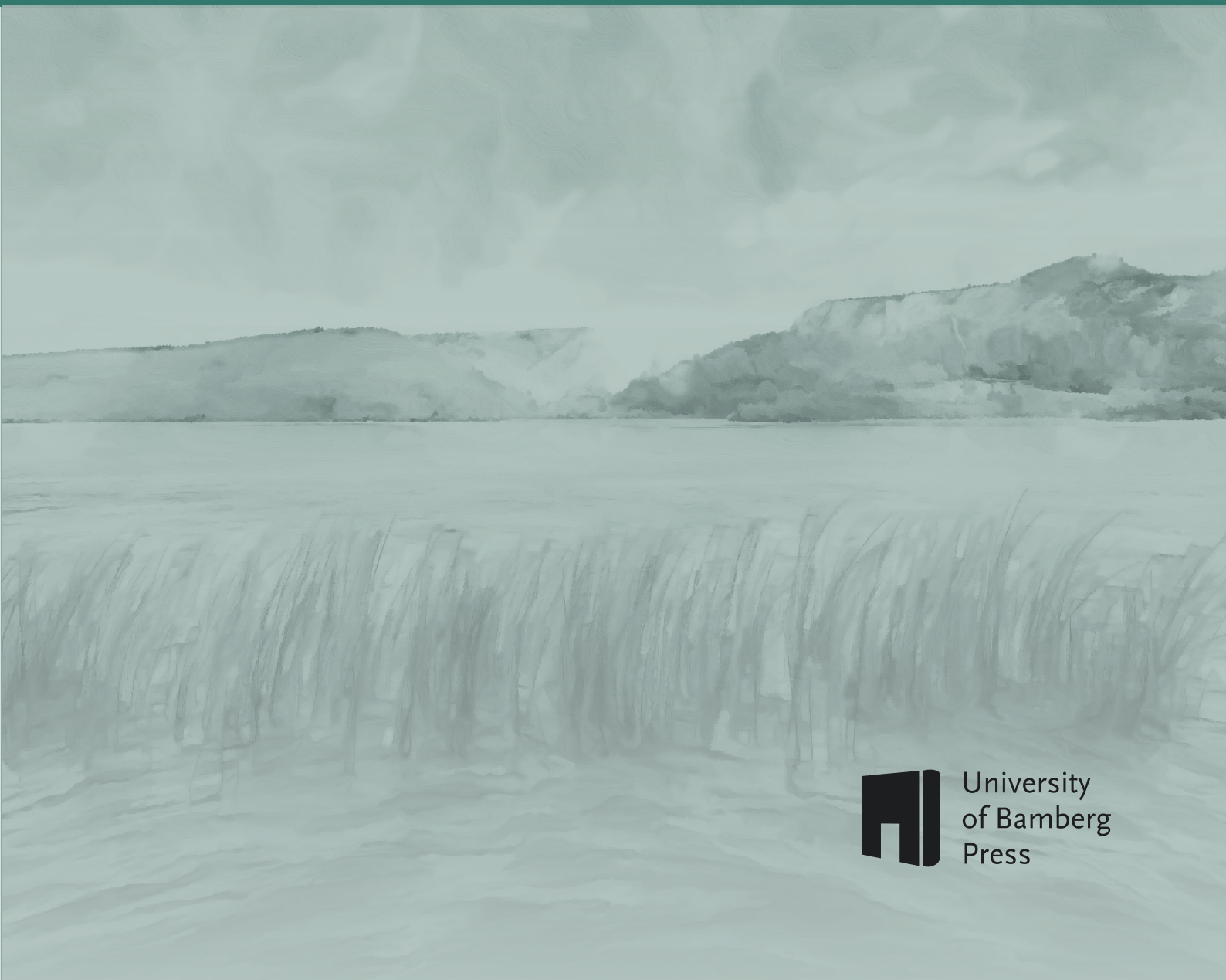
1 Personalmanagement und Arbeits- und Organisationspsychologie

Julia Hiemer

Between desirability and reality

Conceptualization, measurement, causes, and consequences of overemployment



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hg. von Maike Andresen und Judith Volmer

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Wunderliches Wort: die Zeit vertreiben!
Sie zu *halten*, wäre das Problem.
Denn, wen ängstigts nicht: wo ist ein Bleiben,
wo ein endlich *Sein* in alledem? -

Sieh, der Tag verlangsamt sich, entgegen
jenem Raum, der ihn nach Abend nimmt:
Aufstehn wurde Stehn, und Stehn wird Legen,
und das willig Liegende verschwimmt -

Berge ruhn, von Sternen überprächtigt; -
aber auch in ihnen flimmert Zeit.
Ach, in meinem wilden Herzen nächtigt
obdachlos die Unvergänglichkeit.

(Rainer Maria Rilke, 1950,
aus dem Nachlaß des Grafen C. W.)

Abstract

Overemployment, i.e., the preference for fewer work hours, is a widespread phenomenon in western societies, which may have negative consequences for individual well-being and organizational functioning. However, previous conceptualizations and measurements of overemployment are inconsistent and questionable in terms of validity, which has led to diverging research results in the past. Also, no universally accepted theory of overemployment exists, hindering progress in the field. Thus, the aim of this thesis is to make the overemployment construct more manageable for research and practice by presenting a coherent approach to conceptualizing and measuring it. This is important for research purposes to generate further knowledge on overemployment, for instance, regarding its consequences or causes. Also, practitioners need valid instruments for diagnosis if their interest is to reduce potentially negative effects of overemployment. Three research projects form the center of the thesis. The first research project is a systematic literature review. It shows the similarities and differences in previous conceptualizations and measurements of overemployment and demarcates overemployment from other concepts. We[1] also show that differences in measurement can have implications for research results, for example, for estimations of overemployment rates. Moreover, the systematic review analyzes the gaps in previous conceptualizations and measurements. It finds that desirability of reducing work hours, not feasibility of doing so, is at the core of previous overemployment definitions. Also, it proposes that a reference to reduced income when reducing work hours is not necessarily a defining criterion. In addition, the review criticizes the one-dimensional view on overemployment which regards work mainly as a trade-off between time and money. It suggests defining overemployment more broadly and including other aspects of work time which are important to the individual. Building on this analysis and with an aim to fill the gaps in previous conceptualizations, the second and third research project of this thesis investigate what overemployment means for the people who are affected by it. Thus, we bring a psychological perspective to the conceptualization of overemployment. A Grounded Theory of overemployment including its causes and consequences is developed and further refined across our studies. Regarding the causes of overemployment, the qualitative part of the thesis (research project 2) shows that a self-reinforcing circle of personal aspects, normative demands, and task demands causes overemployment and is responsible for its persistence. Also, the interview study shows that overemployment has negative psychophysiological

[1] Plural form is used throughout the thesis to achieve consistency with the published contents (Chapters 5 and 6), as these were published in co-authorship with the supervisor of this thesis.

consequences. By applying qualitative interview techniques and quantitative factor-analytical and regression methods, we find that overemployment is a multidimensional construct. It can be defined as a desire to reduce any of three work time dimensions: length of work time, distribution of work time on certain tasks, and density of work time. Length of work time refers to the desire to reduce the time spent on work, distribution of work time refers to the desire to reduce the time spent on certain work tasks, and density refers to a desire for a lower number of tasks in a certain time frame. Based on this conceptualization, this thesis is the first that develops a scale to measure overemployment: the multidimensional overemployment scale (MOS). In research project 3, the scale is developed and initially validated in four quantitative studies comprising over 1,400 participants in total. Also, the consequences of overemployment for well-being, attitudes, and behavior are examined with the new measure. The MOS proves to be a reliable and valid instrument across different samples (samples with high and low education and a university researcher sample). The MOS dimensions length and distribution predicted well-being (burnout, health satisfaction, and life satisfaction) as well as job satisfaction and turnover intention consistently in the studies. The MOS dimension density was a weaker predictor of the here investigated variables, but it consistently predicted exhaustion. Commitment and organizational citizenship behavior could not be consistently predicted by the MOS across studies. In addition, the qualitative part of the thesis suggested a moderating role of work time sovereignty on the relationship between overemployment and its consequences. This however could not be validated in the quantitative part of the thesis. Based on our findings, we revise the initially presented theory of overemployment. The major research contribution of this thesis is that it is the first to present a specific theory of overemployment and a corresponding measure based on empirical results. We discuss possibilities for application of the MOS in research and make suggestions to further investigate the construct of overemployment and develop the here presented theory. Regarding practical implications, we discuss the usage of the MOS in three areas: the organizational context, the context of coaching, and the political context.

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When I started this doctorate, I had not anticipated how much (work) time I would put into this project. Nor had I imagined that writing my thesis would accompany me through so many different phases of my life. A long journey now finally comes to an end. Most times when a journey ends, I wished it could have been longer and I look back with a joyous and a weeping eye. This time I think the time spent was sufficient, and the joyous eye predominates. I look back with deep gratitude to the people accompanying and supporting me during this long journey. Without you this would not have been possible.

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Chapter 1

1. Introduction

1.1. Research questions and contribution

> „Es gibt ein großes und doch ganz alltägliches Geheimnis. Alle Menschen haben daran teil, jeder kennt es, aber die wenigsten denken je darüber nach. Die meisten Leute nehmen es einfach so hin und wundern sich kein bisschen darüber. Dieses Geheimnis ist die Zeit. Es gibt Kalender und Uhren, um sie zu messen, aber das will wenig besagen, denn jeder weiß, dass einem eine einzige Stunde wie eine Ewigkeit vorkommen kann, mitunter kann sie aber auch wie ein Augenblick vergehen–je nachdem, was man in dieser Stunde erlebt. Denn Zeit ist Leben."
>
> (Michael Ende, 2018, p. 63, from the novel "Momo")

The quote is from Michael Ende's famous fairy-tale novel *Momo*. It describes the story of a poor girl called Momo who lives in the ruins of an old amphitheater. Momo has the gift of listening to people very carefully, thus helping them to solve problems, increasing their creativity and making them happy. Momo is extremely poor from a financial point of view, but she is rich in terms of time and friends. One day, the mysterious grey men come to the city near where Momo lives. The grey men tell Momo's friends to save their time in the Time Bank and not to spend it on activities that do not bring in any money. They promise their "clients"–with the aid of impressive numbers–that they will pay the time they have saved back later, plus high interest in the form of more time. However, it turns out that the grey men are in fact stealing people's time. And, even worse, they tell people to save time by speeding up their work and cutting back on social activities. By doing so, the grey men destroy people's happiness and work satisfaction. In the novel, Momo finally sees through the plans of the grey men and brings back people's time and joie de vivre (Ende, 2018; Goodhew & Loy, 2002).

Michael Ende's *Momo* is an extremely popular children's book and is by no means scientific literature. Nevertheless, it provides important insights into our modern attitude toward work time and lifetime (Goodhew & Loy, 2002). Some of the mottoes of the grey men such as "Time is precious. Don't waste it." or "Time is money. Save it." sound familiar to us today (Ende, 2018; Goodhew & Loy, 2002). The book also tells us that time is a finite source that cannot be saved for later. It suggests that time is linked to happiness and well-being, and that there is more about work time than simply getting things done in the fastest way.

Despite *Momo* being one of the most popular German books in the world—translated into 40 languages (AVA International GmbH, 2019; "Diese deutschen Bücher," 2010)–it seems that the lesson it aims to teach has not quite arrived in our work life yet. Many contemporary workplaces are characterized by employees working more than 60 hours a week and being constantly available (Blagoev et al., 2018; Kelly & Moen, 2020; Mazmanian et al., 2013; Perlow, 2012). Particularly in professional and managerial careers, growing workloads and putting in increasing hours are common (Brett & Stroh, 2003; Feldman, 2002; Kossek et al., 2016; Perlow & Kelly, 2014). The Japanese even have words for death due to overwork ("karoshi") and for suicide through overwork ("karou-jisatsu", Asgari et al., 2016; Kanai, 2009).

However, these work hours do not seem to reflect employees' wishes. Research shows that many people would like to reduce their work hours (e.g., Destatis, 2010; Golden & Gebreselassie, 2007; Groezinger et al., 2010; Reynolds & Aletraris, 2010). For example, a survey shows that in Europe around 30% of employees indicate that they would like to work fewer hours. Among those who work 48 hours or more, the percentage wanting to work fewer hours is even as high as 65% (Eurofound, 2019, data based on 28 member states, five EU candidate countries, as well as Norway and Switzerland). Also, data in the US show a high percentage of people (generally 30-40%) indicating they want to work shorter hours (Golden, 2006a; Golden & Gebreselassie, 2007; Reynolds, 2003; Reynolds & Aletraris, 2010). This misfit of actual and desired work hours in the sense of a preference for shorter work hours is referred to as overemployment (Golden, 2014; Golden & Gebreselassie, 2007; Merz, 2002). Despite differences in estimations of how many people are in fact overemployed, it is well documented that it is quite common, particularly among people working long hours and earning high incomes (Eurofound, 2019; Reynolds, 2005; Reynolds & Aletraris, 2010).

Existing literature also suggests that overemployment has negative consequences for individuals as well as for organizations. On an individual level, overemployment can impair people's well-being (Angrave & Charlwood, 2015; Otterbach, et al., 2019; Reynolds, 2003), life satisfaction (e.g., Wooden et al., 2009), and self-perceived health (Bell et al., 2011; Lepinteur, 2019). Also, there is some evidence that overemployment in relationships has a spillover effect on partners: in couples, it has an adverse effect on the self-assessed health of the partner (Lepinteur, 2019). Relevant for organizations, overemployment has been negatively related to organizational commitment (e.g., Abrahamsen, 2010). Also, long work hours, which often correlate with overemployment, have been associated with increased mistakes at work (e.g., Lockley et al., 2007) and reduced cognitive performance (Virtanen et al., 2009). Concerning individual well-being and organizational functioning alike, researchers have shown that overemployment and job

satisfaction are also negatively related (e.g., Angrave & Charlwood, 2015; Pagan, 2017; Wooden et al., 2009). Additionally, overemployment does not seem to be a short-lived phenomenon. Longitudinal data show that mismatches in work hours persist for relatively long periods of time, i.e., for most workers, the desire to reduce work hours was still present after five years (Reynolds & Aletraris, 2010 with US data).

In light of this research, overemployment seems to be a paradox (van Echtelt et al., 2006): many people would like to reduce their work hours, but they don't do so although it harms their well-being and although they could probably afford it, bearing in mind that it is widespread among high-income earners (e.g., Reynolds, 2005; Reynolds & Aletraris, 2010). So why do people work more than they would like to? Are they really unhappy with it? Does it affect everyone alike? Are people forced to live up to organizational norms of long work hours, or do they themselves contribute to the phenomenon? And finally, of course, there is the question of whether we should do something about overemployment, as a society, as organizations, or as individuals. And if so, what can we do?

These and similar questions were the inspiration for the present thesis. However, it turned out that there has been no consistent concept of overemployment to date. Nor is there a universally accepted theory and a consistent and valid measure of overemployment. Prior research has noted that "the lack of a theoretical framework" (Abrahamsen, 2010, p. 96) is one of the main limitations when studying overemployment (see also Feldman, 1996; Maynard et al., 2006). Research on overemployment has normally been conducted in the fields of sociology and economics that both regard work mainly as a trade-off between money and leisure (e.g., Angrave & Charlwood, 2015; Bender & Skatun, 2009; Böheim & Taylor, 2004; Matta, 2015; Wooden et al., 2009). In this tradition, single-item or discrepancy values are widely used: these are based on the number of preferred vs. actual hours. The methodology behind these measures has been criticized for low validity and low reliability (Diamantopoulos et al., 2012; Edwards, 2002; Johns, 1981). Also, previous measures vary widely in terms of wording (Golden & Gebreselassie, 2007; Holst & Bringmann, 2017). These differences are partly responsible for remarkably diverging estimations of overemployment rates in the same populations, for instance, between 2.5% and 50.1% for Germany (Holst & Bringmann, 2016, 2017) and between 6% and 50% for the US (Golden & Altman, 2008). A closer look at the empirical data also reveals inconsistencies and conflicting results regarding the consequences of overemployment. For example, although some studies find that overemployment significantly harms employees' well-being (e.g., Angrave & Charlwood, 2015; Green & Tsitsianis, 2005; Wooden et al., 2009), others find that it has relatively minor or no effects (Allan et al., 2016; Wunder & Heineck, 2013). Here, too, the inconsistent conceptualization and

measurement seems to be one of the problems (e.g., Golden & Gebreselassie, 2007). Apart from being inconsistently measured, the concept of overemployment itself is poorly understood. From a psychological point of view, work fulfills other functions rather than just bringing in money (Jahoda, 1981; Paul & Batinic, 2010). Not only the quantity but also the quality of work (time) is relevant, i.e., it matters what tasks are done in a given time and how they are done (e.g., Dik & Duffy, 2009; Kelly & Moen, 2020). To the best of our knowledge, these psychological aspects have not been considered in previous overemployment measures. In other words, people indicating the same amount of overemployment in a panel study may feel quite differently about their situation, but the simplified hours preference questions do not map these aspects. Instead, many overemployment measures ask people to indicate their exact desired number of work hours (e.g., Matta, 2015 using the German Socio-Economic Panel, i.e., GSOEP or SOEP). However, research has shown that people have difficulty answering these questions as they have ambiguous thoughts and feelings toward work hour preferences (Campbell & van Wanrooy, 2013).

Considering the difficulties described regarding the current conceptualization and measurement of overemployment, it is difficult to analyze more complex issues, such as the causes or consequences of overemployment (Campbell & van Wanrooy, 2013). The need to move beyond simplified work hour preference questions to "the use of multiple questions and rating scales" has also been suggested previously (Campbell & van Wanrooy, 2013, p. 1151). Therefore, further research is required to find out how to best conceptualize and measure overemployment and consequently answer research questions on overemployment using this new measure. Knowing the causes of overemployment, for example, could give important pointers how to decrease overemployment, and possibly enhance well-being and organizational performance. Thus, a new measure will serve basic and applied research alike.

There are many studies dealing with work hour mismatches in general (e.g., Lee et al., 2015; Reynolds, 2003, 2004, 2014; Reynolds & Aletraris, 2010) and some dealing with overemployment more specifically (e.g., Allan et al., 2016; Angrave & Charlwood, 2015; Matta, 2015; Pagan, 2017; van Echtelt et al., 2006; Wooden et al. 2009). However, research on the concept and measurement of overemployment is underrepresented. Notable exceptions are Campbell and van Wanrooy (2013) who deal with one aspect of overemployment, i.e., work hour preferences and Golden and Gebreselassie (2007) who give a short overview of different measures of overemployment. However, none of these authors provide a coherent conceptualization or measurement. Also, as mentioned above, overemployment research has not sufficiently taken into account the individual psychological aspects of work time. It has concentrated more on quantity of work time and

neglected the quality aspect. Therefore, the focus of the present thesis is on conceptualizing and measuring overemployment by also including a psychological perspective in order to integrate affected employees' point of view.

This thesis also focuses on one national constellation, i.e., the situation in Germany, to rule out confounding effects due to country-specific circumstances. Employment laws, market structures, and labor market situations vary widely between countries, which presumably has an impact on overemployment (e.g., Golden & Gebreselassie, 2007). This may also account for the different overemployment rates between countries (Eurofound, 2019). Although measurement issues make it difficult to obtain precise data (Holst & Bringmann, 2017), Germany appears to have a medium overemployment rate compared to other EU countries (Bielenski et al., 2002; Eurofound, 2019).

To sum up, the aim of this thesis is to make the overemployment construct more manageable for theory and practice. This will be done by taking into consideration affected employees' perspectives. Thus, the centerpiece is to adequately conceptualize overemployment and develop a valid and reliable measure of overemployment. In addition, the causes and consequences of overemployment will be explored. Consequently, the research questions guiding this thesis are as follows:

I. How was overemployment defined and measured in previous research?
II. How can overemployment best be defined taking into consideration the perspective of employees affected?
III. How can overemployment best be measured taking into consideration the perspective of employees affected?
IV. What are possible causes and reasons for the persistence of overemployment?
V. What consequences does overemployment have for individuals' well-being, attitudes, and behavior?

This thesis contributes to previous overemployment research for the following reasons in particular:

First, it systematically reviews previous literature to gain an in-depth understanding of the conceptualizations and measurements used so far and their possible shortcomings. By analyzing the gaps in the existing conceptualizations of overemployment, the review goes beyond describing what we already know and proposes a more complex conceptualization of overemployment. The implications of the review are the basis for the later development of the construct and its measurement.

Second, to the best of our knowledge, this thesis is the first to develop a scale to measure overemployment reliably and validly. The scale development effort is

a response to the previously criticized shortcomings of measures (Campbell & van Wanrooy 2013; Golden & Gebreselassie, 2007). A scale-based measurement of overemployment is extremely useful for research and practice. It provides the foundation for future studies on overemployment, for example, on its causes and consequences or on protective factors. Only by using a coherent and valid measure, research findings can be integrated to accumulate and expand knowledge on overemployment. The new scale can also be used in practice, for instance, for organizational diagnosis as a first step in change initiatives.

Third, as far as we are aware, the thesis is also the first to develop a theory of overemployment, its causes and consequences based on affected employees' perspectives. This theory may be taken as the starting point for discussion and future research.

Fourth, the methodological diversity of the thesis can be seen as a strength. Qualitative and quantitative methods are combined on the basis of a systematic literature review in a mixed method design (Creswell & Creswell, 2017). This combination of methods avoids typical shortcomings of single methods: in qualitative studies this might be problems of generalizability whereas in quantitative studies it might be imposing predefined hypotheses that may not reflect individual circumstances accurately (Kelle et al., 2017).

Finally, although it focuses on fundamental research questions such as defining and measuring overemployment, the results of this thesis are highly relevant for practice since real solutions can only be identified once a problem has been adequately defined and understood (Kelly & Moen, 2020). The results presented here show that overemployment can be a challenge for organizations. Based on the findings of this thesis, actions to reduce overemployment and improve work time satisfaction will be discussed.

The thesis is structured as follows. The remainder of the introduction describes the work time situation in Germany at the time the thesis was conducted and looks at important trends regarding overemployment. Chapter 2 then provides the theoretical and research background of the complete thesis. The research model and research projects are outlined in Chapter 3. After the overall methodological framework is described in Chapter 4, the three research projects are presented as the core elements of this thesis. First a systematic literature review on the concept and measurement is presented with the aim of deriving implications for conceptualization and measurement of overemployment (Chapter 5). Second, a Grounded Theory interview study presents a theory of overemployment, its causes, and consequences (Chapter 6). Third, a multidimensional scale measuring overemployment is developed and initially validated in Chapter 7. The main findings of the whole thesis are summarized in Chapter 8 and discussed in Chapter 9.

As each of the three research projects can be considered separately, they can be read independently. Therefore, there is inevitably some overlap in the thesis as a whole. The reader is consequently advised to read either the overall framework for a general overview (Chapters 1 to 4 and then Chapters 8 to 10) or the individual research projects for further details (Chapters 5, 6, and 7).

1.2. The work time situation in Germany

As the data for this thesis were collected in Germany, we will briefly describe the work time situation in Germany at the time the studies were conducted.[2] As described above, it is difficult to estimate an exact overemployment rate. Therefore, we will refrain from reporting these data and instead focus on the legal framework of work hours and the current data regarding the number of actual work hours.

German labor law allows a working week of 48 hours with a maximum of 12 hours per working day. Working days normally exclude Sundays and public holidays (BMJV, 2020a). The weekly work hours can be extended to 60 hours if the daily average does not exceed eight hours over a six-month period (Otterbach et al, 2019). However, not all companies stick to these rules stipulated by German labor law; in fact, it is common to work much more than the permitted maximum in some occupations (e.g., Blagoev, 2016; Blagoev & Schreyögg, 2019). Varying between sectors and occupations, collective bargaining between employers and employees plays a role to some extent when it comes to working time agreements. In other words, the legal regulations in Germany provide a framework for more detailed regulations which are then negotiated. In 2019, collective agreements covered 54% of all employees. Of those not covered by collective agreements another 51% worked under conditions that mirrored collective agreements (Schulten et al., 2019). The collective agreement on hours worked in 2019 stipulated 37.7 hours per week, thus remaining well below the legal maximum (Schulten et al., 2019).

Since 2001, employees in Germany also generally have the right to switch to part-time work (BMJV, 2020b). Moreover, the law requires companies to advertise jobs as available part-time wherever possible (BMAS, 2019). In addition, a judgment by the European Court of Justice in May 2019 obliges companies to introduce some measurement of daily work hours. This regulation is also binding for Germany ("EuGH-Urteil. Ministerium plant Gesetz," 2020).

Regarding the actual work time, average weekly work hours in Germany were 34.3 hours in 2018 (OECD, 2019) and similar in the previous years, with men

[2] This refers to the period between 2016 and 2020 mainly before the Covid-19 pandemic, as most data for this thesis were collected during that time.

working 38.7 hours per week on average and women 30.5 hours (Hobler et al., 2020, data from 2018). The relatively low number of average hours is due to the high ratio of part-time workers (38.5% according to Wanger et al., 2019 for year 2018). The average number of work hours for full-time employees was 41.0 per week in 2019, while the corresponding figure for part-time employees was 19.5 (Destatis, 2018c). Data show that average work hours in Germany declined between 1991 to 2018 by 3.6 hours per week. However, this decline is mainly due to a high ratio of part-time workers, whereas the work hours of full-time workers remained relatively constant (Destatis, 2018c). In addition, secondary job holding plays a minor but increasing role in Germany with about 6% of employed people holding a second job (Destatis, 2018b; Klinger & Weber, 2017, 2020). Compared to other European countries, the German average number of weekly work hours is somewhat low, which is again strongly influenced by the comparably high ratio of part-time workers (Destatis, 2018c).

To conclude, we have a relatively employee-friendly working climate in Germany, which is reflected both in the legal situation and in the work hour statistics (see also Schor, 1991 for a comparison with the US; Kuroda & Yamamoto, 2013 for a comparison with Japan). Germany is therefore an interesting context to study overemployment because these framework conditions should be a relatively good basis for individually negotiating work hours. Nevertheless, research to date shows that achieving the desired working time is a challenge also in Germany (e.g., Holst & Bringmann, 2016, 2017; Matta, 2015; Pagan, 2017; Wunder & Heineck, 2013).

1.3. Trends in employment and their relation to overemployment

Apart from describing the status quo, it would be interesting to know how the work time situation will develop in the future. Several trends in employment suggest that overemployment will remain an important topic or even become a greater challenge in the future. These trends also—but not exclusively—apply to the German labor market and will be described below.

First, the number of couples in which both partners hold an academic degree has risen, for instance, from 1% in 1971 to 9% in 2004 in Germany (Rusconi & Solga, 2008). Although there are no exact figures on its distribution, the phenomenon of dual career couples has gained increased attention in western societies in recent years (Abele & Volmer, 2011; Schreyögg, 2013). The term “dual career couple” refers to a partnership where both partners are not only working but “are highly educated, have a high upward career orientation, and work full-time in a demanding job” (Abele & Volmer, 2011, p. 173). With a growing number of academic partnerships, there is also a higher probability that dual careers will be a greater challenge in the future. This constellation poses challenges for integrating

work time and lifetime (Wheatley, 2012). Dual career couples frequently face an overload dilemma while having to manage two careers, housework, and childcare (Abele & Volmer, 2011). This could potentially increase overemployment.

Second, studies find that Generation Y (also called Generation Me), born between 1979 and 1994 (as defined in Cogin, 2012), value work-life balance and leisure more than previous generations (Cogin, 2012; Twenge et al., 2010). Members of this generation are now mainly in their mid and late 30s and at the point in life where many people raise children (Destatis, 2020a). The increased value of work-life balance and the challenge of combining family and work demands may also lead to a higher level of overemployment. However, it remains to be seen whether this also applies to generation Z, born after 1995, whose work values have not been studied in too much detail to date (Francis & Hoefel, 2018).

Third, driven by technological change, more work environments are characterized by a high pace of work and expectations for employees to be available outside regular work hours (Blagoev et al., 2018; Mellner, 2016; Perlow, 2012). We could assume that the increase in self-managed work schedules and working from home would compensate this (Hill et al., 2003; Matta, 2015). However, research has shown that unregulated, self-managed work schedules can in fact increase work hours and therefore contribute to more overemployment (Matta, 2015). In addition, work time flexibility often refers to flexibility demanded from the employer's side and less to flexibility provided for the employee (Kelly & Moen, 2020). Also, it seems that employees sometimes miss the opportunity to use their freedom of time allocation to optimize their happiness. This may be because they either do not know what makes them happy or because they do not want to deviate from socially accepted standards of appreciating hard work (Andresen, 2009).

Finally, in 2020, the Covid-19 pandemic has had a tremendous impact on working life (Möhring et al., 2020). How this may affect the work time situation and overemployment more specifically in the long run is not yet clear. However, some observations indicate that overemployment will still be a problem despite an increase in working from home and generally shorter hours during the pandemic (Boland et al., 2020; Frodermann et al., 2020; Kohlrausch & Zucco, 2020). With an expected large economic recession still to follow, the number of layoffs may rise (Bundesagentur für Arbeit, 2020; „Tiefgreifende Unsicherheit: IWF warnt," 2020). However, this does not necessarily reduce overemployment. As, for example, noted in Kelly and Moen (2020) or Kalleberg (2011), economic insecurity may weaken employees' power and strengthen the position of organizations that are pushing the remaining workforce to put in even longer work hours. Also, if working from home continues to be common practice, on the one hand this could provide opportunities for more work flexibility (Harper, 2020) and on the other

hand it may lead people to put in longer hours (Hill at el., 2003). Thus, it could also contribute to higher overemployment.

It will be interesting to see where exactly the overemployment situation is heading. In any case, the trends described indicate that overemployment will certainly remain an important topic in the foreseeable future.

Chapter 2

2. Theoretical background and previous research

2.1. The concept of overemployment

2.1.1. Previous definitions and measurements

Research questions I to III of this thesis deal with the concept and measurement of overemployment. As mentioned above, there is no consistent definition of overemployment to date. Since previous conceptualizations and measurements of overemployment will be described in detail in the review below (Chapter 5), only a basic understanding of the overemployment concept and its distinctions from similar concepts will be given here. Also, the main shortcomings of previous overemployment concepts and measurement efforts are highlighted.

In general, it is difficult to separate the overemployment concept from its measurement because it lacks a strong theoretical background and is mostly defined simply by its measurement (e.g., Golden & Gebreselassie, 2007). Overemployment has often been described as a "gap between actual and preferred working hours" (e.g., van Echtelt et al., 2006, p. 494). Some definitions—and measures—include a reference to income and describe overemployment as a state in which "workers [...] are willing but unable to reduce their hours of paid work at their current (or comparable) job even if they are prepared to accept proportionately lower current or future income" (e.g., Golden, 2014, p. 11). Other definitions describe overemployment as the impossibility to reduce work hours (Altonij & Paxson, 1988; Hajivassiliou & Ioannides, 2007). Also, the measures used differ widely. Whether or not measures include a reference to income is, however, not the only difference, and, as indicated by the existing research, presumably not the crucial one (Holst & Bringmann, 2016; Tobsch et al., 2018). This can be well illustrated by an example from Germany. Both the Socio-Economic Panel study and the microcensus measure overemployment with a reference to income, i.e., both mention that income would change correspondingly when work hours are reduced (Holst & Bringmann, 2016, 2017; Pagan, 2017; Tobsch et al., 2018). However, the microcensus uses a multi-step procedure: it first asks people if they want to extend, then if they want to reduce their work hours and then it asks how many hours they wish to work. Conversely, the SOEP directly asks for preferred and actual hours in one step (Holst & Bringmann, 2016, 2017; Tobsch et al., 2018). These different measurement methods may partly explain the strikingly different overemployment rates, i.e., around 2.5% according to the microcensus compared to around 50% according to the SOEP (Holst & Bringmann, 2016).

To sum up at least two problem areas can be identified in the previous conceptualizations and measurements of overemployment:

The first problem area is the *inconsistency* of definitions and measurements of overemployment: As mentioned above, different definitions and corresponding different measurement methods have contributed to wide variations in estimations of overemployment rates (Holst & Bringmann, 2016, 2017; Tobsch et al., 2018). Also, the different measurements might be responsible for inconsistent results found, for instance, regarding the consequences of overemployment (e.g., Friedland & Price, 2003; Wooden et al., 2009; Wunder & Heineck, 2013). Research findings achieved with different measures can hardly be compared and integrated, so irrespective of the research question (be it causes, consequences, or actions taken against overemployment), using different definitions and measures will probably always lead to different answers. Furthermore, some researchers do not use the term "overemployment" but study very similar phenomena using different terms (e.g., "hour mismatches" in Reynolds & Aletraris, 2010; "work status congruence" in Holtom et al., 2002; "schedule fit" in Gareis et al., 2003, or "overwork" in Reynolds, 2004). Consequently, it is difficult to integrate these research findings into a study of overemployment, which hinders progress in the field.

The second problem area is the question of *content validity*. Even if one of the existing wordings was defined as a standard, there is still the issue of what is conceptually measured with the questions regarding preferred versus actual work hours. As previous measures all focus on one-item (or two-item) measures, there is a risk that "a concept becomes its measure and has no theoretical meaning beyond that measure" (Bagozzi, 1982, as cited in Fuchs & Diamantopoulos, p. 197). As far as the validity of work time questions is concerned, Campbell and van Wanrooy (2013) show that people have difficulty stating whether they want to reduce their work hours or indicating an exact work hour preference. In their interview study, the authors found widespread psychological ambivalence about reduction in work hours, i.e., people were not sure whether they wanted to reduce their work hours or not (Campbell & van Wanrooy, 2013). In addition, from the perspective of work psychology, it is problematic to view the number of work hours alone. From a psychological standpoint, work is far more than a trade-off between money and leisure but also fulfills other functions: for instance, it can be intrinsically rewarding (Dik & Duffy, 2009; Gagné & Deci, 2005; Jahoda, 1981; Wanger, 2017). Thus, when people indicate they are overemployed, this may also be connected to the quality of work tasks, in other words, what tasks they spend time on and the way in which they work. Consequently, overemployment could be seen as a more complex phenomenon. Moreover, the difficulty in answering questions related to work time preferences might be a result of an overly simplified conceptualization and measurement (Campbell & van Wanrooy, 2013).

This thesis will show that overemployment is best conceptualized and measured as a more complex, multidimensional construct. The concept of

overemployment will be refined in the course of the thesis. Initially, on the basis of prior research, the following working definition of overemployment will be used:

> *Overemployment describes a misfit between actual and preferred work hours in the sense of a preference for shorter work hours (e.g., Golden, 2014, Merz, 2002, see also Chapter 5).*

Before presenting a new conceptualization and measurement, we will give a review of previous theories and research on causes and consequences of overemployment. These results, however, need to be seen against the background that they were obtained using the measurement methods criticized here.

2.1.2. Differentiation from other constructs

In order to adequately define a construct, in this case to obtain a better understanding of overemployment, we also need to separate it from other similar constructs (MacKenzie et al., 2011). Because of the similarity in wording, overemployment might be considered the opposite of underemployment. However, underemployment has been described as a multi-faceted construct referring to "holding a job that is in some way inferior or of lower quality, relative to some standard" (Maynard et al., 2006, p. 509). Feldman (1996) described five dimensions of underemployment: (a) a higher level of education than required in the job, (b) higher skills or more experience than required for the job, (c) involuntary employment in a job outside one's field of formal education, (d) involuntary part-time or temporary work, and (e) lower pay relative to previous jobs or to other employees with a comparable educational background (see also Maynard et al., 2006). Of these five, only the fourth aspect (d) relates to work hours and describes working less than desired. Thus, underemployment as described in previous literature is much more complex, relating not only to shorter work hours but to a lower quality of employment (Maynard et al., 2006). Therefore, it is not the opposite of overemployment as described in previous research.

Furthermore, overemployment is not merely long work hours, which have been studied quite intensely particularly in terms of their health consequences (e.g., Ropponen et al., 2018; Virtanen et al., 2018; Wong et al., 2019). However, working long hours per se does not take into account employees' wishes (to work shorter hours) and therefore it is not tantamount to overemployment. It is also unclear how many hours are regarded as "long"; normally, it is at least over 40 hours per week (see Ganster, et al., 2018; Virtanen et al., 2018). Similarly, to long work hours, overtime, which can be defined as work in excess of contractual hours (Duran & Corral, 2012), has been studied in considerable depth with respect to health and well-being (e.g., Beckers et al., 2008; Dembe et al., 2005; van der Hulst

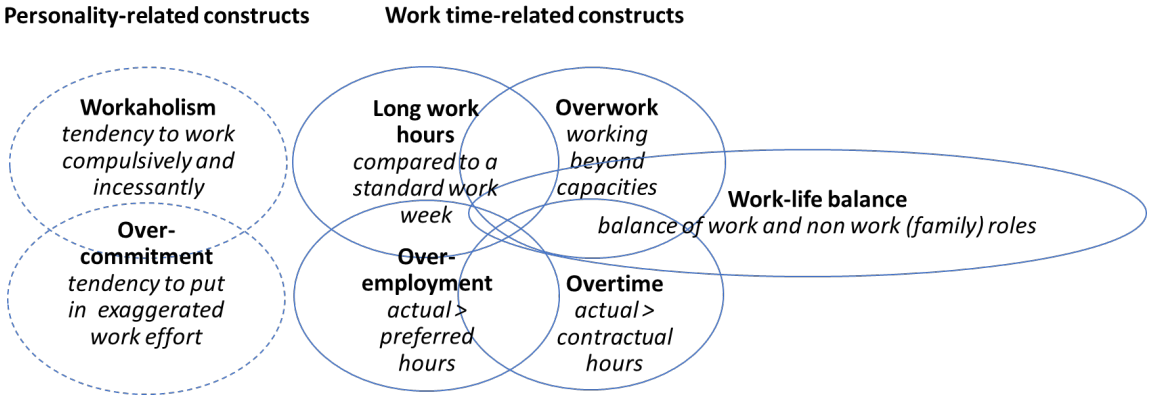
& Geurts, 2001; Wong et al., 2019). Working overtime does not automatically mean a desire to work fewer hours; nor does working contractual hours without any overtime necessarily protect individuals against overemployment. Therefore, overtime is different from overemployment. However, many—but not all—employees who are overemployed also have long work hours and work overtime (Clarkberg & Moen, 2001; Golden, 2014; Reynolds, 2003). Both long work hours and overtime are more objective indicators because they do not include a subjective preference for work hours. Instead, they use an external benchmark for measuring hours, which is either contractual hours (for overtime) or a number of weekly hours regarded as high (for long hours).

Overemployment also differs from psychological constructs such as workaholism (Schaufeli et al., 2008) or overcommitment (Siegrist, 2008; Siegrist et al., 2004). Workaholism as described by Oates (1971), is "the compulsion or the uncontrollable need to work incessantly" (Oates, 1971, p. 11). Workaholics "allocate an exceptional amount of time to work and [...] they work beyond what is reasonably expected to meet organisational or economic requirements" (Schaufeli et al., 2008, p. 175). Working long hours is often viewed as a core characteristic of workaholism (Oates,1971; Scott et al., 1997). However, whereas working long hours describes a type of behavior, workaholism describes a work mentality (ten Brummelhuis et al., 2017). As overemployment is not defined as a work mentality and includes a desire to work less, it is not the same as workaholism. Similarly, overcommitment describes a personality component characterized by exaggerated work effort and a strong desire for approval (Siegrist et al., 2004). Again, it does not necessarily mean a wish to work fewer hours; nor are actual hours worked the only way overcommitment can be expressed (Steptoe et al., 2004). Overemployment is also different from work-life balance, for which no consistent and generally accepted definition exists (Kalliath & Brough, 2008). However, unlike overemployment, work-life balance always focuses more specifically on the balance between work and non-work roles, whereas overemployment focuses more on time spent at work (Greenhaus & Allen, 2011; Kalliath & Brough, 2008). Work-life balance partly overlaps with overemployment, as work-life balance often includes the time spent at work and with family, which may include the desire to spend less time at work (Kalliath & Brough, 2008). Also, the construct overwork(ing) is different from overemployment because it involves "working beyond one's endurance and recuperative capacities" (Rhoads, 1977, p. 2615). It marks the point where working long hours begins to entail risks or cause harm to a person's mental or physical health (Golden, 2014). Again, overwork overlaps with overemployment, as overemployment may reach the point where it causes harm and overworked employees may wish to reduce their hours (Golden, 2014). Figure 1 gives an overview of the most important constructs discussed above and shows

how they are related and how they overlap (see also Golden, 2014). In Figure 1, personality-related constructs (workaholism, overcommitment) and other constructs related to work hours do not overlap so this shows that these are two different groups. However, they can also be related: for example, a workaholic person may have a worse work-life balance than a non-workaholic due to working longer hours (Aziz et al., 2010). Figure 1 makes it clear that despite some overlap with other constructs, overemployment is distinct from these and can be regarded independently.

Not included in Figure 1 is the construct of work stress, which has no generally accepted and consistent definition. However, from previous stress theories, it is clear that stress is a much more general construct not referring specifically to work hours—which is why it was not included in Figure 1 (see Cooper & Quick, 2017 for an overview on the stress concept). Long work hours and overtime have often been viewed in terms of causing stress (e.g., Wong et al., 2019). Since overemployment is related to working long hours and working overtime, it might also be a source of stress, thus possibly connecting the constructs of work stress and overemployment.

Figure 1: Differentiation of overemployment from related personality- and work time-related constructs (extended from Golden, 2014)



Note. The relative size of overlap does not proportionally reflect the degree of interrelatedness of the constructs.

2.2. Causes of overemployment: theorical approaches to date and current state of research

Research question IV is exploring the causes of overemployment. Therefore, the theoretical approaches to date and the corresponding research will be presented here. Although theory on overemployment is scarce, three different explanatory approaches to the emergence of overemployment can be found in the existing literature. These are as follows:

1. The labor supply approach explaining overemployment mainly through employer-based restrictions (e.g., Altoniji & Paxson, 1988; Golden & Gebreselassie, 2007)
2. The rat race approach, explaining overemployment through social striving and competition among employees seeking career advancement (e.g., Eastman, 1998; Landers et al., 1996; Schor, 1991)
3. The social rationality approach explaining overemployment through decision-making processes within post-Fordist work environments (van Echtelt, 2007; van Echtelt et al., 2006)

The three approaches and their corresponding research findings will be described now. First, the model of labor supply is the most established explanation of overemployment (van Echtelt et al., 2006). It assumes that hours worked are determined by the employee's ideal balance of income and leisure time and employees sort themselves into jobs that reflect their desired work time/income ratio (e.g., Böheim & Taylor, 2004; Golden, 2014; Golden & Gebreselassie, 2007; Reynolds, 2003). Mismatches between desired and actual work hours occur because employers do not offer a wide enough diversity of possible shift lengths; instead, they just offer a number of predefined packages combining a certain income with a certain number of work hours (e.g., Golden & Gebreselassie, 2007; Rebitzer & Taylor, 1995; Reynolds, 2003). In other words, according to the economic model of labor supply, employees work more than they would like because employers do not give them another option (Böheim & Taylor, 2004; van Echtelt et al., 2006).

It is difficult to determine to what extent this explanation is supported by existing research, as it is not reported in the studies whether overemployed people were unable to find jobs with different work hours. However, indirect evidence for this approach can be found. For example, studies show that changing jobs is no panacea for overemployment since a large share of employees remain overemployed in their new jobs (Knaus & Otterbach, 2018). This could be the result of a large proportion of employers offering only a limited choice of possible work hours, which are often more than employees' preferred hours. The labor supply model is also supported by Allan et al. (2016) who show that work volition, i.e., "the perceived capacity to make occupational choices" (Duffy et al., 2012, p. 401) is lower for people who are overemployed. This means that people who need to take any job they can get, for instance, for financial reasons, have a higher likelihood of being overemployed (Allan et al., 2016). In modern work environments, however, flexible working time arrangements and part-time work have become far more common, which should give individuals more opportunities to adjust their work hours to their preferences (BAUA, 2019; van Echtelt et al., 2006). Particularly in countries with relatively employee-friendly policies (as described in

1.2 above), we would expect some leeway to negotiate for preferred work hours. Consequently, the labor supply model may not be sufficient to fully explain overemployment.

Another line of explanation for overemployment is the rat race approach (Landers et al., 1996). It states that materialistic values and striving for status and career lead to competition among employees that finally results in overemployment (Eastman, 1998; Landers et al., 1996; Schor, 1991; van Echtelt et al., 2006). In their seminal work, Landers et al. (1996) explain how an equilibrium of a high number of work hours—higher than employees prefer—is created. The authors describe a case study on law firms that use the willingness to work long hours as an indicator of performance, as the propensity to work hard would be unobservable otherwise. According to this approach, even employees preferring short hours camouflage themselves as employees willing to work long hours to increase their chances for promotion. This again leads employers to raise the number of acceptable work hours to sort out "short-hour workers". Finally, this procedure establishes a norm of long work hours that exceeds the employees' preferred number of work hours (Landers et al., 1996).

Schor (1991) describes a similar phenomenon in her analysis of work hour trends in the US. She argues that underlying capitalist incentive structures lead people to work long hours. Similarly, Clarkberg and Moen (2001, p. 1116) argue that working more hours than preferred reflects "the institutionalized nature of work and career paths, both of which demand long hours as a signal of commitment, productivity, and motivation for advancement." Experimental proof comes from Eastman (1998), who found that most people tend to adjust their own work hours to what they thought others are working irrespective of their own preferences.

Despite this evidence for the rat race approach, some questions remain unanswered. The above-mentioned striving for status and career might in the long run also influence people's true preferences, i.e., it might raise preferences, too. Then the question remains why there is an imbalance of preferences and actual work hours. In addition, recent research has shown that leisure time is becoming increasingly more important for younger generations (Cogin, 2012; Twenge et al., 2010). The question then arises why we see a rat race related to work hours but not to leisure time.

Going one step further than the rat race approach, van Echtelt et al. (2006, and in more detail van Echtelt, 2007) offer a more comprehensive look at the work environment as a source of overemployment. Their social rationality approach is based on the idea that social circumstances influence the way people make decisions (Lindenberg, 2001; van Echtelt, 2007; van Echtelt et al., 2006). The authors propose that when employees are asked directly how much they prefer to work,

their answer reflects their ideal balance of income and leisure time. However, in their daily working life, employees do not frame their situation as a choice between income and leisure. Instead, they must make other decisions bound more to their work content. For example, they may face the choice between finishing a task by the deadline or otherwise being evaluated negatively. Thus, working additional hours, which can lead to overemployment, is the cumulative effect of small work-related decisions (van Echtelt, 2007; van Echtelt et al, 2006). According to this approach, overemployment occurs more often in what these authors refer to as post-Fordist work environments (see also Lewis, 2003; Perlow, 1999). These work environments include a high proportion of project-based work, strict deadlines, and time-dependent performance. They are characterized by a high level of autonomy as well as by a competitive dismissal procedure (Arthur & Rousseau, 1996; van Echtelt at al., 2006).

In line with the social rationality approach, there are the case studies by Perlow examining the work hours of software engineers and consultants (Perlow, 1999, 2012; Perlow & Kelly, 2014). Also, van Echtelt et al.'s (2006) own research with a large Dutch sample supports the theory that overemployment is higher in post-Fordist work environments than in traditional ones. In addition, overemployment has been shown to be particularly common among people in jobs requiring a high level of education and in managerial positions (Golden & Gebreselassie, 2007; Reynolds & Aletraris, 2010). All these studies suggest that certain work environments are affected by overemployment to a larger extent than others, which speaks in favor of the social rationality approach. However, the high overall numbers of overemployment (e.g., Golden & Gebreselassie, 2007; Holst & Bringmann, 2016, 2017) raise doubts as to whether overemployment is bound only to these specific post-Fordist work environments.

To summarize, each of these three approaches finds empirical support but none seems to provide a satisfactory explanation of overemployment. In addition, the approaches are only partly integrative: the labor supply and the social cognitive approach offer remarkably diverse explanations. The social cognitive approach includes the aspect of competition and career advancement also highlighted in the rat race approach. All three approaches tend to focus on external circumstances (employer constraints, social norms, and work environments) but fail to explore in detail the role of employees' responsibility or worker characteristics.

In addition to these three approaches, there are many studies that focus less on explaining overemployment and more on correlating overemployment with job and employee characteristics or economic aspects (e.g., Golden & Gebreselassie, 2007; Groezinger et al., 2010; Reynolds, 2003; Reynolds & Aletraris, 2007; Stier & Lewin-Epstein, 2003). A general framework is provided by Reynolds

(2003), proposing interactions between job characteristics and employee characteristics in causing overemployment. Correlations with overemployment that have been explored with diverging results are, for example, having children, gender, actual work hours, and income (e.g., Golden & Gebreselassie, 2007). Among the most stable findings is that long average work hours and high earnings are positively correlated with overemployment (e.g., Eurofound, 2019; Golden & Gebreselassie, 2007; Stier & Lewin-Epstein, 2003). Despite the usefulness of these correlational insights, these studies do not offer an integrative theoretical explanation on the causes of overemployment either.

When the causes of overemployment are investigated, a related question is why it persists for some time (Reynolds & Aletraris, 2010) and why people do not change their situation. At this point, we should mention Blagoev and Schreyögg's (2019) research on the persistence of extremely long work hours. Although this does not deal with overemployment directly, it is of interest here because it focuses specifically on persistence, not only emergence of work hour patterns. In a case study of a consultancy company, Blagoev and Schreyögg (2019) explain that norms of extremely long work hours were initially created to have a competitive edge in meeting clients' needs. Daytime synchronization with clients leads to a shift of additional paperwork to weekends or evenings. This in turns means a much longer working week than would be the social norm. Ultimately, this results in what the authors call a "temporal lock-in" (Blagoev & Schreyögg, 2019, p. 1818), i.e., a persistent uncoupling from socially acceptable work time rhythms and maintenance of long work hours despite adverse effects. Once the clients are used to consultants being available around the clock, internal processes are also adapted to these norms, for instance, by hiring and promoting employees willing to work long hours. Consequently, change initiatives to reduce these norms will fail to adapt work hours (Blagoev & Schreyögg, 2019). This explanation highlights the challenge companies face when trying to reduce work hours and possibly also overemployment. However, the approach was developed specifically in a case study in the consulting sector, so it cannot easily be applied to other industries. Also, it is an explanation for extremely work-intense jobs, whereas overemployment by definition also affects people with standard (or shorter) work hours.

To sum up what we already know on causes of overemployment, we find that there is no universally accepted and integrative theory on the emergence and persistence of overemployment. In addition, empirical studies on the causes and persistence of overemployment are rare. Existing theories all focus on single aspects such as employer constraints, norms, or post-Fordist work environments. In addition, some approaches and the corresponding research tend to refer to special environments with extremely long work hours (Blagoev & Schreyögg, 2019; Landers et al., 1996; Perlow, 1999). Coming mainly from economic literature

(labor supply model, rat race approach) or sociology (social rationality approach), another weakness of previous approaches is that they have neglected psychological aspects, for instance, individual goals, feelings, motives, and personality. An integrated theory also taking into consideration the role of the individual would therefore be beneficial. Research question IV will therefore deal with the causes of overemployment and the reasons for its persistence.

2.3. Consequences of overemployment: theoretical approaches to date and current state of research

The final research question of this thesis relates to the consequences of overemployment for well-being, attitudes, and behavior (research question V). We will therefore give a brief overview over the previously used theories and research in this area. Appendix 1 provides a non-exhaustive[3] overview of the main research papers dealing with the consequences of overemployment for well-being, attitudes, and certain behaviors. It also lists the theories used and the main empirical results of the studies. As with the causes of overemployment, there is not a consistently used and comprehensive theory on the consequences of overemployment. Many of the previous studies do not refer to any theory specifically explaining the consequences of overemployment, but they mainly take prior research findings as a basis for their own research efforts (e.g., Bell et al., 2011; Boyles & Shibata, 2009; Lepinteur, 2019). Other studies do not have the consequences of overemployment as their main focus, which explains why the aspect of consequences of overemployment is not sufficiently backed up by theory (e.g., Allan et al. 2016; Friedland & Price, 2003). In addition, some researchers mention a theory but do not explain in detail how and why this theory helps explain the consequences of overemployment (e.g., Green & Tsitsianis, 2005; Krausz et al., 2000).

When researchers do apply theories and explain them, they use different general frameworks that have also been used to explain many other phenomena and are not specific to overemployment. The most used ones are the person-environment fit or, more specifically, the person-job fit theory (Angrave & Charlwood, 2015; Bartoll & Ramos, 2020; Krausz et al., 2000) and, in a similar vein, discrepancy models of job satisfaction (Lee et al., 2015; Pagan, 2017). These theories basically assume that the relationship between employees' preferences for work time and their actual work time can be regarded as an aspect of fit, or misfit if there are any discrepancies between the preferred and actual hours. This misfit

[3] The review does not claim to be exhaustive: it cannot be ruled out that there are more studies examining the mismatch between preferred and actual hours in the direction of preferring to work fewer hours. Some studies may not explicitly label this as "overemployment."

in consequence leads to decreased well-being (e.g., Angrave & Charlwood, 2015; Lee et al., 2015).

As with the theories, the empirical findings on the consequences of overemployment are heterogenous. Again, the diverging measurement methods and inconsistent conceptualizations of overemployment make it difficult to judge whether these studies in fact all measure overemployment or very similar concepts. As there are not many studies on consequences of overemployment and measurement is a general problem, here we also looked at studies measuring concepts that are close to overemployment (see Appendix 1).

Most of the research on the consequences of overemployment examines well-being variables, such as life satisfaction or health, or it examines job satisfaction (e.g., Allan et al., 2016; Angrave & Charlwood, 2015; Friedland & Price, 2003; Wunder & Heineck, 2013). However, whereas some researchers find that overemployment impacts well-being and job-satisfaction (e.g., Angrave & Charlwood, 2015; Bartoll & Ramos, 2020; Boyles & Shibata, 2009; Green & Tsitsianis, 2005), others find no effect of overemployment (e.g., Allan et al., 2016) or only very minor effects (e.g., Wunder & Heineck, 2013). Also, if effects are found, it is difficult to judge how meaningful their size is (Wooden et al., 2009). In addition, attitudes (beyond job satisfaction), and behavior have very seldom been analyzed except for a few studies dealing with commitment, organizational citizenship behavior, intention to leave, and absenteeism (Abrahamsen, 2010; Krausz et al., 2000; Lee et al., 2015; van Emmerik, 2005; van Emmerik & Sanders, 2005). Also, for the few studies on commitment, the results are inconclusive (Abrahamsen, 2010; Krausz et al., 2000; van Emmerik & Sanders, 2005).

To sum up, this brief review shows inconsistent results regarding the consequences of overemployment. The clear strength of previous studies is that, in most cases, large samples as well as partly longitudinal data were used (see Appendix 1). Their clear weaknesses, however, are the lack of overemployment-specific theory, inconsistent measurement methods, incoherent results, and a lack of analysis of attitudes and behavior. Nevertheless, overall, previous research suggests that overemployment may have negative consequences for well-being, and possibly also for attitudes and behavior.

Chapter 3

3. Overall research model and research projects

The need for research on overemployment in different areas is obvious from the review of the existing literature presented here. This thesis is based on a research model covering the gaps in previous overemployment research and following the research questions mentioned above.

First and foremost, as it is the basis for the following research, the concept of overemployment needs to be examined and a conceptual definition of overemployment needs to be found (research questions I and II). Second, an adequate measurement has to be developed (research questions I and III). Third, the causes (research question IV) and consequences of overemployment (research question V) are further analyzed.

In order to choose an adequate method to answer our research questions, we here follow Edmondson and McManus' (2007) concept of methodological fit in management research. The authors describe a continuum between nascent and mature theory based on the status of previous theory and research. Depending on the stage of the continuum, different methods are appropriate for exploring the subject. On the one side of the continuum, there are mature theories that deal with well-developed constructs. On the other side of the continuum, there are nascent theories dealing with topics for which little or no previous theory exists. Some examples of these are exploring a new phenomenon, digging into a paradox, or questioning assumptions or accepted wisdom. Positioned between mature and nascent is intermediate theory research that often deals with introducing a new construct and proposing provisional theoretical relationships (Edmondson & McManus, 2007). Although overemployment is not an entirely new phenomenon, it can be classified toward the nascent end of the continuum due to the conceptual problems and the lack of consistent theory. Open-ended inquiry about a phenomenon of interest with the goal of constructing a suggestive theory is typical of research in nascent theory (Edmondson & McManus, 2007). This thesis therefore does not start with a predefined theory to guide research but, rather, the concept of overemployment and a corresponding theory are developed inductively (see Gioia et al., 2013). Figure 2 presents a preliminary research model guided by the research questions. It also shows how the research questions refer to the different research projects and chapters in this thesis. Three projects are carried out on the basis of this research model. As the main emphasis of this thesis is the development of the construct of overemployment, all three research projects are dedicated to this.

Figure 2: Overall research model and its reference to the three research projects

Research project	*Chapter*	**Causes of overemployment** *(research question IV)*	**Construct of overemployment** *(research questions I to III)*		**Consequences of overemployment** *(research question V)*
			Definition	Measurement	
1	*5*		×	×	
2	*6*	×	×		×
3	*7*		×	×	×

Starting with a working definition of overemployment, i.e., overemployment as a misfit between actual and preferred work hours in the sense of a preference for shorter work hours (e.g., Golden, 2014; Merz, 2002, see Chapter 5), this thesis further elaborates the construct.

To gain an overview of how overemployment has been defined and measured in previous studies, a systematic literature review following the principles of conceptual analysis (Olsthoorn, 2017) is conducted in the first research project (see Chapter 5). Conducting a review as the starting point is key because an "effective review creates a firm foundation for advancing knowledge, [...] facilitates theory development, [...], and uncovers areas where research is needed" (Webster & Watson, 2002, p. 13). To the best of our knowledge, this review is the first to systematically analyze the characteristics of definitions and measurements of overemployment and demarcates overemployment from other constructs. Our literature review primarily serves two functions. First, it explores the central phenomenon addressed here, i.e., overemployment and its measurement. It also exemplarily shows that differences in measurement can be linked to different estimations of overemployment rates. Second, it builds the rationale for further research by analyzing gaps in the literature regarding definition and measurement of overemployment (see Creswell & Creswell, 2017). Going beyond a purely descriptive analysis, in the review we also introduce initial ideas on how to define and measure overemployment in the future. This is a fundamental basis for all subsequent research projects.

One important implication of the review is that the conceptualization and measurement of overemployment should look closer at the aspects that are important to the overemployed individual personally. The second research project therefore deals with identifying these aspects (see Chapter 6). Using a Grounded Theory interview approach, it examines how overemployment is defined by the affected employees themselves. In addition, the second research project explores what contributes to overemployment and its persistence. Finally, the individual

consequences of overemployment are explored and the role of work time sovereignty for overemployment and its consequences is analyzed. Using the insights gained from research project 2, the definition of overemployment is further developed and a theory of overemployment, including causes and consequences, is constructed. One of the key insights regarding the overemployment concept is that overemployment can be seen as a multidimensional phenomenon.

The third research project (see Chapter 7) builds on this multidimensional conceptualization with the main objective of developing a scale to measure overemployment. During the scale development process, the construct of overemployment is further refined. Research project 3 also provides an initial validation of the newly developed multidimensional overemployment scale (MOS). Following the theory of overemployment introduced in research project 2, but also extending it, we relate overemployment to individual consequences for well-being, attitudes, and behavior. In addition, a possible moderating effect of work time sovereignty on the relation between overemployment and its consequences is explored. Table 1 below provides an overview of the three research projects included in the present thesis.

Table 1: Overview of the research projects included in this doctoral thesis

Research project no.	**1 (Chapter 5)**	**2 (Chapter 6)**	**3 (Chapter 7)**
Research objectives	1. Analyzing previous overemployment definitions and demarcating overemployment from other constructs 2. Analyzing previous overemployment measures and examining the impact of different measurement methods on estimations of overemployment rates 3. Presenting implications for future definition and measurement of overemployment	1. Defining overemployment from employees' point of view 2. Analyzing causes of overemployment and reasons for its persistence 3. Analyzing individual consequences of overemployment 4. Constructing a theory of overemployment	1. Development of a multidimensional overemployment scale 2. First test of the scale's validity and reliability 3. Relating overemployment to consequences for well-being, work attitudes, and work behavior 4. Testing a possible moderation of work time sovereignty on the relation between overemployment and its consequences
Methodological approach	Literature review and conceptual analysis	Qualitative interview study based on Grounded Theory	Quantitative scale development study
Publication	Hiemer, J., & Andresen, M. (2019). When less time is preferred: An analysis of the conceptualization and measurement of overemployment. *Time & Society, 29*(1), 74-102. https://journals.sagepub.com/doi/10.1177/0961463X18820736	Hiemer, J., & Andresen, M. (2019). "Because work time is life time" –Employees' perceptions of individual overemployment, its causes and its consequences. *Frontiers in Psychology, 10*(1920), 1-15. https://doi.org/10.3389/fpsyg.2019.01920	Not yet published
Journal Impact Factor	1.108 (year 2019)	2.067 (year 2019)	-
Previous versions	Previous version presented at EURAM 2015 in Warsaw	Previous version presented at EGOS 2016 in Naples, previous version accepted for EURAM 2016 in Paris	Previous version presented at EURAM 2017 in Glasgow

Chapter 4

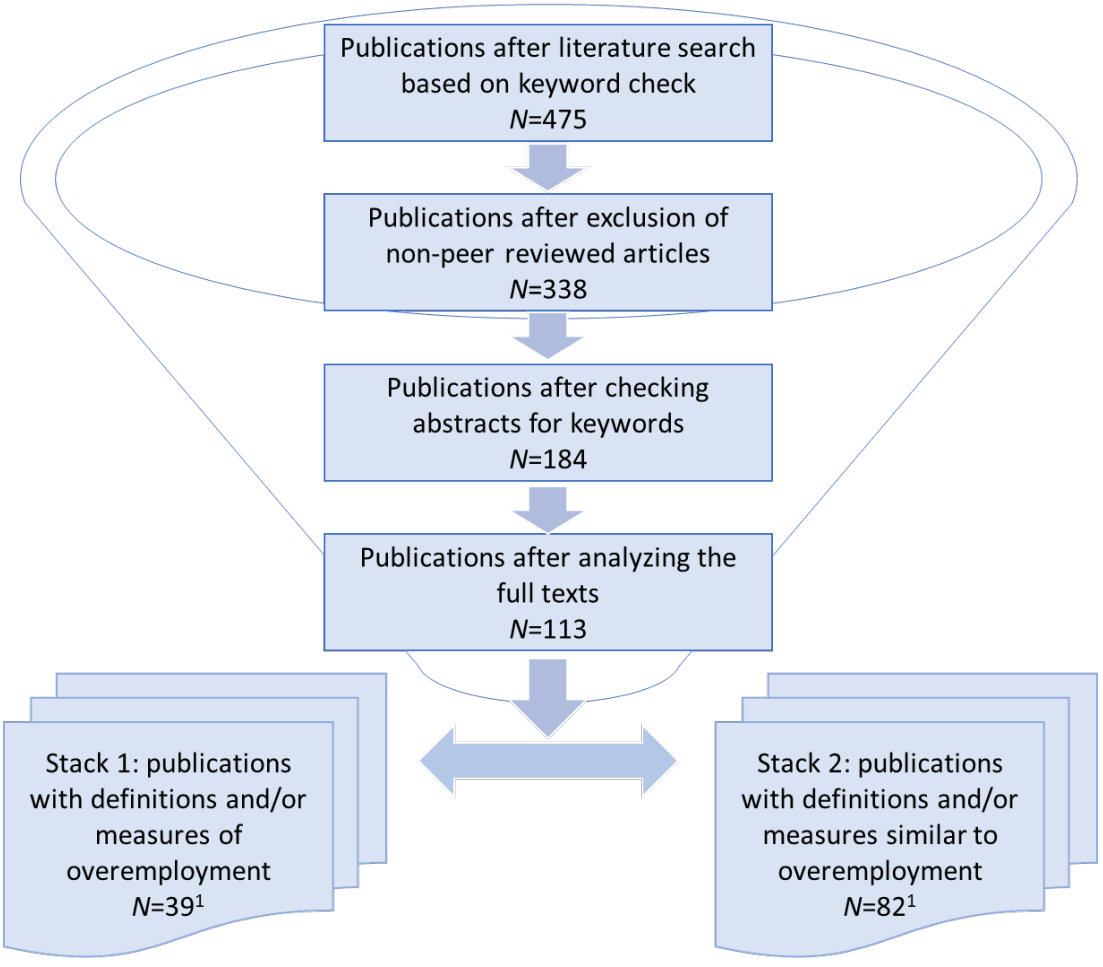
4. Overall methodological framework

4.1. Overview of methods used

Overall, the present thesis applies what Creswell and Creswell (2017, p. 64) call an "exploratory sequential mixed-methods approach". This means we begin exploring the topic using qualitative data and analyses. Then we build on this work to develop a new overemployment measure and test it in the following phase with quantitative data. Our starting point, however, is a systematic literature review.

In the literature review (research project 1), based on predefined criteria, 113 relevant papers were included. The selection steps are shown in Figure 3.

Figure 3: Literature selection process for the literature review



Note. [1]Numbers do not add up to 113 because some articles contained material relevant for stacks 1 and 2.

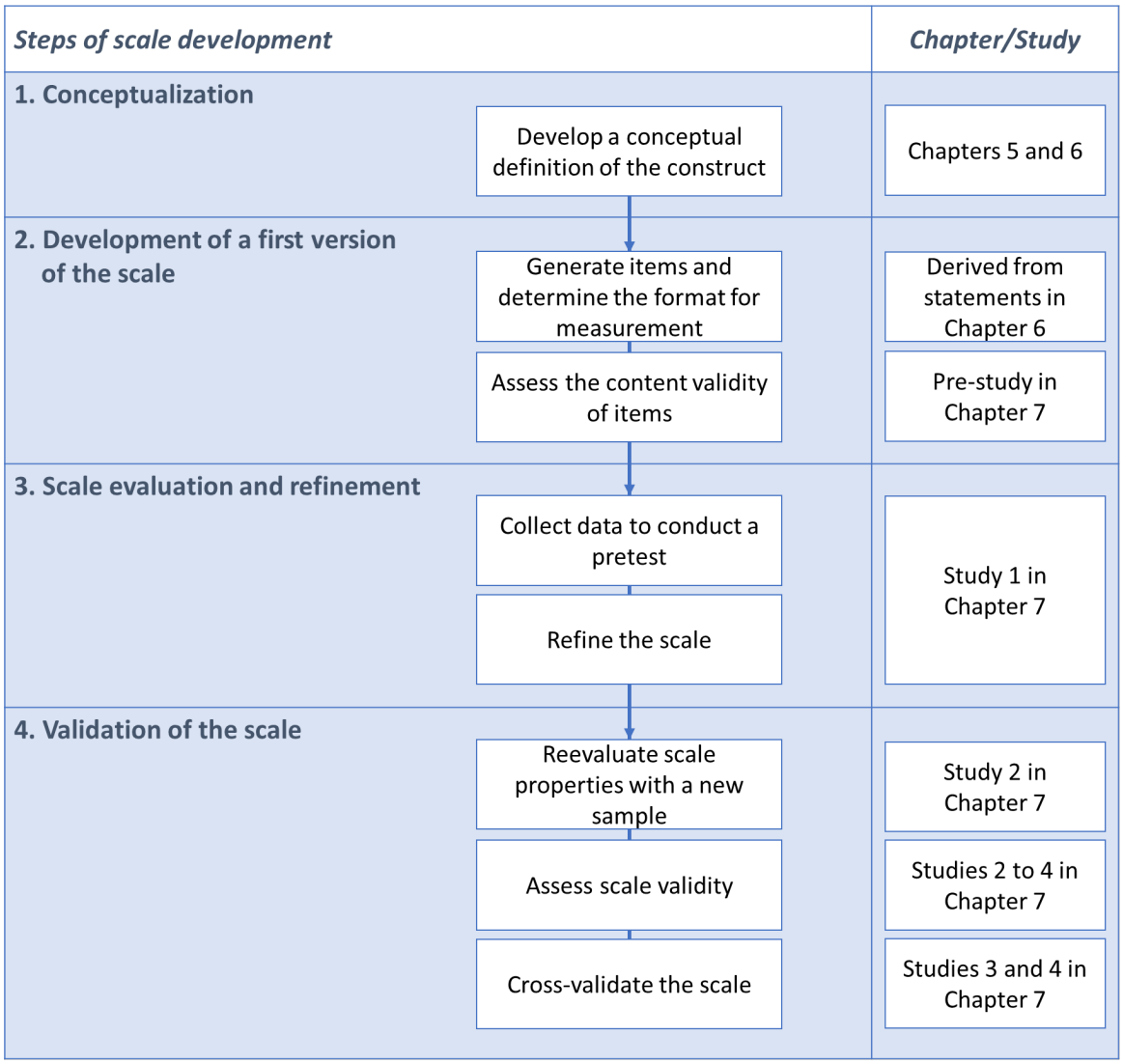
Based on the information of the papers a conceptual analysis (Olsthoorn, 2017) was conducted to explore the construct of overemployment and derive suggestions for a future conceptualization and measurement. Methodologically, the five analytical stages of a Grounded Theory literature review in Wolfswinkel et al. (2013), i.e., define, search, select, analyze, and present, were followed. A detailed description of the method and research steps used is given in Chapter 5.

For research project 2 (see Chapter 6), interviews were conducted following the qualitative Grounded Theory approach described in Gioia et al. (2013). The Gioia method was opted for because it is a systematic approach for construct and new theory development. It aims at both enabling creative development of theory and systematic rigor in Grounded Theory research (Gioia et al., 2013). The details of the method are described in Chapter 6.

Research project 3 (see Chapter 7) used a quantitative multistage scale development approach following particularly MacKenzie et al. (2011) and also DeVellis (2012). In a pre-study and four main studies, the multidimensional overemployment scale was developed and validated using factor analytical and regression approaches. The various steps of the scale development and how they refer to the different studies are outlined in Figure 4 below which shows that the conceptual base for the scale is already established in Chapters 5 and 6. Thus, an important role is attached to conceptualization across all research projects. As MacKenzie et al. (2011) note, the clear articulation of the construct is particularly important in the scale development process. This includes examining how the construct has been defined in previous research and how it differs from other constructs and it also involves conducting interviews with subject matter experts or practitioners, i.e., the overemployed employees in this case. As this was done in Chapters 5 and 6, the scale development in Chapter 7 was able to reliably build on this work.

As the detailed methodology used for all the projects is described under the individual research projects, in the remainder of Chapter 4 we will only summarize the data collection method and the main characteristics of the samples. Also, we will give basic information on the questionnaires used in the qualitative study and the quantitative studies.

Figure 4: Overview of the steps of scale development following MacKenzie et al. (2011) and DeVellis (2012)



Note. Own representation based on MacKenzie et al. (2011, p. 297).

4.2. Data collection

As studies have shown that overemployment is widespread in particular among highly educated people (Golden & Gebreselassie, 2007), it was decided to recruit a relatively highly educated sample as a starting point. Also—and this is especially important for the interviews—the probability of having respondents who can elaborate their thoughts on work hours is higher with a better educated sample.

For the Grounded Theory interviews (Chapter 6), searches for subjects were posted on the business-related social networks Xing and LinkedIn (see Appendix 2.1). The post stated that an interview study on work hours would be conducted as part of a PhD project. It also said that the researcher was looking for people

who experienced an imbalance between preferred and actual work hours, where actual work hours exceeded preferred work hours. Thus, it was ensured that people were representative—not in terms of population but in terms of concepts (Charmaz, 2014), i.e., everyone felt as though they were overemployed. Participants were asked to email or call the researcher if they were interested in taking part. Once they had contacted the researcher, they received further information about the study: they were told that they had to fill out a five-minute questionnaire (see Appendix 2.2) containing demographic data and then take part in a telephone interview with the researcher lasting for about an hour on average arranged in advance.

For the quantitative scale development (Chapter 7), four different samples were recruited to participate in an online survey. Sample 1 consisted of 303 participants recruited through social media posts on LinkedIn, Xing, Facebook, and e-fellows similarly to the interview participants (see Appendix 3.1 for a sample post). Data were collected between July and November 2016. Data for study 2 were collected through university alumni networks in Germany and using a survey panel (respondi). All data for study 2 were collected between February and July 2017. Initially, the university alumni networks of German universities and universities of applied sciences were contacted by phone or email and informed about the study (see Appendix 3.2 for a sample email). Seven university alumni networks decided to put the call for participation in their online alumni newsletters or alumni online communities. These were the alumni networks of the University of Augsburg, University of Bamberg, University of Erlangen-Nuremberg, University of Applied Sciences Nuremberg, TU Bergakademie Freiberg, Munich University of Applied Sciences and the University of Passau. To increase the sample size, the survey panel respondi was used afterwards to collect additional data. Respondi was given instructions to recruit participants similar to the university alumni in terms of gender, age, academic background, work status (full-time, part-time) and work sector. Also, when differences between the samples were subsequently controlled for, the alumni did not significantly differ from the respondi sample. Overall, in study 2, data of 500 participants were examined. A total of 31% of the 500 participants were recruited via the respondi panel and 69% via social media.

In study 3, participants were recruited using the respondi survey panel and through social media posts (primarily on Facebook). Of 350 participants, 300 were acquired through the panel and 50 through the posts. Data were collected between November 2019 and July 2020, with the majority of the sample (~70%) participating between May and July 2020. As we explicitly wanted to recruit a sample with a lower level of education here (compared to sample 2), only people without a university degree were invited by the panel. Of those taking part via Facebook, people who held a degree were consequently filtered out. In terms of gender, age,

income, and working sectors, respondi was asked to gather a representative sample of the working population (without higher education).

For study 4, researchers at two universities (University of Erlangen-Nuremberg and University of Bamberg) were contacted directly by email and invited to participate (see Appendix 3.3 for a sample email). A total of 272 datasets were collected between February and March 2017.

All participants were informed comparably about the goals of the studies. As an incentive for participation, all respondents were able to receive the results. The respondi panel participants additionally received points for their participation in the study. Compensation was organized by respondi. For every 10 minutes they took part in any survey, they earned 50 points which corresponded to 50 cents.[4] If at least five euros were earned, participants could either be given a shopping voucher or donate the money to a charity of their choice (Respondi, 2018).

4.3. Questionnaires

For the qualitative study (Chapter 6), a short online questionnaire had to be filled out before the interview (see Appendix 2.2). In the questionnaire, basic demographic data and data on participants' work hours were collected. The questionnaire was used to describe the sample adequately and to aid interpretation of the subsequent interviews. In order to preserve anonymity while at the same time being able to assign the questionnaire to the corresponding interviewee, we asked participants to give us a personal code (consisting of date of birth, last letter of birthplace and first and last letter of their mother's first name). The same code was requested at the beginning of the interviews.

The interview guide used for the qualitative study in Chapter 6 (see Appendix 2.3) was created following the principles of Grounded Theory (Charmaz, 2014; Gioia et al., 2013; Glaser & Strauss, 1967). The initial interview protocol was carefully designed to focus on the research questions, covering all relevant issues and anticipating issues that might come up during the interview. The interview questions served as a guideline but could be changed and adapted to the participant's particular experience if need be This flexibility allowed us to be responsive to what the interviewees had to say and not to miss out on important information but instead ask for more details whenever an interesting point arose (Charmaz, 2014; Gioia et al., 2013). Before starting with the questions, the interviewer gave a short introduction to ensure transparency for the interviewees about the objectives of the study and the use of their data (Charmaz, 2014; Gioia et al., 2013). The components of this introduction were the same for all participants. First, the code for matching the demographic data with the interview guide was retrieved. Then the

[4] Since the monetary incentive is low, it is unlikely that it biased the data.

study objective was explained briefly. Interviewees were also asked whether they would prefer to work shorter hours. Although this description had already been included in the call for participation (see Appendix 2.1), with this question, we again wanted to ensure that the participants matched the target group. Afterwards, it was explained that the data would be treated confidentially and would be used only in an anonymized form for the purpose of publication. Participants were informed that they could receive a report on the findings from the study and any further questions the participants had were clarified. At the end of the introduction, they were asked whether the interview could be recorded for transcription purposes. All participants agreed with this procedure. The recorded data were deleted after transcription to MAXQDA 2018.

In the main part of the interview, we began with relatively general questions addressing the description of the interviewees' work time situation. We went into more detail in the middle part of the interviews when we attempted to capture the psychological aspects, i.e., thoughts, feelings, and attitudes of the interviewees regarding overemployment. We ended with questions about actions to take for improving work hours. Finally, we asked whether participants wanted to add anything that they had not had a chance to say so far. These last questions were intended to allow participants to again digress from the interview topic (see Charmaz, 2014).

For the quantitative studies in Chapter 7, three different questionnaires were used. The first was to measure content validity of the items for the overemployment scale in a pre-study (see Appendix 3.4). The second one was used in study 1 containing the first version of the scale (see Appendix 3.6). A third one was used in studies 2 to 4 for validation of the scale (see Appendix 3.7). The questionnaire designed to measure content validity was constructed following the descriptions in Hinkin and Tracey (1999). It contained a preliminary set of items designed to measure overemployment that were constructed from the interviews in Chapter 6. The questionnaire also included definitions of the four dimensions of overemployment found in the interview study. At the top of each page, the definition of one of the four overemployment dimensions was presented. This was followed by a list of items intended to measure this dimension. For each item, a Likert scale was used to rate the representativeness of the item for the relevant dimension. For the items that participants rated as not or rather not representative, there was space to categorize it under another or no dimension at all. The questionnaire also provided detailed instructions on the first page.

The main questionnaires (see Appendices 3.6 and 3.7) are only explained briefly here since they are described in detail in Chapter 7. There were only minor differences, shown in Appendix 3.7, between the questionnaires used in studies 2 to 4. As the main topic of the survey was already described in the email sent to

participants for participation (e.g., Appendix 3.3), it was not described again at the start of the questionnaires. However, the first page of all questionnaires gave brief information about the length of the survey and data confidentiality, and it explained how to receive feedback on the survey results. Regarding the order of questions, we followed the literature which suggests starting with the main topic of the survey and designing the first questions to be easy to answer (Krosnick & Presser, 2010). Therefore, we started with a short section of demographic data (e.g., sex, age, educational level) in studies 1 to 3 but put the demographic questions at the end of study 4.[5] After the demographics, the questionnaires directly addressed the main topic by presenting the new overemployment scale. This was followed by all other questions relating to work hours (including work time sovereignty and another measure of overemployment as used in the SOEP, e.g., Matta, 2015). By putting the new measure at the beginning, we also tried to keep order effects low (Holst & Bringmann, 2017; Tobsch et al., 2018). For studies 2 to 4, the second part of the questionnaire asked about various possible consequences of overemployment (well-being, attitudinal, and behavioral variables) and factors presumably related to overemployment. Finally, in the last part of all questionnaires, participants were asked to provide more information relating to their private and job situation (e.g., questions on shift work, whether they had a partner or children, and income).

Although the use of one-item measures was criticized here in the case of overemployment, we use one-item measures for health, life, and job satisfaction. However, in the case of these variables, using a single item is justified, as the research interest concerns a global evaluation summarizing the core of the construct (Fuchs & Diamantopoulos, 2009). Single items also provide reliable and valid results in the case of general well-being estimates, e.g., for job satisfaction (Diener et al., 2009) and life satisfaction (Cheung & Lucas, 2014).

When the questionnaires were constructed, another aspect to decide upon was the number of response categories. For the newly developed overemployment scale, we chose a five-point Likert scale including descriptors on every number indicating the strength of agreement ranging from 1 (*definitely disagree) to 5 (definitely agree)*. The number of response categories was chosen to ensure enough differentiation without overstretching participants' ability to differentiate between categories (DeVellis, 2012).

[5] Especially in the questionnaires for studies 2 and 3, more demographic data had to be included at the beginning because of controlling the quotas when using the respondi panel.

4.4. Samples

The empirical analyses of this thesis are based on data of 1,451 German employees. In the qualitative study, 26 employees (12 men, 14 women, mean age: 38.11) were interviewed. The sample was relatively highly educated: all participants had at least a university entrance qualification, and 21 of the 26 interviewees held a university degree. Also, their average income was higher than the German average (Rudnicka, 2020) with a gross income of 4,390 euros per month on average. A detailed description of the sample is provided in Chapter 6.

A total of 1,425 employees took part in the four quantitative studies serving the scale construction (Chapter 7). Detailed descriptions of the samples are again given in the relevant studies in Chapter 7. Table 2 below provides a short overview of the main demographic and job variables describing the participants in studies 1 to 4. Regarding education, those in study 1 were relatively diverse, while those in study 2 and, in particular, study 4 were highly educated. Conversely, study 3 comprised only people without a university degree. This is also reflected in the levels of income. The average gross income in Germany for a full-time position was 3,880 euros in 2019 and 3,703 in 2017 (Rudnicka, 2020). Studies 2 and 3 in particular diverge from this value in both directions. In terms of age, the samples in studies 2 and 3 were close to the average age of the German working population which is around 44 years (Destatis, 2018a), the samples in studies 1 and 4 were younger. The number of people indicating that they hold a second job is relatively high across the studies compared to the 6.7% of the overall German working population that hold a second job (according to Klinger & Weber, 2017). At almost 27%, study 3 had a relatively high proportion of people working shifts, considering that the German average is around 15.6% (Radtke, 2020, data for 2019). In the other samples, the number of people working shifts was on the low side.

Table 2: Sample demographics across the quantitative studies 1 to 4

Study (participants)	Average age	Gender	Higher education[1]	Work sector	Leadership position	Average monthly gross income	Secondary job holding	Shift work
Study 1 (*N*=303)	33.59	38% male	66%	17.5% public sector 77.9% private sector 4.6% self-employed	17.8%	3,508 euros	15.5%	9.2%
Study 2 (*N*=500)	41.11	52% male	86.4%	23.0% public sector 69.6% private sector 7.4% self-employed	32.8%	4,648 euros	12.2%	3.8%
Study 3 (*N*=350)	42.69	53% male	0%	22.9% public sector 76.3% private sector 0.9% self-employed	16.0%	2,888 euros	11.4%	26.9%
Study 4 (*N*=272)	35.63	52% male	100%	all public sector	29.4%	3,754 euros	13.6%	0%

Note. [1]Higher education=holding a university degree.

Chapter 5

5. Research Project 1: When less time is preferred: An analysis of the conceptualization and measurement of overemployment[6]

5.1. Abstract

Socioeconomic panel data indicate that numerous employees would prefer to work less, i.e., that they are overemployed. However, due to inconsistent definitions and divergent operationalizations of overemployment, integrating existing research results is challenging and implications for research and practice are difficult to draw. To advance research in this field, we present an analysis of the concept and measurement of overemployment. To analyze the concept, we proceed in two steps. In step 1, we present the range of overemployment definitions in the literature and systematize the similarities and differences in these previous conceptualizations with the aim of arriving at an adequate definition of "overemployment." In step 2, in view of the partial overlap between existing definitions of overemployment and other concepts used in past research, we demarcate overemployment from related concepts, identify conceptual distinctions between overemployment and other concepts and explore connections between concepts. To analyze the measurement of overemployment, we look at the bandwidth of content, measurement levels and question wording in overemployment measures and discuss the consequences of the different measures used for the overemployment rates found. We then present a consistent approach toward conceptualizing and measuring overemployment which aids future research on overemployment and similar concepts.

Keywords: over-employment, over-work, work hours mismatch, work status incongruence, working time, conceptual analysis

[6] Chapter 5 has been published under: Hiemer, J., & Andresen, M. (2019). When less time is preferred: An analysis of the conceptualization and measurement of overemployment. *Time & Society, 29*(1), 74-102. https://journals.sagepub.com/doi/10.1177/0961463X18820736.

The formatting of Chapter 5 (e.g., headings, citation style, Table numbers) was adapted to achieve a consistent formatting of the thesis. The content remained as published.

5.2. Introduction

"My favourite things in life don't cost any money. It's really clear that the most precious resource we all have is time" (Steve Jobs, as cited in Sable, 2017).

Time is probably our most precious resource because it is limited by its very nature. Yet, many people in the western world complain about a shortage of time (Szollos, 2009) and are dissatisfied with their work time. Especially in industrialized and comparatively rich countries, employees' desire for fewer work hours is usually more pronounced than any desire for more work hours (Golden, 2006a, 2006b; Reynolds & Aletraris, 2010). According to Eurofound (2019, data based on 35 member states in Europe) 30% of all employees would prefer to work fewer hours. This misfit between actual and preferred work hours in the sense of a preference for lower work hours can be described as overemployment (e.g., Golden, 2014; Merz, 2002).[7]

Overemployment is a challenge for employers and employees alike: working more than employees desire is related to lower job satisfaction (Angrave & Charlwood, 2015; Wooden et al., 2009; Wunder & Heineck, 2013), poorer health (Bell et al., 2011) and lower life satisfaction (Angrave & Charlwood, 2015; Wooden et al., 2009). Long work hours, which correlate with overemployment (Golden & Gebreselassie, 2007), are related to more mistakes at work (Dembe et al., 2005) and lower cognitive performance (Virtanen et al., 2009). Moreover, reducing overemployment is an important political and societal challenge if more people are to enjoy a better work–life balance (e.g., Holst & Seifert, 2012) and unemployment is to be reduced (e.g., Knight et al., 2013).

Notwithstanding all of this, some major trends suggest that overemployment will persist or even increase and that it will continue to be a major challenge in the future. First, leisure is becoming the most valued use of time among Generation Y, and the preference for achieving better trade-offs between time and money is rising (Cogin, 2012). Therefore, we can expect a rise in overemployment in the future, at least for more highly educated people (years of education are associated with the tendency to prefer shorter hours over higher incomes; Kalleberg & Marsden, 2013). The phenomenon of acceleration and its impact on the world of work (Rosa, 2005; Ulferts et al., 2013) is another relevant trend which manifests in increasing work intensity and feelings of being under time pressure

[7] We here refer to individual overemployment, i.e., overemployment with regard to an individual's preference. Note that in the English language in general overemployment is also used in the meaning of "excessive use of a person, thing, strategy, etc." or an economic "situation in which the number of vacancies for jobs exceeds the number of people unemployed, producing a labor shortage" (Oxford Dictionary, 2018).

(Rosa, 2005). Technological and organizational changes placing high time and flexibility demands on employees (Ulferts et al., 2013) may ultimately lead to an increase in feelings of being overemployed.

While the importance of investigating overemployment is well recognized, its definitions and measurements are extremely heterogeneous (Golden & Gebreselasie, 2007; Holst & Bringmann, 2016) as are, indeed, measures of work hours and work hour preferences more generally (Campbell & van Wanrooy, 2013; Tijdens & Dragstra, 2007). Divergent definitions of the concept of overemployment are currently hampering both theory development and sound empirical research on overemployment. This article therefore aims to systematically review and critically assess existing literature on overemployment conceptualizations and measures and to derive implications for the consistent conceptualization and measurement of overemployment.

5.3. Conceptual and measurement problems related to overemployment

Existing conceptualizations and measures of overemployment have been criticized for being inconsistent and fuzzy in terms of both their content and question wording (Campbell & van Wanrooy, 2013; Golden & Gebreselassie, 2007; Holst & Bringmann, 2016). As a result, estimations of how many people are overemployed vary widely, e.g., from as little as 6% up to 60% for employees in the US (Golden, 2006b, 2009; Golden & Gebreselassie, 2007; Reynolds, 2004; Reynolds & Johnson, 2012; Stier & Lewin-Epstein, 2003) and from 2.5% to 50.1% for employees in Germany (Holst & Bringmann, 2017). Much of this variation is, Holst and Bringmann (2016) argue, simply a product of the divergent wording and formats of the questions used. In addition, Campbell and van Wanrooy (2013) found in their interview study that it is difficult for employees to indicate exact work hour preferences as employees often hold conflicting ideas about reducing their work hours. Both findings are consistent with survey response theory, which suggests that most people "do not possess preformed attitudes at the level of specificity demanded in surveys. Rather they carry around a mix of only partially consistent ideas and considerations" (Zaller & Feldman, 1992, p. 579). Thus, survey questions shape answers "by the manner in which they frame issues, order the alternatives, and otherwise set the context of the question" (Zaller & Feldman, 1992, p. 582).

Zaller and Feldman (1992) show that also slight differences in measurement can lead to inconsistent answers, and this finding can surely also be applied to the study of overemployment. Inconsistencies in measurement are problematic, as they may lead not only to incoherent results on overemployment rates but also on the correlates of overemployment. Previous studies, for instance, have not

always agreed on the consequences of overemployment. For example, Wunder and Heineck (2013) and Friedland and Price (2003) found no relationship between overemployment and life satisfaction, but Wooden et al. (2009) and Angrave and Charlwood (2015) did. Additionally, practical implications on how to reduce overemployment are difficult to draw without knowing how it should best be measured.

With a view to explaining inconsistencies in overemployment research and avoiding them in future research, we systematically analyze the concept of overemployment and its measurement(s). We conduct a conceptual analysis (Olsthoorn, 2017) building on Golden's (2006a, 2006b, 2014) prior conceptual work and on Golden and Gebreselassie's (2007) list of some previously used overemployment measures. We expect this conceptual analysis on overemployment to yield a more refined understanding of what constitutes overemployment and what separates it from and connects it to other concepts. To our knowledge, no previous article provides a comprehensive and systematic collection of definitions of overemployment, as compared to similar concepts, and its measurements. However, reaching a consistent understanding of concepts—including what delineates them from other concepts—and some agreement on their uses is a prerequisite for the development of useful knowledge and theory (Furner, 2004).

This paper is organized around the following two research questions, the first theoretical and the second methodological:

(1) How is overemployment defined (question 1a) and how can it be demarcated from other concepts related to a (mis)fit between actual and preferred work hours (question 1b)?
(2) How is overemployment measured and how do differences in its measurement potentially impact the estimation of overemployment rates?

The overarching aim is to present a coherent approach to conceptualizing and measuring overemployment in future studies.

5.4. Method

To answer our research questions, we conduct a conceptual analysis that is based on a systematic literature review. A conceptual analysis serves to find a proper definition for a term (Olsthoorn, 2017), here overemployment. To answer research question 1a, we therefore deal with the definition of overemployment by analyzing similarities and differences in its previous conceptualizations. A conceptual analysis also assists with the search for theoretically relevant conceptual distinctions (Olsthoorn, 2017), in this case the distinctions between overemployment and other work time discrepancy concepts, and is useful for exploring connections between concepts, here between overemployment and similar mismatch

concepts (research question 1b). To gain a better insight into the concept of overemployment, we then also analyze its measurement (research question 2).

To choose an adequate method for the literature review informing the conceptual analysis, we refer to Edmondson and McManus (2007), who describe a continuum of management theory between nascent and mature. Whereas mature theory presents well-developed constructs, nascent theory proposes tentative answers to rather open-ended questions in areas where only a small body of theory exists (Edmondson & McManus, 2007). As described above, no consistent definition and measurement of overemployment exists, and hence we can locate overemployment at the "nascent" end of the continuum. We chose the Grounded Theory following Wolfswinkel et al. (2013) and Webster and Watson (2002), as it is a typical strategy for researching nascent topics (Edmondson & McManus, 2007). In addition, it "enables the key concepts to surface, instead of being deductively derived beforehand" (Wolfswinkel et al., 2013, p. 2).

We followed the five-step process of a Grounded Theory literature review (Wolfswinkel et al., 2013). In the first *define* stage, we determined inclusion and exclusion criteria and identified adequate research fields, databases and search terms. In the second *search* stage, we searched the databases identified. In the third *select* stage, we selected appropriate articles matching our research questions. In the *analysis* stage, we applied Grounded Theory principles to extract value from the studies, and in the final stage, we present the data. We will now describe these steps in detail.

5.4.1. Define stage

To identify relevant articles, we first demarcated overemployment from adjacent, but distinct concepts that were excluded from the analysis. Overemployment (Golden, 2014) refers to employees who have a preference to work fewer hours. It can, as such, be clearly differentiated from "workaholism." Workaholics have no preference for fewer hours, since they are chronically addicted to work in a compulsive and uncontrollable manner (Schaufeli et al., 2008). Overemployment can also be differentiated from "long work hours" per se, as the latter refers to regular work hours more than the standard full-time workweek (usually 40 hours; Beckers, 2008), but without implying a preference to work fewer hours (Beckers, 2008). This means that overemployment—unlike long hours—refers to a *perceived* state. Whether people are overemployed cannot be measured simply by looking at the number of hours they work, since some people can feel overemployed even when working a low number of hours (e.g., Reynolds, 2003) and others may not perceive themselves as overemployed even when working a high number of hours. Similarly, overemployment can be differentiated from "overtime," which is defined as

work in excess of contractual hours (Duran & Corral, 2012). Not all people working overtime desire to work fewer hours (Beckers, 2008).

Against this background, we identified keywords from prior research on overemployment (e.g., Golden & Gebreselassie, 2007; Reynolds, 2014; see Table 3).

Overemployment has been a relevant topic for multiple disciplines, primarily for business administration, economics, psychology and sociology. The keywords were entered in full-text searches in the following databases representing the knowledge stores of these disciplines: PsychInfo, Business Source Complete, EconLit, Psychology and Behavioral Sciences Collection, SCOPUS, IBSS, Sociological Abstracts, Ingenta Connect, Emerald, SOWIPORT and WISO. We searched for literature from 1968 on, i.e., from the point in time when the longest running social attitudes survey began (PSID, Institute for Social Research, 2017), up to January 2018, when this article was written.

Table 3: Search terms used in steps 2 and 3 of the literature analysis

Simple search terms:
• Over(-)employment
• Work hour mismatch/discrepancy
• Work(ing) hour congruence
• Work status congruence
• Fewer work hours
• Work hours fit
• Work(ing) hour/time preference
Combined search terms:
• Work(ing) hours + discrepancy OR mismatch OR overwork OR constrain* OR restrict* OR desir* OR prefer*
• Work(ing) time + discrepancy OR mismatch OR overwork OR constrain* OR restrict* OR desir* OR prefer*
• Actual-desired discrepancy + time OR hours OR work
• Actual work time/hours + ideal work time/hours OR preferred work time/hours
• Long work hours + preference
• Overtime + preference

Note. *truncated search term.

5.4.2. Search and select stage

Our search led to the identification of 475 relevant research contributions. Subsequently, we selected articles in a step-by-step approach. (1) To ensure our research was based on high-quality publications, we excluded grey literature and

book contributions, and only included peer-reviewed journals, which left us with 338 contributions. (2) We looked for the occurrence of relevant keywords, e.g., overemployment or work hour preferences in the abstracts or titles. This step reduced the number of relevant articles to 184. (3) We then analyzed the main text of each article and selected those publications that either included a definition and/or a measurement of overemployment or a definition/measurement of a similar concept with a different designation such as overwork. After this phase, 113 articles remained.

5.4.3. Analysis stage

As suggested by Wolfswinkel et al. (2013), we began by arranging the selected papers in two stacks. Stack 1 consisted of 39 articles that contain an explicit definition or measure of overemployment (relevant for research questions 1a and 2), and stack 2 consisted of 82 articles referencing to concepts similar to overemployment, e.g., work hours mismatch (relevant for research questions 1b).

For each step of the analysis, we first—following the approach proposed by Wolfswinkel et al. (2013) —picked a random paper and read and highlighted all the passages that seemed relevant to our research questions. The same procedure was applied to all the articles. Every word, sentence or paragraph that we highlighted in each paper represented a relevant "excerpt" that was subsequently entered into an MS Excel table. This yielded three Excel sheets (one sheet for overemployment concept, one sheet for similar concepts, one for measurement).

In parallel to (re)reading all articles, we engaged in open coding. This means that we noted down all aspects that appeared to be meaningful parts of the texts regarding our research questions and formed first categories. When new aspects emerged, we went back to the data and previous categories to check whether categories were exclusive. For example, when in answering research question 1a, the *preference to work less* category appeared and later the *preference to work less, earn less* category appeared, we reread papers we dealt with earlier to make sure that all categories make sense and are mutually exclusive. Similarly, when in answering research question 1b, a new concept arose, we checked whether and how it was different from other identified concepts (see Table 5).

Next, we applied axial coding, i.e., we identified relationships between categories and subcategories. For example, in answering research question 2 *categorical* and *continuous*, measurement levels were identified as subcategories describing the category *measurement level* (see Table 4). Finally, we engaged in selective coding, i.e., we further integrated our categories. Tables 6 and 7 resulted from this axial and selective coding. They display differences and similarities between concepts and describe possible relations between measurement categories and overemployment estimates. Most importantly, a new definition of overemployment

resulted from this selective coding, i.e., the further abstraction of the knowledge we gained from the literature review. As is typical for literature reviews following a Grounded Theory approach, we engaged in constant comparative analysis by switching back and forth between the analytical steps until we reached theoretical saturation, i.e., when no more new categories or links between categories arose in the articles selected (Webster & Watson, 2002). Wolfswinkel et al. (2013, p. 3) state that "a good review must be a richly competent coverage of a well-carved out niche in the literature." For this reason, we covered all the peer-reviewed papers that appeared over a generous timeframe.

5.5. Results

5.5.1. Research question 1: definition of overemployment (question 1a) and delineation from other concepts (question 1b)

The overall goal of our conceptual analysis is to present a coherent conceptualization of overemployment in order to facilitate the integration of existing and future study results and enhance theory development. To reach that goal, it is crucial first to understand how overemployment has been conceptualized in the literature (research question 1a). Based on our coding of the definitions of overemployment contained in the subgroup of 39 articles, we differentiated between three types of conceptualizations of overemployment. These are our categories (see Table 4). The first category is the *preference to work less* (25% of articles) where overemployment is defined as a state in which employees work longer than preferred or wish to reduce their work hours. The second category is the *preference to work less/ earn less* (66% of articles), a definition of overemployment as a state in which an employee wants to work less while accepting reduced earnings in consequence (e.g., Fagan, 2001; Golden & Gebreselassie, 2007). In contrast to the first conceptualization, the question of income loss when working less is considered here (e.g., Euwals, 2001; Wooden et al., 2009). Third, in some cases (9% of articles), the *impossibility of working less*—with or without reference to the dimension of reduced earnings—is core to the definition of overemployment (e.g., Hajivassiliou & Ioannides, 2007). For a future conceptualization of overemployment, discussion of the extent to which each of these three aspects should be considered is important. In all three definitions, overemployment refers to *perceived* overemployment—whether employees are overemployed or not can, in other words, only be determined by the employees themselves.

When analyzing the meaning of concepts, it is important to check whether one "concept is reducible to the other" (Olsthoorn, 2017, p. 158). In our research question 1b, we therefore searched for the characteristic features that delineate overemployment from other concepts to find out whether and how overemployment

is separable from similar concepts. To achieve this, we looked at the 82 articles that measured or defined concepts similar to overemployment and included concepts that overlapped with our categories defining overemployment, i.e., a preference to work less. Articles referring to more than one concept were coded multiply. Table 5 gives an overview of the definitions of these concepts.

Table 4: Frequencies of definition and measurement types for the term "overemployment"

Categories and corresponding subcategories	Articles *N*=39	Sources
Conceptualization of overemployment[a]:		
1. *Preference to work less*	9	Abrahamsen (2010), Allan et al. (2016), Brown & Sessions (2001), Bryan (2007), Campbell & van Wanrooy (2013), Euwals (2001), Merz (2002), van Echtelt et al. (2006), Wooden et al. (2009)
2. *Preference to work less/earn less*	24	Angrave & Charlwood (2015), Bender & Skatun (2009), Böheim & Taylor (2003), Böheim & Taylor (2004), Devoe et al. (2010), Fagan (2001), Feather & Shaw (2000), Golden (1996), Golden (2009), Golden (2016), Golden & Figart (2000), Golden & Gebreselassie (2007), Kuroda & Yamamoto (2013), Matta (2015), Osorno & Acosta (2007), Pagan (2017), Ramirez (1998), Sousa-Poza & Henneberger (2002), Sousa-Poza & Ziegler (2003), Tam (2010), Wang & Reid (2015), Werner et al. (2014), Wielers et al. (2014), Wunder & Heineck (2013)
3. *Impossibility of working less*	3	Altonji & Paxson (1988), Hajivassiliou & Ioannides (2007), Usui et al. (2016)
Measurement of overemployment:		
Reference to income[b]		
1. *Income not mentioned*	6	Abrahamsen (2010), Allan et al. (2016), Brown & Sessions (2001), Campbell & van Wanrooy (2013), Euwals (2001), Hajivassiliou & Ioannides (2007)
2. *General reference to income*	3	Altonij & Paxson (1988), Golden (2016), Wooden et al. (2009)
3. *Proportional reduction in income*	26	Angrave & Charlwood (2015), Bell (1998), Bender & Skatun (2009), Böheim & Taylor (2003), Böheim & Taylor (2004), Bryan (2007), Devoe et al. (2010), Fagan (2001), Feather & Shaw (2000), Golden (2016), Groezinger et al. (2010), Kahn & Lang (1995), Kuroda & Yamamoto (2013), Matta (2015), Merz (2002), Pagan (2017), Ramirez (1998), Sousa-Poza & Henneberger (2002), Sousa-Poza & Ziegler (2003), Tam (2010), Usui et al. (2016), van Echtelt et al. (2006), Wang & Reid (2015), Werner et al. (2014), Wielers et al. (2014), Wunder & Heineck (2013)

(Table 4 continued)

Categories and corresponding subcategories	Articles *N*=39	Sources
Measurement level[b]		
1. *Categorical*	18	Abrahamsen (2010), Altonij & Paxson (1988), Angrave & Charlwood (2015), Bell (1998), Böheim & Taylor (2003), Böheim & Taylor (2004), Brown & Sessions (2001), Bryan (2007), Devoe et al. (2010), Fagan (2001), Feather & Shaw (2000), Golden (2016), Hajivassiliou & Ioannides (2007), Ramirez (1998), Sousa-Poza & Henneberger (2002), Tam (2010), Usui et al. (2016)
2. *Continuous*	17	Allan et al. (2016), Bender & Skatun (2009), Campbell & van Wanrooy (2013), Euwals (2001), Groezinger et al. (2010), Kahn & Lang (1995), Kuroda & Yamamoto (2013), Matta (2015), Merz (2002), Pagan (2017), Sousa-Poza & Ziegler (2003), van Echtelt et al. (2006), Wang & Reid (2015), Werner et al. (2014), Wielers et al. (2014), Wooden et al. (2009), Wunder & Heineck (2013)

Note. [a]Three articles were not coded, as no clear definition of overemployment was given (Bell, 1998; Groezinger et al., 2010; Kahn & Lang, 1995). [b]Five articles (Golden, 1996; Golden, 2009; Golden & Figart, 2000; Golden & Gebreselassie, 2007; Osorno & Acosta, 2007) did not include or describe a measure of overemployment; Golden (2016) contained two measures.

To identify the defining conditions of overemployment and those separating it from other similar concepts, we looked at all codes created during the analysis stage and also considered Seifert's (2004) work time facets. From these, we identified six work time dimensions that we considered sufficient to describe all of the related concepts. Table 6 shows how overemployment differs on these dimensions from other concepts and provides a good overall picture of how well overemployment is separable from or overlaps with other concepts. The first dimension refers to *facets of work time mismatch*, which are, according to Seifert (2004), length (number of hours), position in time (the "when" of work) and distribution (how work is distributed in portions along a timeline). Whereas overemployment only refers to length, the terms "schedule fit/schedule mismatch" and in some articles also "work status congruence" encompass (mis)matches in the distribution or position (e.g., Holtom et al., 2002). The second dimension, *direction of mismatch*, refers to whether concepts describe mismatches between preferred and actual states regarding the direction of mismatches, i.e., preferring more or fewer hours or not. Overemployment refers to a specific mismatch where actual hours exceed preferred hours. The third dimension, *work intensity*, describes whether working harder in a fixed amount of time is referred to. Work intensity is not part of the overemployment concept as defined in the literature. The fourth dimension differentiates between concepts factoring in the *negative consequences* of long work hours and concepts that do not examine consequences. For example, negative consequences of working long hours were considered in the concept of overwork, but not in the concept of overemployment (Golden, 2014). The fifth dimension describes the relation of *time to income*. As described, overemployment may sometimes include an income aspect, and this applies to almost all other concepts as well. Overearning and overemployment have in common that both refer to individuals who have not found a balance between time and income. Overearning, however, need not encompass a desire to work fewer hours (Hsee et al., 2013). Finally, the sixth dimension refers to an *impossibility of changing hours* or an *impossibility of reducing hours* which, as described, is only sometimes part of the definition of overemployment, although it is core to the definition of hours constraints (see also Table 5).

Table 5: Definitions of concepts similar to overemployment

Concept name (used most)	Definitions and examples
Schedule fit vs. schedule mismatch	Degree to which one's number, distribution and flexibility of work hours meets one's own, spouse's and family's needs (e.g., Gareis & Barnett, 2002)
Work status congruence	Degree to which full-time or part-time status meets employees' preferences (e.g., Armstrong-Stassen et al., 1999; Loughlin & Murray, 2013) and schedule, shift, and number of hours are met (e.g., Holtom et al., 2002)
Work hour mismatch/fit/congruence, work hour discrepancy	Discrepancies between actual and preferred work hours (e.g., Campbell & van Wanrooy, 2013; Lee et al., 2015; Odle-Dusseau et al., 2012; Reynolds, 2003; Reynolds, 2004; Reynolds, 2014; Reynolds & Aletraris, 2010; Reynolds & Johnson, 2012; Stier & Lewin-Epstein, 2003; Tam, 2010; van Emmerik & Sanders, 2005; Wunder & Heineck, 2013)
Hours constraints	Not being able to adjust working hours because of employer side constraining factors (e.g., Böheim & Taylor, 2003; Dunn, 1990; Kuroda & Yamamoto, 2013; Sousa-Poza & Henneberger, 2002)
Overearning	Tendency to forgo leisure to work and earn beyond one's needs (e.g., Hsee et al., 2013)
Overwork	Working more than preferred OR working harder than preferred in a fixed number of hours (e.g., Bloch & Taylor, 2012; Clarkberg & Moen, 2001; Jacobs & Gerson, 1998; Kalleberg, 2008; Reynolds, 2003; Reynolds, 2004; Sousa-Poza & Ziegler, 2003)
Control/autonomy over work time/schedule control	Employee's control over duration, position, & distribution of worktime (e.g., Beckers et al., 2008; Krausz et al., 2000)

To sum up, overemployment shows a unique pattern of characteristics compared to other similar concepts and is therefore clearly distinguishable from them (see Table 6). Following conceptual analysis, we identified the defining (question 1a) and demarcating (question 1b) conditions of overemployment (Olsthoorn, 2017). Our analysis of the concept shows that there are two necessary and sufficient characteristics for the definition of overemployment.

Overemployment always refers

1. to work time length and
2. to a specific mismatch where actual hours exceed preferred hours.

Relating time to income and the impossibility of reducing work hours, however, does not seem to be a necessary defining criterion of overemployment, as it has not been included in all definitions.

Table 6: Comparison of overemployment with similar concepts

Dimensions of work time:	**Overemployment**	**Overwork**	**Overearning**	**Work status congruence**	**Schedule fit**	**Work hour mismatch**	**Hours constraints**	**Control over work time**
1. Facets of work time mismatch								
Length	×	×	×	×	×	×	×	×
Position in time				(×)	×			×
Distribution				(×)	×			×
2. Direction of mismatch (too much vs. too less)								
General mismatch between preferred and actual hours				×	×	×	×	
Specific mismatch (actual exceeding preferred hours)	×	×	(×)					
3. High work intensity		(×)	×					
4. Negative consequences of long work hours		(×)						
5. Relating time to income	(×)	(×)	×	(×)	(×)	(×)	(×)	
6. Impossibility of changing hours/impossibility of reducing hours	(×)	(×)					×	(×)

Note. (×) means the feature is sometimes, but not always included in the definition.

The incoherent conceptualization of overemployment very likely impacts on the determination of who is considered overemployed in both research and practice. For our aim to generate a coherent understanding of overemployment, a preference for working less—the one component that practically all the definitions have in common—represents a convenient departure point.

5.5.2. Research question 2: different measurements of overemployment and overemployment rates

A coherent measurement of overemployment is crucial for the comparability of study results and, thus, for the advancement of research. We therefore look at the similarities and differences between measurements used in previous studies and derive implications for the measurement of overemployment from these. We find that the three definitions (our categories regarding the definition) are reflected—however not always systematically—in the kind of measures that are used in empirical studies (our categories regarding the measurement). Thirty-five measures were used in the 39 articles. They differed with respect to (a) their reference to income, (b) measurement levels (categorical or continuous) and (c) the wording of questions measuring actual and preferred work time (see Table 4).

In terms of the relevance accorded to income, we identified three different types of measures (the first set of subcategories). In the first type the issue of income is not mentioned at all (17% of the articles, e.g., Abrahamsen, 2010). The second type of measure makes general reference to income (9% of the articles), i.e., the issue of income reduction is broached, but not quantified (e.g., Wooden et al., 2009). Third, in 74% of the articles, respondents are asked about their preference to reduce work hours under the condition that their income would decrease proportionally (e.g., Pagan, 2017).

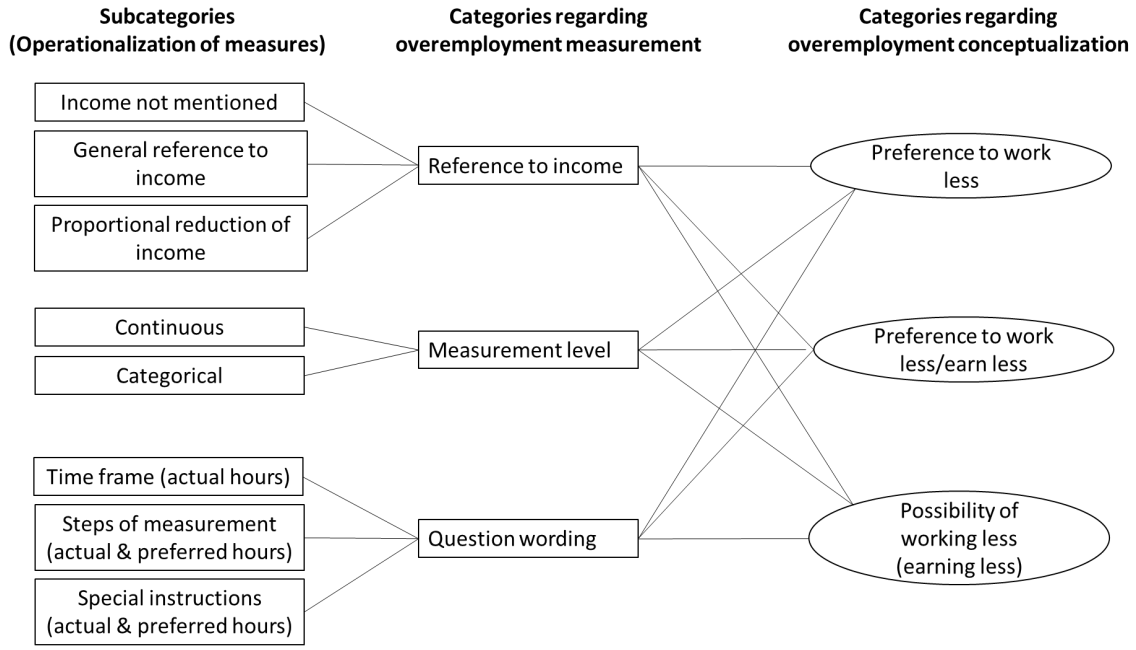
Two different measurement levels (the second set of subcategories) are used to measure overemployment: in 51% of the articles, a categorical measure is used, i.e., individuals are asked whether they desire to reduce their work hours or not (e.g., Altonji & Paxson, 1988; Bryan, 2007), allowing a qualitative estimation of the occurrence of overemployment. In 49% of the articles, a continuous measure is used to quantify the extent of overemployment. Individuals are asked for the number of actual and preferred work hours, and the difference is calculated (e.g., Matta, 2015) or they are directly asked by how many hours they would like to reduce their current work time (Wang & Reid, 2015). The studies using a continuous measure also differ in another respect: two studies introduce a minimum work hour range. Bender and Skatun (2009) regard only those persons as overemployed who indicate a minimum discrepancy of 4 hours between desired and actual hours, whereas Matta (2015) introduces a minimum hour discrepancy of 10 hours.

In addition to the classifications described above, the question wording used to measure actual and preferred hours also diverges: where actual hours are asked for (in 24 of the 35 cases), measures diverge regarding (1) the timeframe, (2) the measurement steps and (3) special instructions. Regarding the timeframe, mostly "usual," "average" or "normal" work hours (16 times) are asked for (e.g., Allan et al., 2016). In two cases, however, the hours worked in the week preceding the survey are explicitly referred to (Brown & Sessions, 2001; Kahn & Lang, 1995). Regarding measurement steps, a one-step measure is used in 12 articles, e.g., in Abrahamsen (2010, Stud A: Norwegian Survey): "How many hours do you usually work per week?" and a multi-step measure in seven articles, e.g., in Böheim and Taylor (2004, p. 5, British Household Panel Survey/BHPS): "Thinking about your (main) job, how many hours, excluding overtime and meal breaks, are you expected to work in a normal week?" and "And how many hours overtime do you usually work in a normal week?" In addition, special instructions are provided in some cases, e.g., to exclude mealtimes in the BHPS (Böheim & Taylor, 2004) or to exclude travelling time and include overtime only if it is paid (Euwals, 2001, DSEP, Dutch Survey).

Similarly, questions on preferred work hours diverge regarding measurement steps and special instructions. In 26 articles, a one-step measure is used, asking for the number of preferred hours (e.g., Merz, 2002, GSOEP) or whether the respondent wishes to reduce work hours (e.g., Abrahamsen, 2010, Stud A). In eight articles, a two-step measure is used, mostly asking first whether someone wants to work more, fewer or the same hours and then asking for his/her preferred hours (e.g., Euwals, 2001, DSEP). Moreover, special instructions are given in the Dutch Time Competition Survey (van Echtelt, 2007), which explicitly asks participants to think about their partner's income when indicating preferred hours. The PSID (Altonij & Paxson, 1988; Hajivassiliou & Ioannides, 2007) also deviates somewhat from other studies in asking about the feasibility of working less, i.e., if it is possible to reduce work hours.

As with the definitions of overemployment, the measurements described above reveal a very heterogeneous picture of overemployment, which may, as described in the following, impact estimations of overemployment rates. Figure 5 provides an overview of the different definitions and measurement categories. Also, Figure 5 shows that the used measures do not always systematically reflect the definitions, i.e., that papers using similar definitions may use different measurements.

Figure 5: Category system "overemployment"



For our analysis of whether different measures impact the estimation of overemployment rates, we looked only at those articles appraising overemployment rates from the same countries at around the same time. We identified seven relevant articles, of which two contained US data, three contained data from Great Britain and two related to Germany (see Table 7).

Estimated rates are not directly comparable, as samples and the exact points in time when surveys were conducted diverge, but tendencies can be observed. Using US data, Altonij and Paxson (1988) reported a much lower overemployment rate than Bender and Skatun (2009). The most striking difference between the measures used is that Altonij and Paxson (1988) included the possibility of reducing hours in their measure, whereas Bender and Skatun (2009) only asked for preferences in this regard. Including the possibility of reducing work hours may, it appears, lead to comparably lower rates of overemployment being found.

The two data sets from the UK (Brown & Sessions, 2001; Bryan, 2007) show a similar rate of overemployment, although only one mentions a reduction of income. A possible reason for this might be that people tend to automatically assume their income would be reduced if their hours were reduced even when this is not explicitly formulated in the question asked.

In comparing the data from the three German studies, Pagan (2017) reports a comparably high rate of overemployment as measured by the German Socioeconomic Panel (GSOEP); this is in line with the results of other surveys using the GSOEP (e.g., Holst & Bringmann, 2017). However, Matta (2015), who also uses

data from GSOEP, regards only those people as overemployed who work more than 10 hours over their preferred hours. This naturally leads to a lower estimation of overemployment rates. Kuroda and Yamamoto's (2013) measurement differed especially by taking two steps to ask for the preferred hours of the 875 German respondents. Compared to the one-step question in GSOEP (Pagan, 2017), this led to a much lower overemployment rate. Using a two-step question may lead to lower overemployment rates in general, which may be connected with the complexity involved in answering a question in one step rather than two (Holst & Bringmann, 2017).

5.6. Discussion

The following conclusions can be drawn: (a) The feature common to almost all definitions of overemployment is, that it is a state of hours mismatch characterized by an employee's preference to work less. (b) Overemployment is distinct from other concepts with some remaining overlaps. (c) Overemployment measures vary regarding their treatment of income, measurement levels and question wording. (d) Differences in measures probably induce differences in the estimation of overemployment rates. The inconsistency and fuzziness of the overemployment concept and its measurement hamper research geared, for example, to theory development on overemployment or to estimating the extent of overemployment. This is the background against which we will present some suggestions for the future conceptualization and measurement of overemployment below.

Table 7: Different overemployment measures and estimation of overemployment rates

Study	Data year	Sample	Definition of overemployment	Income reference	Measurement level	Wording: actual hours	Wording: preferred hours	Estimation of overemployment
Data from USA								
Altonij and Paxson (1988), PSID	1968-1983	13,118 men (18-60 years)	Possibility of working less	General reference to income	Categorical	Not asked	Two steps: "Could you have worked less if you had wanted to?"; "Would you have preferred to work less even if you earned less money?"	5.5%
Bender and Skatun (2009)	1984	3,341 men, 2,998 women	Preference to work less/earn less	Proportional reduction in income	Continuous (work hour range > 4 hours)	See preferred hours measure	Two steps: ‘‘How many days a week (do/would) you like to work?’’; ‘‘How many hours per day (do/would) you like to work?’’ (it was made clear, that the different hours are at the same wage)	women: 52.6%; men: 29.0%
Data from GB								
Brown and Sessions (2001), BSA	1985-1994	2,906 employees (> 18 years)	Preference to work less	Income not mentioned	Categorical	Number of hours in the week preceding the survey	One step: Participants were asked whether the number of hours indicated, exceeded, fell short, or coincided with their desired weekly work hours.	35.4%
Bryan (2007), BHPS	1991-1999	1,700 male manual employees (21–64 years)	Preference to work less	Proportional reduction in income	Categorical	Expected work hours, excluding overtime and meal breaks in a normal week + usual hours of overtime per week	One step: "Thinking about the hours you work, assuming that you would be paid the same amount per hour, would you prefer to work fewer hours, work more hours or continue the same hours?"	37.23%

(Table 7 continued)

Study	Data year	Sample	Definition of overemployment	Income reference	Measurement level	Wording: actual hours	Wording: preferred hours	Estimation of overemployment
Data from Germany								
Pagan (2017), GSOEP	1985-2011	Employees (16–64 years), 13,928 men; 12,369 women	Preference to work less/earn less	Proportional reduction in income	Continuous	Average in working week with possible overtime	One step: "If you could choose the extent of your hours at work, taking into account that your earnings would change corresponding to the time: How many hours per week would you like to work?"	60.9/55.9 % (for workers without/ with work-limiting health)
Matta (2015), GSOEP	2011	4,922 men; 5,106 women	Preference to work less/earn less	Proportional reduction in income	Continuous (range > 10 hours)	See Pagan (2017)	One step: see Pagan (2017)	14.8% - 40.8%, depending on work time model
Kuroda and Yamamoto (2013)	2010	462 men; 413 women (white-collar employees, > 20 years)	Preference to work less/earn less	Proportional reduction in income	Continuous	Question not further specified	Two steps: “If you could choose your working hours at your current hourly rate of pay, would you choose to increase or decrease the number of hours you work? If yes, by how much?”	7% (among men and women)

Note. GSOEP=German Socioeconomic Panel.

5.6.1. Implications for the conceptualization of overemployment

As the aspects of income and possible reductions in income are treated inconsistently, researchers up to now have dealt with different overemployment concepts (see Table 4). When income is considered, overemployment appears to be a "luxury problem," since only those with high incomes tend to be able to forgo money and still make a comfortable living. If the issue of income is disregarded, overemployment describes a more general problem of dissatisfaction due to too much work that also affects people on lower incomes. However, as our analysis for research question 2 showed, it is likely that (some) people consider income even when not explicitly asked to. Including aspects such as income and/or the (im)possibility of reducing hours in the measurement of overemployment raises another issue: is overemployment more a question of what employees desire or what is feasible for employees (Campbell & van Wanrooy, 2013)? From our analysis, however, desirability was clearly at the core of almost all definitions. In the articles analyzed here, desirability was viewed in primarily economic terms, with the focus chiefly on the trade-off between money and leisure (e.g., Altonji & Paxson, 1988; Böheim & Taylor, 2003). Psychological literature dealing with the desirability of work (time) (e.g., Dik & Duffy, 2009; Jahoda, 1981) may add further valuable dimensions to the concept of overemployment. For one thing, work has more functions than bringing in money. It also provides individuals with structure in their daily lives, social contacts, a sense of collective purpose, status, and activity (Jahoda, 1981). In this light, any reduction in working hours is fraught with risk: employees could, for example, lose status or interesting tasks or find their career progression impeded. These additional aspects could usefully be integrated into the analysis of overemployment, as it is likely that people take them into account, along with financial aspects, when thinking about their preferred work time. Second, when work is seen as more than just a trade-off between time and money, but also as intrinsically rewarding (e.g., Dik & Duffy, 2009), neither the quantity nor the quality of work can be regarded in isolation. Some individuals may wish to reduce the length of time they spend on certain tasks in order to free up time for intrinsically more satisfying work activities. In consequence, these people might also feel overemployed. In addition, the ways people wish to spend their time outside of work should also be looked at. If someone needs more time for recreation or rather for enhancing human capital, may have different consequences.

To finally arrive at a new working definition of overemployment, we take all the different conceptualization and measurement aspects described above into consideration. The core defining aspects of overemployment distinguishing it from other concepts are the references to work hours length and to a specific mismatch where actual hours exceed preferred hours. In addition, we consider

our discussion points centering around the gaps in the definition of overemployment, that is we try to include those aspects in the definition that have previously been missing. As a result, we think a new definition of overemployment should take into account, to a greater degree than previously, that overemployment is linked to what a person values most, such as money but also career prospects, time for interesting tasks at work or outside work or time for recreation. We refer to these multiple aspects as "reference points" that are important to a person.

Overemployment is working beyond one's preferred time engagement at work with regard to one's reference points, i.e., the time and job facets that are important to the individual.

5.6.2. Implications for the measurement of overemployment

The measures described above differed in various aspects that may influence the estimation of overemployment. As discussed above, the decision to look at or disregard income needs to be made at the conceptual level. Deciding on a measurement level, in contrast, is more of a methodological issue: continuous measures ask people to indicate exact weekly work hours preferences. This has been shown to be difficult for respondents (Campbell & van Wanrooy, 2013). As such, it is likely that continuous measurements may seem to be more precise than is actually the case. A categorical measurement, however, does not differentiate between people who are slightly or heavily overemployed. In addition, it is difficult to word an overemployment question with a high degree of precision in a single (one-step or two-step) item. Hence, the measures discussed here can be used as indicators of general (dis)satisfaction with work hours and may be adequate to gain an initial impression of the extent of overemployment. When it comes to measurement at an individual level, however, e.g., in exploring causes or consequences of overemployment, single-item (one-step or two-step) measurements are insufficient, because they do not measure individual overemployment in sufficient detail.

In this light, we strongly suggest developing a scale that includes different aspects of overemployment, and that makes it possible to understand the aspects making a person overemployed (e.g., does s/he need more time for recreation, for family life or for more interesting work tasks?). If we place people's perceptions in the foreground, low-earning employees who would prefer to work fewer hours but cannot afford to reduce their hours should also be considered "overemployed"; employees with different financial backgrounds may well have similar motives and feelings about the desirability of reducing work hours. When earnings are taken into account, people who cannot afford to reduce their hours, but have a preference to do so, might erroneously be classified as "matched" and overemployment underestimated as a result.

Overemployment needs to be measured with adequate complexity. A more complex scale-based measure needs to be developed as an alternative measure that allows for more detailed insights into individual overemployment.

5.6.3. Limitations and directions for future research

Like every study, this one has some limitations. Our analysis did not cover the antecedents or the consequences of overemployment. However, a clear concept and measurement of overemployment is a prerequisite for reviewing its consequences and causes systematically. We strongly suggest exploring individual and organizational causes and consequences in the future using a sophisticated measure.

Based on our systematic review, no ideal existing overemployment measure could be identified, as the ideal measure strongly depends on what researchers specifically intend to investigate. If single-item measures are used in future surveys, we suggest comparing the effects of specific question wordings in experimental studies before using the items in panel studies (Holst & Bringmann, 2016). The classification of definitions and measures presented here can guide such experiments and assist with the discovery of the right measure for specific purposes.

A central task for future research will be to further tease out a consistent and sufficiently complex understanding of overemployment. Consistency is important to enhance comparability. Adequate complexity is important, as different motives may underlie overemployment and their identification may provide clues as to how satisfaction with work time might be improved. If, for example, the distribution of time on work tasks rather than the number of work hours per se transpires to be problematic, this could have consequences for the success of particular solutions.

Starting from our working definition of overemployment as given above, qualitative research (see Campbell & van Wanrooy, 2013) is needed to identify the aspects employees perceive as the most important in relation to overemployment (reference points). These reference points can form the starting point for the development of a new scale for measuring overemployment. In developing a new overemployment scale, quantitative research should also investigate whether and to what extent different types or patterns of overemployed employees exist. Another important task for future research is to further study the influence of context and sample variables on the prevalence of overemployment. A limitation that becomes obvious in Table 7 is that the samples differ, for example, regarding gender composition and time-based economic circumstances. We think it is important to consider these variables when interpreting overemployment results. However, identifying influences resulting from the context and sample of studies

and separating them from measurement effects will only be possible with a coherent measurement of overemployment.

5.7. Conclusion

Our analysis revealed similarities and differences in previous conceptualizations and measurements of overemployment and demarcated the concept of overemployment from related ones. We found that the one aspect common to all definitions was a preference for less work time. Comparison of measures highlighted differences in the measurement levels, the treatment of income aspects and the exact wordings used. Differences in the estimations of overemployment rates between studies may be due, at least in part, to the unclear and inconsistent conceptualization of overemployment.

Based on our analyses, we suggest defining overemployment more broadly as working beyond one's preferred time engagement at work with regard to one's reference points, i.e., time and job facets that are important to the individual. We suggest a universally accepted scale-based measurement that takes the complexity of overemployment into account.

Chapter 6

6. Research Project 2: "Because work time is life time"- Employees' perceptions of individual overemployment, its causes and its consequences[8]

6.1. Abstract

Many employees would prefer to reduce work time and can be defined as overemployed. However, the concept of overemployment is poorly understood. The purpose of this article is to define overemployment from employees' point of view, to explain why people work more than they prefer, and to understand the individual consequences it has. We investigate 26 overemployed employees using a Grounded Theory approach. We find that overemployment is a four-dimensional experience consisting of work time length, work time competition (with time outside work), work time distribution on tasks, and work density. A self-reinforcing circle of personal and situational drivers seems to explain the persistence of overemployment. Regarding the psychosocial consequences of overemployment, our findings show large variations, whereby work time sovereignty seems to play a moderating role. This study provides a multidimensional framework of overemployment that provides a basis for understanding employees' perceptions and behavior regarding overemployment and for deriving appropriate actions to reduce overemployment.

Keywords: overemployment, work time, work time preferences/desires/intentions, work hours, Grounded Theory

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The formatting of Chapter 6 (e.g., headings, citation style, Table numbers) was adapted to achieve a consistent formatting of the thesis. The content remained as published.

6.2. Introduction

"Work time actually is life time, too. I don't want to spend my lifetime only at work." (7)[9]

Long working hours and blurred boundaries between work life and private life are common among professionals (Eurofound, 2019; Ross et al., 2017). For employees, there may be acceptable reasons for working long days, such as expected positive career outcomes, e.g., in terms of salary (Spurk & Abele, 2011) or intrinsic rewards (Brett & Stroh, 2003). In addition, companies may encourage employees to work extra hours: they are an indicator of employee performance (Kmec et al., 2014) and lead to sought-after lower relative labor costs (Boulin et al., 2006).

The phenomenon of overemployment must be distinguished from long working hours *per se*. Overemployment is usually defined as a state in which an employee, working full-time or part-time, would prefer to work less (work fewer hours) than is currently the case (e.g., Golden, 2014; Golden & Gebreselassie, 2007; Wooden et al., 2009), while accepting reduced earnings in consequence (van Echtelt et al., 2006). Overemployment is a widespread phenomenon. In Europe, around 30% of all employees would prefer to work fewer hours (albeit with strong variations between countries; Eurofound, 2019, data based on 35 European countries).

While literature finds no direct effect of long work hours *per se* on either physical or mental well-being (Ganster et al., 2018), this is not true for overemployment (Angrave & Charlwood, 2015; Wooden et al., 2009). Therefore, we regard the subjective experience of overemployment as more important than the objective hours worked. Prior research predominantly finds that overemployment is detrimental to individuals' well-being: it is negatively related to job satisfaction (Angrave & Charlwood, 2015; Wooden et al., 2009; Wunder & Heineck, 2013), life satisfaction (Wooden et al., 2009) and psychological well-being (Angrave & Charlwood, 2015). Job dissatisfaction negatively correlates to performance and retention (Judge et al., 2001). These results highlight the importance of studying overemployment, rather than long work hours, for the individual and for organizations.

Managing overemployment from the individual to the organizational level requires solid knowledge about the phenomenon. However, the understanding of overemployment is still in its infancy and this has an impact on study results. Regarding the measurement of overemployment, many previous studies focus solely on economic aspects, viewing overemployment as a trade-off problem between money and leisure (e.g., Böheim & Taylor, 2003). This represents a simplified view of peoples' motivation to work, as there can be many other reasons to

[9] Numbers in brackets indicate the number of the interviewee being cited (see Table 8).

work beyond earning an income (e.g., see Conklin, 2011, study on calling). In addition, previous overemployment studies rely on working time preference data from large-scale surveys (Golden & Gebreselassie, 2007). A common method here is asking employees about their current hours and then asking if they would prefer to work fewer weekly hours. These data, however, show strong deficiencies, as answers to working time preference questions are not only instable, but also prone to wording effects, as Holst and Bringmann (2016) demonstrate. Therefore, it is crucial not only to analyze overemployment by asking employees about their actual and preferred number of working hours, but also to ask how they *perceive* overemployment. Campbell and van Wanrooy (2013) undertook an important step toward this. They interviewed overemployed persons to gain more comprehensive insights into their experiences. However, there are some limitations to their study. The first of these is related to sample selection: Campbell and van Wanrooy (2013) only included full-time employees working five or more extra unpaid hours, whereas overemployment, by definition, is a subjective phenomenon, i.e., people can feel overemployed regardless of how much or how little they actually work. Thus, leaving out the subjective estimation of overemployment in the selection of participants may limit research results. The second limitation refers to Campbell and van Wanrooy's (2013) research questions: they mainly focused on the ambivalence and usability of work hours preference questions. We build on this research, but go a step beyond it: where Campbell and van Wanrooy (2013) still rely on preference questions to interpret people's answers, we apply a Grounded Theory approach and try not to impose prior concepts on participants, but to focus on their own construction of overemployment (Gehman et al., 2018). In addition, our research questions go beyond Campbell and van Wanrooy's (2013) study by including the causes of overemployment. Researchers have also found that overemployment tends to persist for long periods of time (Reynolds & Aletraris, 2010) and we aim to gain insights into what contributes to this persistence. Moreover, we investigate consequences of overemployment as perceived by employees. Thus, we address the following questions:

(1) How is "overemployment" defined from the perspective of employees?
(2) What are the perceived causes of overemployment, and what contributes to its persistence?
(3) What are the consequences of overemployment for individuals?

Answering these questions is important for theory and practice. Our contribution is threefold: First, a better understanding of the overemployment concept serves as a basis to develop a better measurement of overemployment. Measuring overemployment is also important for practice, e.g., for diagnosing overemployment before defining actions to improve work time satisfaction. Second, our

Grounded Theory approach allows detailed insights into the causes and mechanisms of the persistence of overemployment that serve to identify levers for managing overemployment. Finally, our Grounded Theory analysis leads to propositions on the causes and consequences of overemployment that may guide future research.

Current research on overemployment has focused mainly on its measurement and on the identification of causes and consequences. However, a huge variety of approaches can be found, hampering the comparability of findings.

The definition of overemployment and its operationalizations diverge widely (Fagan, 2001; Wooden et al., 2009), and in consequence, reported overemployment rates vary drastically between studies (Holst & Bringmann, 2016). One major difference between definitions is whether they explicitly include the assumption that income is reduced when reducing hours (for a more detailed overview of variations in the definition and measurement of overemployment, see Golden & Gebreselassie, 2007). In line with other researchers (e.g., Abrahamsen, 2010; Brown & Sessions, 2001; Golden & Gebreselassie, 2007), we do not see a reduction of current income as a necessary facet of overemployment. As not all employees are paid by the hour, reducing work time may not necessarily reduce incomes. Income reduction is consequently not always included in overemployment definitions (e.g., Golden & Gebreselassie, 2007). Moreover, people may not only consider short-term income reductions, but also long-term consequences of reducing their hours (e.g., in terms of their career or individual development), and they may take such consequences into account even when they are not expressly asked to consider them. Overemployment measures also differ with regard to quantification, i.e., whether people are asked for their exact hours preferences (van Echtelt et al., 2006) or about whether they want a reduction in their hours that is not precisely quantified (e.g., Abrahamsen, 2010). In line with research that shows that it is too difficult for employees to indicate their exact weekly working hours preferences precisely (Campbell & van Wanrooy, 2013), we refrain from asking study participants to indicate their exact hours preferences (Gioia et al., 2013). We apply a working definition of overemployment that only includes core aspects of overemployment to give ourselves space to listen to what our informants are telling us without being overly biased by prior research (Gioia et al., 2013). Thus, we start with a preliminary definition of overemployment as an *imbalance between preferred and actual working time*, where *actual working time exceeds preferred time*.

Moreover, as argued above, overemployment as a *subjective phenomenon* is independent of long working hours. Overemployment can be differentiated from long work hours *per se*, as the latter refers to work hours that exceed the standard full-time work week, but without implying a preference for working fewer hours (Beckers, 2008). Prior studies have found that not only people working longer, but

also people working fewer than 40 h per week often wish to reduce their work hours (e.g., Reynolds, 2003). The perception of overemployment is distinct from job dissatisfaction, which generally refers to whether a job is enjoyable or not (Warr, 2007). Not all people wanting to reduce their work hours are necessarily dissatisfied with their jobs (e.g., Brett & Stroh, 2003; Reynolds & Aletraris, 2007). Reynolds and Aletraris (2007) found that individuals are not only less likely to desire a decrease in work hours as their job satisfaction increases, but also that people do not want to spend more hours even on jobs they find satisfying. Spending too much time at work may make a job less satisfying (Reynolds & Aletraris, 2007). Long work hours and overemployment are thus related but conceptually distinct phenomena. To conclude, we see the need to define overemployment from the employee perspective (research question 1) and to provide a basis for the improvement of its measurement.

Apart from the definition and measurement of overemployment, the causes of overemployment have been investigated in prior research. However, results regarding the causes of overemployment have been inconclusive so far (Reynolds & Aletraris, 2010). In the economic model of labor supply, it is assumed that overemployment is a result of labor market demand, i.e., firms offer fixed hours-wage packages, restricting employees in their choice of working hours (e.g., Altonji & Paxson, 1988; Böheim & Taylor, 2004). Employers have an incentive to hire employees only for a substantial number of hours. Given the limited availability of positions, the chances of being appointed to a position with exactly an individual's preferred working hours are rather limited (Altonji & Paxson, 1988). In contrast to this traditional explanation, Landers et al. (1996) and Eastman (1998) focus more on competition among employees and the jockeying for position that leads employees to work long hours. Van Echtelt et al. (2006) concentrate on aspects of post-Fordist work organization (e.g., high autonomy, project work, deadlines, competition) that cause overemployment. Other authors have focused on finding demographic characteristics that correlate with overemployment, e.g., having children (Reynolds & Johnson, 2012), being married, or possessing a higher level of education (Golden & Gebreselassie, 2007). Each of these studies focuses on individual aspects; none of them offer an integrated view that sufficiently explains what causes overemployment and what leads to its persistence. The present study therefore sets out to capture an integrated view of employees' perceptions of the causes of overemployment (research question 2).

Regarding the consequences of overemployment (research question 3), well-being and job satisfaction are the variables that have been most comprehensively investigated. Angrave and Charlwood (2015) adopt a person-environment fit framework and hypothesize that it is not the length of the working week in absolute terms, but the fit between actual and preferred working hours that affects the

subjective well-being of workers. Earlier studies, however, only partly confirm this hypothesis. Regarding well-being, Wooden et al. (2009) as well as Angrave and Charlwood (2015) found significant effects of overemployment on life satisfaction, whereas Friedland and Price (2003) and Wunder and Heineck (2013) found no such effects. Bell et al. (2011) found negative effects of overemployment on health satisfaction and self-assessed health. Overemployed people in Friedland and Price's (2003), study by contrast, reported a higher prevalence of chronic disease, but not lower health satisfaction, and, surprisingly, lower depressive symptoms. Respondents in Angrave and Charlwood's (2015) study showed lower psychological well-being. This inconsistency in findings is probably due to individual perceptions having been neglected to some degree in the conceptualization of these studies and, following on from this, to a degree of inaccuracy in the measurement of overemployment (Campbell & van Wanrooy, 2013; Holst & Bringmann, 2016). For this reason, patterns of overemployment consequences are also included in our investigation (research question 3).

6.3. Materials and methods

6.3.1. Research strategy

We employed a qualitative, Grounded Theory research approach we considered to be the most appropriate option given the limited development of the overemployment concept (Edmondson & McManus, 2007); most prior studies have relied on quantitative overemployment data. However, these studies neither analyzed what overemployment means from the perspective of those affected nor explored how people affected by overemployment explain its causes. Although there is a significant body of literature on overemployment, the phenomenon remains paradoxical: why do so many people wish they had less work time, yet not reduce their hours? As Edmondson and McManus (2007) suggest, inductive research, e.g., Grounded Theory, is a perfectly fitting method here for "digging into a paradoxon" (Edmondson & McManus, 2007, p. 1162).

For developing a better understanding of the concept of overemployment as well as its consequences, we followed the Grounded Theory approach established by Gioia (see Gioia et al., 2013; Murphy et al., 2017). According to Gioia et al. (2013), much effort is often invested in concept elaboration, but little in the "more important work of concept development" (Gioia et al., 2013, p. 16). This is also the case for the construct of overemployment: although a considerable body of research on overemployment exists (e.g., Golden & Gebreselassie, 2007; Reynolds & Aletraris, 2010), the construct is still conceptually unclear and attempts to measure overemployment are distorted by ambivalence (Campbell & van Wanrooy, 2013; Holst & Bringmann, 2016). In addition, a universally accepted theory of

overemployment is lacking, and much research is guided by established theories from other areas, e.g., person-environment fit theory (Angrave & Charlwood, 2015) or self-discrepancy theory (Odle-Dusseau et al., 2012). The Gioia Grounded Theory approach assumes that organizational phenomena are socially constructed by "people [who] know what they are trying to do and can explain their thoughts, intentions, and actions" (Gioia et al., 2013, p. 17). Therefore, we interviewed overemployed people and tried to stay close to their experiences when interpreting the data. We also followed the principle of starting with a preconceived structured interview guide that was tailored to our research question (see Appendix 2.3), but flexible enough to change as research progressed (Gioia et al., 2013). In addition, we followed Gioia et al. (2013) by primarily proceeding in a bottom–up fashion and taking care not to allow existing literature to bias our research findings too much.

6.3.2. Sample and sampling strategy

To find people who were currently experiencing overemployment, requests were posted on social networking sites that are popular in Germany (LinkedIn, Xing). Germany was chosen because of its significant proportion of employees reporting overemployment according to long-term data from the German Socio-Economic Panel (e.g., Wunder & Heineck, 2013). We decided to only use people working in Germany and not to mix countries, as cultural (e.g., values) and structural (e.g., legal and economic circumstances) aspects differ considerably between countries (Ollier-Malaterre & Foucreault, 2016) and this makes results difficult to compare. To make sure we selected an adequate sample, we explicitly asked for people who "currently experience imbalances between preferred and actual working time, where actual working time exceeds preferred working time." We chose subjects who classified themselves according to this definition, as we were interested in the subjective experience of overemployment. We did not use a contrasting subsample, i.e., two samples with a relevant contrasting feature; as the phenomenon of overemployment is still vaguely defined, we considered that no reliable criterion variable that could have been used to split the samples would be identifiable (Boyatzis, 1998).

The Grounded Theory approach of theoretical sampling was used here. This means that our sample was not selected to be representative of a group of people, but representative in terms of concepts (Charmaz, 2014). Derived from a maximum variation sampling strategy (Patton, 1990), our approach purposefully sought to interview people with different job and personal circumstances and diverse work time arrangements to ensure a large degree of variability between different cases (see Table 8). Any pattern emerging from that large variation thus captures the core experiences relevant for developing our theory (Patton, 1990).

All respondents had gained, at a minimum, a school-leaving certificate qualifying for university entrance, since our interviews required participants with good language skills. Our approach involved an iterative process of simultaneously collecting and analyzing data and seeking new informants based on the information that had been gleaned and deemed important in prior interviews (Glaser & Strauss, 1967; see also Gioia et al., 2010). We continued sampling until theoretical saturation was reached, i.e., interview data ceased to yield any new conceptual themes or insights (Charmaz, 2014; Glaser & Strauss, 1967). Initial interviewing began with employees working in the consulting sector (Interviewees 1–5) and in the banking and finance sector (Interviewees 6–10) because long working hours are common in these sectors (Hewlett & Luce, 2006). From these first interviews, tentative ideas were developed that were examined further by searching for new data that could be used to refine or reject our initial ideas (Charmaz, 2014). We interviewed people with and without children, as well as people in leadership positions (Interviews 6, 19, 20, 21, 24) and people in special situations (Interviewee 13, doing a Ph.D. alongside work, or Interviewee 17, with a very long commute) as these factors might influence perceptions of work hours. This led to a sample of 26 interviewees who described being overemployed (see Table 8).

The average contractual work week was 39 h (two people had no fixed hours but a range of 30-40 h). The average reported actual time worked was 46 h per week (including overtime hours, not including commuting time). Three people had part-time contracts, while all others had full-time contracts. Nineteen people were not paid for overtime, three were partially paid and four were fully paid. The mean commute was 1.5 h per day (range: 0.3-2.5 h). Out of 22 respondents with partners, 14 had partners in full-time employment, four had partners in part-time employment, two had self-employed partners and two had non-employed partners. Employees' gross income stood at 4,390 euros per month (range: 1,900-10,000 euros; *SD*=2,390).

6.3.3. Data collection

Overall, we conducted 26 interviews that lasted 45 min on average. About a week before the interviews, participants provided additional sociodemographic information with the help of a 5-min online questionnaire that served to aid the meaningful interpretation of responses (Corbin & Strauss, 1990). Interviews were conducted via telephone by the first author, recorded and then transcribed. Participants gave written informed consent for research participation as well as for the use of their data in anonymized form in research and publications. In line with Gioia et al.'s (2013) Grounded Theory approach, we used an interview protocol focusing on the research questions. Initially, a general question about the interviewees' current work time situation was asked, followed by questions about

satisfaction with work time, feelings about work time and ideal work time. Later, we posed questions about causes of overemployment (see Appendix 2.3). As our research progressed, we also repeatedly revised the protocol to follow the course of the research (Gioia et al., 2013). We mainly asked open questions (e.g., asking "Tell me about …!", "Why?", "How?", "What?") to best capture the participant's own words. By doing so, following the Gioia approach, we treated our interviewees as "knowledgeable agents" and tried not to impose prior theory or concepts on them (Gehman et al., 2018).

Table 8: Interviewees' basic profiles

Interviewee	Sex, age[1]	Job description (industry)	Family Status	Weekly work hours
1	M, 33	Marketing consultant (consulting)	Partner, no children	50
2	F, 31	Senior recruiter (consulting)	Married, no children	45
3	F, 32	Senior HR officer (consulting)	Partner, no children	45
4	F, 60	Senior HR officer (consulting)	Married, one child	38
5	M, 52	Consultant (self-employed)	Single, 3 children	60
6	M, 44	Departmental head (banking)	Married, 3 children	50
7	F, 58	Specialist (banking)	Single, two children	42
8	F, 27	Personnel officer (finance)	Partner, no children	45
9	M, 28	Assistant to the CEO (banking)	Partner, no children	50-55
10	M, 30	HR development (banking)	Married, one child	45
11	F, 30	Copywriter (advertising agency)	Partner, no children	45
12	F, 38	Market research specialist (market research company)	Married, one child	50
13	M, 28	Project manager (agency)	Partner, no children	30
14	F, 34	Junior data manager (pharma)	Married, no children	41
15	M, 51	Principal expert software ergonomics (engineering company)	Married, 3 children	40
16	M, 25	IT developer (IT)	Married, one child	52,5
17	F, 33	Commercial clerk (telecommunication)	Married, no children	48
18	F, 29	Online editor (retail)	Partner, no children	41
19	M, 59	Human Resources Director (retail)	Married, two children	45
20	M, 44	Work design specialist (automobile)	Single, no children	44
21	M, 31	Chef (catering company)	Married, two children	55
22	F, 55	Receptionist/Team assistant (media)	Married, two children	40
23	F, 29	Personal assistant to management (food)	Married, no children	40
24	F, 46	Professor (university)	Married, two children	70
25	F, 36	Academic Council (university)	Married, one child	46
26	M, 28	Research Associate (university)	Single, no children	55

Note. [1]F=female, M=male.

6.3.4. Data analysis

Each interview was transcribed and analyzed directly after having been conducted. In each step of the analysis outlined below, two coders first independently, i.e., without seeing the judgment of the other observer (Boyatzis, 1998), performed the coding step and met at regular intervals to discuss their individual results and reconcile discrepancies. Following Gioia et al. (2013), we continually revisited the data, engaged in discussions, and reconciled differing interpretations by developing consensual decision rules about how terms were to be coded. Throughout this procedure, the two coders read the interviews multiple times and the codes were revised when considered necessary (Charmaz, 2014). Coding was performed following the Grounded Theory methodology (Charmaz, 2014; Gioia et al., 2013) and applying the ideas of Thematic Analysis. Thematic Analysis is a process for encoding qualitative information that can be used as part of qualitative methodologies like Grounded Theory (Boyatzis, 1998). Throughout the coding process, the two coders developed notes that ensured the codes contained the characteristics of a good code according to Thematic Analysis, i.e., the name and definition of the code and a description of indicators for when and when not to use the code including examples (Boyatzis, 1998). Coding was done in four steps (for detailed descriptions, see Appendix 2.5).

Step 1: Open coding. Two coders (the first author and a research assistant) independently began by reading each transcript and generating *"in vivo"* codes, i.e., meaningful terms used by informants or reflecting the level of meaning and the language of informants (Gioia et al., 2010; Strauss & Corbin, 1998). Some *in vivo* codes are highlighted in Appendix 2.4.

Step 2: First-order categories. The same two coders independently grouped all *in vivo* codes into higher-level concepts based on underlying similarities. Examples of first-order categories are embedded in the results section and Table 9.

Step 3: Axial coding and second-order themes. Axial coding (Corbin & Strauss, 2008; Strauss and Corbin, 1998) was used to establish links between the first-order codes and to assemble them under higher-order themes. Step 3 led to 15 second-order categories (see Table 9).

Step 4: Theoretical or selective coding. Finally, the two coders examined the second-order themes with the help of the second author and searched for underlying categories at a higher level of abstraction as well as for connections between higher-level categories. Ideas were discussed multiple times. Seven third-order categories were identified (see Table 9).

6.4. Results

Table 9 illustrates the structure and ordering of the data, from specific first-order categories (staying close to informants' words) to more general, researcher-induced second-order and third-order themes. Representative quotations that substantiate second-order themes are shown in Appendix 2.4. Within the text, we will give a few sample quotations and write the first-order codes in italics and brackets behind the representative quotations.

The process described above led to four core categories: (1) the definition (facets) of overemployment, (2) causes of overemployment, (3) consequences of overemployment and (4) an intervening variable between overemployment and its consequences.

6.4.1. Defining overemployment

Desires and intentions

In our preliminary definition, overemployment is defined as an imbalance between preferred and actual working time where actual working time exceeds preferred time. As overemployment has been defined differently in prior research, we concentrate on this preliminary definition that does not consider financial or workplace constraints. In our interviews, we found people who wished they could work fewer hours, but were prevented from making concrete plans or taking action to reduce their hours by financial or other constraints. However, we also found people who were already planning steps to reduce their work time.

This result can be understood in the context of Perugini and Bagozzi's (2004) differentiation between desires and intentions. Previous research speaks of preferences, but without explicitly specifying whether preferences refer to desires or intentions. In our interviews we found that it is crucial to differentiate between the two. Thus, we will continue to speak about desires and intentions more specifically.

Table 9: Overview of data structure

Aggregate dimensions	3rd-order themes	2nd-order themes	1st-order concepts
Defining overemployment as desire vs. intention	Quantitative overemployment	Work time length	(1) Reducing contractual and/or actual work time (2) Fit of actual work time to contractual/"normal" hours (3) Length of commuting time (4) Length of holidays (5) Working during "free" time (6) Compensation for long hours
		Work time competition (with time outside of work)	(7) Time for family/friends (8) Time for leisure activities (9) Time for recreation (10) Time for personal responsibilities (11) Time for building human capital (12) Time for social commitments
	Qualitative overemployment	Work time distribution on tasks	(13) Time for meaningful/important tasks (14) Time for fun vs. boring/routine tasks
		Work density	(15) Time pressure (16) Fluctuating workload (17) Working with(out) interruption
Intervening variable	Work time sovereignty	Work time sovereignty	(18) Flexible distribution of time (start, end, breaks) (19) Having a better predictability of time (20) Taking vacation flexibly
Self-reinforcing circle of overemployment	Situational aspects: task demands	Workload	(21) High volume of tasks (22) Unnecessary tasks (23) Lack of personnel resources (24) Low practice/experience with the job
		Presence requirements	(25) Presence required for meetings (26) Presence required for business trips (27) Missing out on information when not present
	Situational aspects: normative demands	Expectations of others	(28) Expectations of manager/organization (29) Expectations of colleagues/team (30) Customer expectations (31) Expectations in private environment

(Table 9 continued)

Aggregate dimensions	**3rd-order themes**	**2nd-order themes**	**1st-order concepts**
		Deprecation of short hours	(32) Short hours only for an accepted reason (33) Part-time is (un)common within the company (34) Part-time means low career possibilities (35) Problems when switching back from part-time to full-time (36) Part-time is accompanied by unpaid overwork
		Appreciation of long hours	(37) Company promotes connection of private and work life (38)Gaining recognition from manager/colleagues by working long (39) Showing presence promotes career success
	Personal aspects	Extrinsic motivation	(40) Financial incentives/ restrictions (41) Pursuing a career (42) High need for job security
		Intrinsic motivation	(43) Being conscientious/ meeting one's own standards (44) Wanting to keep control over one's tasks/responsibilities (45) Fun at work (46) High motivation to learn
Consequences of overemployment	Psychophysiological strain	Exhaustion/Fatigue	(47) Physical and emotional fatigue
		Negative emotions	(48) Feeling stressed (49) Feeling dissatisfied/annoyed
		Health impairment	(50)Headaches/backache/ others

A desire is a "state of mind whereby an agent has a personal motivation to perform an action or to achieve a goal" (Perugini & Bagozzi, 2004, p. 71). Desires strongly influence intentions but are not identical with them. Three aspects determine whether desires are followed by intentions (Malle & Knobe, 1997, 2001): (1) Perceived performability: The perception of an action as performable is influenced by a set of psychological factors, such as self-efficacy, that determine expectations of success. (2) Action-connectedness: Intentions are more strongly linked to goals or outcomes as they imply commitment and at least some form of planning, and (3) Timing: Although both desires and intentions can be now-oriented, future-oriented or refer to an unspecified time, desires are often more time-indefinite, whereas intentions tend to be relatively now-oriented (Perugini & Bagozzi, 2004).

In our interviews, we found people with desires that were not flanked by intentions. Interviewee 24, for example, described having a high workload, as she had different roles to fulfill as a professor (teaching, research, admin tasks, leading a team). She expressed a desire to work fewer hours to reduce the strain she felt she was under. However, when asked if she had any intention of reducing work hours, e.g., by giving up one of her task areas, she answered that she would not want to abandon any of them, for career reasons, but in particular because she liked the combination of her different tasks. Thus, she clearly had a desire to reduce her work hours, but no intention of doing so.

Another example is Interviewee 10, father to a 6-months-old baby. He described a desire to work less and to have more time for his young family. He also said that he would be willing to accept lower pay in general, but not to accept a drop in his current income, as he was the sole earner in his family at the time and was afraid they would not be able to make ends meet if his income were to drop. So, he clearly experienced a rather low performability of reducing work hours and his thoughts about reducing work hours were rather time indefinite and thus more characteristic of a desire than an intention:

> "It is not like I say, I could reduce 20 percent and it would still be enough. And in a few years when my income will probably be higher, I could better imagine doing this." (10)

In contrast to this picture, we also interviewed people with the desire to reduce their hours and a clear intention to do so. Interviewee 21, for example, a chef working around 55 h a week, both desired and intended to reduce his work time. He had decided to quit his job in order to switch to an alternative position with fewer hours. So he clearly perceived high performability and high action-connectedness (quitting his job), and his timing was strongly now-oriented.

"Sometimes it is 50, 60, or 70 h, but now I have decided to quit, and I will start in retail." (21)

"Regarding money I will earn a bit less, but regarding work time it is really good. At some point it was enough, because it simply doesn't work anymore." (21)

Interviewee 15, an employee in his 50s, was also making concrete plans to reduce hours as a form of partial early retirement:

"When I think about it now, I tell myself, when I am 55 at the latest – now I am 52 – I really want to take this step. So, at 55 I want to work less, because I think I can do different things then." (15)

When asked if this was a concrete plan, he said:

"Yes, definitely. Then in my opinion I don't have to have the worries that I have talked about earlier, with security and so on." (15)

Clearly, he had an intention to reduce his work time that was marked by high action-connectedness (concrete plans), a high level of performability (early retirement was available in his company) and a clear plan on when to reduce his hours (timing).

In sum, our examples show that we encountered employees in our sample with either only the desire to cut their hours or with the desire to do so flanked by an intention. This highlights that the definition of overemployment from the subjective viewpoint of employees should focus on desires as the common element. Intentions and feasibility may or may not be given.

Quantitative and qualitative subtypes of overemployment

We started with a very general preliminary definition of overemployment. Our interviews have shown, however, that overemployment has more than one facet and demands a more refined conceptualization. Our most important finding regarding the definition of overemployment is the identification of qualitative and quantitative subtypes of overemployment, i.e., overemployment is a multidimensional construct. The quantitative subtype refers to a desire to reduce the absolute time (quantity) people spend at work vs. in other life domains and the time they rather prefer to devote to different areas. The qualitative subtype refers to a mismatch in how time is spent at work (quality) and how people would prefer to spend it. (1) Work time length and (2) work time competition (with time outside of work) are the two dimensions (second-order categories) constituting

quantitative overemployment, while (3) work time distribution (on tasks), and (4) work density are the two dimensions constituting qualitative overemployment.

Theme 1: Work time length

Work time length was coded in all interviews and matched with interviewees' statements stressing the importance of and dissatisfaction with the length of their working hours. Wishes to reduce contractual and/or actual hours were subsumed under this facet, but so were wishes not to work at times not covered by contracts, e.g., during evenings or weekends. As people perceived commuting time more as work time than as free time, the wish to reduce this was also coded here. Reducing contractual hours and achieving a better fit between actual and contractual work time toward less work time were mentioned equally often:

> "A 40-h week would of course be nice, and nothing to do on weekends. This is clearly missing for my full satisfaction with work time." (*reducing actual work time, working during "free" time*, 3)

> "Of course, if I could go home at 4 o' clock, this would be nice, a part-time job would be ideal." (*reducing contractual and/or actual work time*, 22)

Another aspect directly connected to work time length was overtime compensation, which was highly valued and desired. Most people valued time compensation over monetary compensation, but it was important to everyone to receive something back for long work hours:

> "I think it is important, it is possible at our (company), by contract it is possible, to take leave (...). It is difficult sometimes, because, if you work overtime, then you do it because you have too many tasks. And then you can't take time off. But I think the possibility to take time off is important." (*compensation for long hours*, 17)

> "I know anyway that it is totally unrealistic, frankly speaking... ok, you work overtime, and the hours, that you really have worked, they are paid, full stop. I think this would contribute substantially to the satisfaction of everyone." (*compensation for long hours*, 4)

Theme 2: Work time competition (with time outside work)

Having enough time for things in life other than work was a topic everyone was concerned with. 'Time for family and friends' was the topic most mentioned.

> "If you have children, then from 9 o'clock in the evening on, it doesn't matter when you come home, because they are sleeping, and then you cannot say 'I

care for my children,' because they are already in bed. You come to terms with that." (*time for family/friends*, 7)

This topic was followed by 'time for leisure activities' and 'time for recreation.' However, interviewees not only mentioned hedonic activities, but also 'time for personal responsibilities' (e.g., moving flat, seeing the doctor), 'time for building human capital' (e.g., Ph.D. project or additional self-employment) and 'time for social commitment' (e.g., doing voluntary work with refugees):

"I could imagine doing something for refugees. Be it a mentorship, or regularly meeting someone. (...) I could also imagine doing more for old people in the neighborhood, doing their shopping, reading to them, pushing their wheelchairs." (*time for social commitments*, 7)

Not only was having enough time important for interviewees; they also valued having enough energy left over after work to use time actively:

"You do not have time for yourself. You are in a mill. You work, watch TV, sleep. You do not use your free time. You're out of power after you've worked 9 h." (*time for recreation*, 7)

Theme 3: Work time distribution

Work time distribution on tasks encompasses statements that referred to the (wish for a different) distribution of time on work tasks. This facet includes both the desire to spend more time on more meaningful and important tasks (or less time on tasks perceived as unimportant and less meaningful) and the desire to spend more time on fun tasks and less time on routine tasks:

"I would like to have more time to care for our employees and would like to spend less time on unnecessary meetings, discussions and paperwork." (*time for meaningful/important tasks*, 3)

"I would like to spend less time on meetings. I spend a lot of time in meetings and answering emails and I think – both are important – but I think this takes up too much of my work time, it is too large a part, and therefore I have less time for strategic topics or projects that I would like to spend more time on." (*time for fun vs. boring/routine tasks*, 2)

Theme 4: Work density

Work density did not refer to a high volume of tasks *per se* (see below: workload), but to the volume of tasks to be completed in a certain time frame. It mainly comprised feelings of time pressure (e.g., having to complete too many tasks in a

short time), but also fluctuating workloads over longer time periods (with clear peaks) and the wish to work without being interrupted:

> "Work is so tight, because I simply try ... to act immediately." (*time pressure*, 15). "An incoming call - I must act immediately, in the meantime a sales worker stands beside my table and wants me to come by." (*working with interruption*, 15). "At the same time, an urgent email request comes in. These are just 5 min. And that's it for about 8–10 h a day." (*time pressure*, 15)

> "It really strongly depends on the time. Now, in the summer, it is of course a bit calmer, but during peaks it is of course significantly more intensive. So it is not an equal flow over the year, but clearly characterized by peaks." (*fluctuating workload*, 9)

6.4.2. Causes of overemployment: a self-reinforcing circle

Our informants reported a variety of aspects which caused and contributed to the quantitative and qualitative subtypes of overemployment. We aggregated the causes to three third-order categories, of which two are situational and one is personal: (a) situational: task demands ("I have to..."), (b) situational: normative demands ("I ought to...") and (c) personal aspects ("I want to...") (see Table 9). Our fundamental finding here is that overemployment can never be traced back to a single cause but is the result of and persists because of what we call a *self-reinforcing circle*. This means that situational and personal aspects reinforce each other to cause and preserve overemployment. Before we describe this circle in more detail, we first focus on the themes creating it.

Theme 1: "I have to..."

Task demands were frequently described by the interviewees and could be divided into 'workload' and 'presence requirements' (Table 9). Regarding workload, interviewees also speculated on the reasons for this high workload, e.g., being understaffed or working on tasks they find superfluous.

> "I think jobs are created in such a way that all tasks cannot be done in 40 h." (*high volume of tasks*, 2)

> "I started as HR Manager for Germany. Then I was also responsible for the rest of Europe and my old job was rationalized away. And therefore, my old boss always said, I am my own first clerk, because I don't have anyone; not because my people aren't able to do that work, but I just don't have enough people that I could delegate tasks to." (*lack of personnel resources*, 19)

"Of course, there are tasks in my job that don't make sense to me, but they just belong to the job. At the moment, there is this extreme arrangement of meetings, which really binds the energy of a lot of people and the result in the end is only an appointment." (*unnecessary tasks*, 4)

Interviewees described that it is necessary to show a certain presence, e.g., for meetings, or just to avoid missing out on information.

"A lot of presence is necessary, because I have to be on site, look at things, evaluate them, judge them and talk to people." (*presence required for business trips*, 20)

"Because it is necessary that you are at the office and don't do everything from home. You cannot do certain meetings at home." (*presence required for meetings*, 4)

"If you are not always there to catch everything, you won't have this information, or only in retrospect and only partially." (*missing out on information when not present*, 7)

Theme 2: "I ought to..."

Normative demands were the second external source of overemployment. They encompass employees' description of others' expectations regarding their work time. Interviewees described people (mostly colleagues or managers) expecting them to work full-time or longer and expecting them to work on certain tasks (distribution aspect) and at a certain pace (density aspect). Norms were communicated directly or indirectly by others, often by criticizing behavior that breached norms. High levels of peer pressure were described, e.g., Interviewee 8 described how others criticized a colleague who went home right after having fulfilled her contractually agreed daily work time, saying "If she goes at half past four, she really can't be all that busy." Similarly, Interviewee 17 described colleagues giving her critical looks whenever she goes home without working overtime. Normative demands were also expressed through appreciation of long hours and deprecation of short hours. For example, interviewees described (fearing) worse conditions if they switched to part-time work, mentioning among other details that reducing hours and going part-time meant cutting back on one's career ambitions and losing interesting tasks, or that it could lead to people continuing to work as much as before, but now on lower pay. Also, in most work environments, short hours were only acceptable for special reasons (e.g., having children):

"[My colleague] works part-time, because she has a small child. But without having children, I do not think anyone would understand if I said I don't want

to work that long, because then she (meaning the boss) would think I am not motivated." (*short hours only for an accepted reason,* 11)

Long hours, by contrast, were described as highly appreciated and beneficial for employees' status and careers. Some work environments were also designed to conflate personal and work life:

"The trend was toward blurring the line between personal and work life… small parties took place… there was a fridge with some alcohol… It was officially communicated that the company planned to create something like a living community." (*company promotes connection of private and work life,* 13)

Theme 3: "I want to…"

Overemployment was partially caused by personal aspects. Interviewees wanted to achieve certain goals and therefore worked in a way that led to overemployment. According to the goals people pursued, we divided personal aspects into extrinsic and intrinsic motivators (Ryan & Deci, 2000). On the extrinsic side, financial incentives were mentioned most often, followed by career opportunities and job security. On the intrinsic side, people described themselves as being conscientious and wanting to meet certain standards. Having fun at work also made them likely to work more than they wanted to. Other intrinsic motivators were the wish to retain control over one's tasks/areas of responsibility and the motivation to learn, especially when new in a job. Extrinsic motives were mostly mentioned at the very beginning of the interviews, intrinsic motives typically later and when digging deeper, e.g.:

"To be honest I have thought about it" (means reducing work time), "but it always has to do with a financial aspect." (*financial incentives,* 2) and "But I also want to complete the tasks that I have or that I see as mine. That is also an inner attitude thing." (*being conscientious/meeting one's own standards,* 2)

The circle of issues causing overemployment

In all interviews, overemployment was attributed to more than one issue. Personal aspects and situational demands (normative and/or task demands) always interacted and created a self-reinforcing circle that made it difficult for persons to escape overemployment. An example of how personal aspects and workload interact was given by Interviewee 7, a banking specialist with two grown-up children. She described herself as a conscientious person (personal aspect) leading to a high workload (task demands). She experienced fun (personal aspect) while performing these tasks, and this created overemployment:

"I work without stopping, I am such a working type. In my job there are a lot of people who love chatting, but I do this rarely, because otherwise I don't get my tasks done." (*being conscientious/meeting one's own standards*, 7). "I have created quite a high workload for myself." (*high volume of tasks*, 7). Sitting here, and the day doesn't pass by, because I don't have anything to do, that would be terrible for me. I work on topics because I think they are interesting, or I want to do them." (*fun at work*, 7). "In comparison to other colleagues I have a full desk. When I work longer, it is not because I dawdle, but because I have to manage the work I have created." (*high volume of tasks,* 7)

Interviewee 15 provides an example for an interaction of personal aspects with normative demands. He described himself as being toward the end of his career in a company that appreciates long hours, especially for those who wanted to make a career. As he wanted to preserve his career and financial position, he felt he had to stick to the company rules and mores:

"In such a big company as ours, where there is continuous reorganization, you have to repeatedly demonstrate your work in front of the leaders. You must present what you do so that they can make sense of it." (*showing presence promotes career success*, 15). "If you don't promote yourself, and I don't mean showing-off, but simply showing what you do, if you don't do that, then you fall down career-wise." (*pursuing a career,* 15)

Then he describes both extrinsic (financial) reasons and intrinsic motivation (control over one's own tasks) that lead to long working hours:

"It would work to reduce to 30 h, ...if we cut down spending. It is this striving for security. Other people get along with much less. It always works with less, I am sure. It is this striving for security." (*financial incentives,* 15) "I am responsible for certain products and I want to keep this responsibility. If I reduce to 30 h, then someone else takes over and some really nice tasks get lost. I would regret that." (*wanting to keep control over one's tasks*, 15)

An example of an interaction between all three themes causing overemployment is provided by Interviewee 8, a woman at the beginning of her career who described a continuously high workload with corresponding expectations from colleagues. She also described herself as conscientious and as wanting to retain control over her tasks; this led her to fulfill others' expectations and meet high task demands:

"It is continuous high strain, it is not like it calms down a bit from time to time." (*high volume of tasks*, 8) "And you must always explain yourself, even

though you are working overtime, if you go earlier. So, you can never go without a reason, just because the weather is nice, but you must have a reason." (*expectations of colleagues/team*, 8) "I have a lot of different topics, which is the most interesting part of my job, and I wouldn't want to hand something over." (*wanting to keep control over one's tasks*, 8) "I also explained to my colleagues that I have a bad conscience when I go earlier." (*being conscientious/meeting one's own standards*, 8)

Throughout the interviews, it was clear that personal and situational aspects reinforce each other to create overemployment. Although it is difficult to make out the starting point of the circle, the fact that personal aspects were mentioned in all interviews strongly hints at personal aspects being the key to overemployment. This is also reflected in statements made in the interviews, e.g.:

"Actually, no one tells me to work on weekends, but sometimes I put myself under pressure and I do it although no one demands it. And my colleagues do it as well. Therefore, you have to pay attention – you are responsible for yourself – that you use the opportunity which your employer gives you." (*being conscientious/meeting one's own standards*, 17)

6.4.3. Consequences of overemployment: "It is not stressful yet" vs. "I'm dead as a doornail."

The variance of described psychophysiological consequences in our data was surprising, given that existing overemployment theories (e.g., P-E fit theory, Angrave & Charlwood, 2015) would clearly suggest negative psychophysiological consequences. However, six out of 26 interviewees reported no psychophysiological consequences and the remaining interviewees reported levels of strain varying from low to high. We could not make out a significant difference between those reporting desires and those indicating desires and intentions regarding the severity of consequences. However, the level of strain was congruent to the perceived importance of the issue of work time in peoples' lives. To illustrate this, we highlight examples of low vs. high strain. For Interviewee 9, the importance of work time was relatively lower than that of other job characteristics (e.g., career prospects, financial success). Overemployment in terms of work time was accompanied by mild psychophysiological strain. He worked as an executive assistant and said that he would generally like to work less and at a lower density than currently, but did not see the need to act yet.

"I knew what I was getting into and I think this is very important, and consequently I don't feel it is too unpleasant to spend so much time here." and "I accept this, to get ahead in my job [...] and now, I feel that it is a reasonable

extent, and that I don't do anything I don't want or that I am in a hamster wheel where I can't get out. This feels right at this moment in my life. And if it is getting too much, we have to change it." (9)

In contrast, other interviewees reported more severe psychophysiological consequences. Most importantly, strong feelings of exhaustion/fatigue were reported, but negative emotions (dissatisfaction/annoyance and stress) and sometimes health consequences also featured:

"There were nice colleagues at the agency. But to know that these are the people I see the longest time during the week, although I would not have chosen them as friends [...], was a bit annoying." (*feeling annoyed,* 13)

"When I come home I'm dead as a doornail" and "you don't do anything anymore, you don't feel like doing anything, do you understand? And therefore, you only have, yes, you only have your holidays left." (*physical and emotional fatigue*, 22)

"I often have a headache if I don't watch it. I also was in the MRI scanner, but nothing was found, it is more like a tension-based headache." (*headache,* 15)

6.4.4. The role of work time sovereignty

In our interviews, not everyone suffered from psychophysiological consequences. The results indicate that this may partially be explained by a moderating variable, work time sovereignty. Work time sovereignty means having control over when one works (timing of work). This refers to flexible work time regarding daily start and end times and the timing of breaks, as well as to the distribution of working time over longer time periods, e.g., when vacations can be taken. Another aspect of work time sovereignty was predictability and consequently the ability to plan ahead. For those who reported no or only low psychophysiological consequences despite being overemployed, sovereignty was mostly higher than for those reporting stronger psychophysiological consequences. Two examples illustrate this. Interviewee 5 was self-employed and reported no psychophysiological consequences despite being overemployed and preferring less than her current 60 h per week—but she experienced high work time sovereignty:

"Regarding working time, yes, I could imagine reducing a bit, in order to have more possibilities for leisure as well." and "At the moment it is very flexible [...], because in the meantime I am self-employed. [...] I can organize my work myself. I can start later in the morning and then in the evening I have an event, where I also invest time." (*flexible distribution of time*, 5)

In contrast, Interviewee 9 reported overemployment with limited work time sovereignty and consequently high psychophysiological strain. She used the words "it is an immense strain" and "it massively bothers me" to describe the consequences of overemployment and described her situation as follows:

> "It is like that, I have 42 h and I am not very happy with that." and "At the beginning there were very rigid work time rules, a fixed starting time and a fixed ending time. Recently, it has become a bit looser, so now I have a fixed core time, which, however, also has a wide range, so I don't get away in under 8 h." (*flexible distribution of time,* 9)

In general, sovereignty was seen very positively and directly influenced satisfaction, with work time sovereignty lowering psychophysiological consequences:

> "Good work time for me definitely always contains flexibility." (*flexible distribution of time,* 4)

> "I can always say, if the weather is nice, I go to the playground with my child and stay longer in the evening or stay longer the next day or so, flexibility is the main thing." (*flexible distribution of time,* 25)

6.4.5. A Grounded Theory of overemployment

This article has attempted to contribute to understanding the concept, causes and consequences of overemployment from the employee perspective. Figure 6 integrates all our findings into an overall framework.

The following propositions are set forth on the basis of the description above:

Proposition 1

Overemployment is a desire to reduce work time (either overall, on certain tasks, or in a particular time period). It is reflected in two subtypes: (a) a quantitative mismatch of work time with time outside of work, i.e., work time length and work time competition (with time outside work), and (b) a qualitative mismatch of time at work, i.e., work time distribution (on tasks) and work density.

Proposition 2

Overemployment is caused by a self-reinforcing circle of personal needs and situational (task and/or normative) demands.

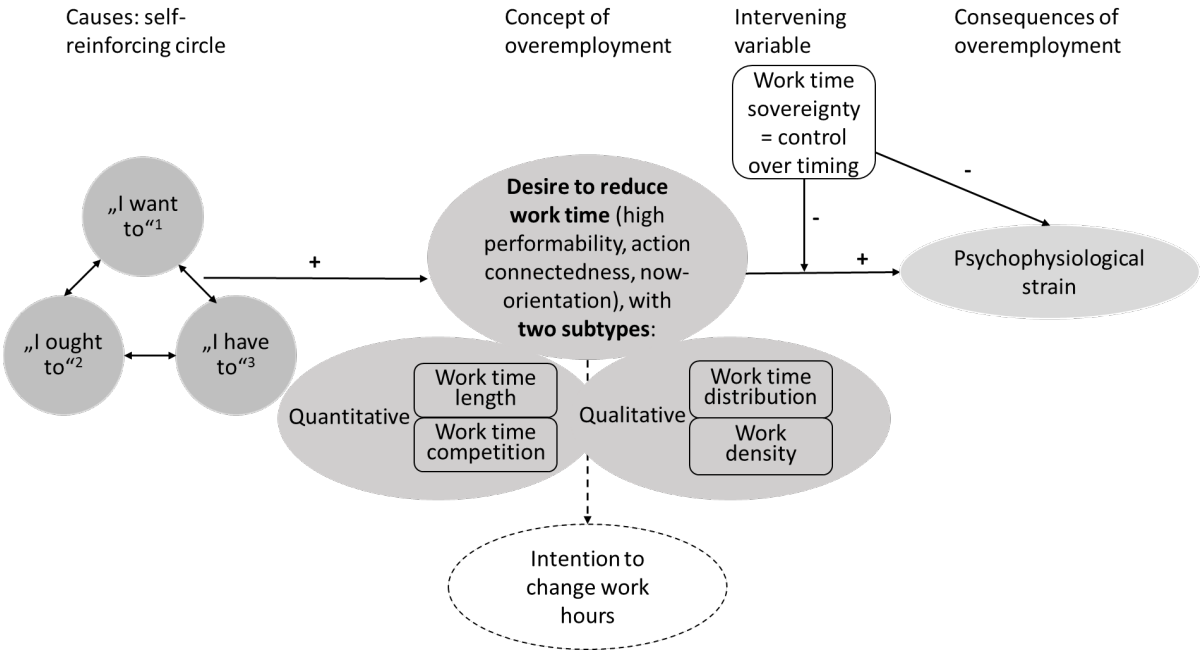
Proposition 3

Overemployment may have negative psychophysiological consequences, i.e., exhaustion, negative emotions or impaired health.

Proposition 4

The positive relationship between overemployment and its psychophysiological consequences is moderated by work time sovereignty: higher levels of work time sovereignty buffer the negative effect of overemployment on psychophysiological consequences. In addition, work time sovereignty has a positive direct effect lowering psychophysiological strain.

Figure 6: A theory of overemployment, its causes and consequences



Note. Superscript numbers refer to coded themes: [1]personal aspects, [2]normative demands, and [3]task demands. The dashed line means intentions may or may not follow from desires.

6.5. Discussion

6.5.1. Theoretical implications

Our data analysis has led us to construct a theoretical framework that can be related to existing literature (e.g., Golden & Gebreselassie, 2007; Reynolds, 2003), yet also expands and refines it. Using the principles of Grounded Theory and Thematic Analysis, we have developed codes systematically and worked out the facets underlying the phenomenon of overemployment (Boyatzis, 1998). Regarding the conceptualization of overemployment, we found that it is important to focus on desires over intentions. A desire represents the wish of an employee to work fewer hours. Desires are believed to influence future outcomes, including the intention to reduce work hours. Although Fishbein and Stasson (1990) believe that intentions are motivational in nature, Bagozzi (1992) argues that desires are

distinct from intentions and asserts that intentions may not be activated unless desires are present. For this reason, we propose that desires for fewer work hours will positively influence employee intentions. In our sample, we found people describing themselves as overemployed who currently desire fewer hours and intend to reduce their working time. But we also found people facing varied constraints who desired to reduce their hours but had no intention of doing so. The common element here, however, was a desire for fewer work hours.

Our main finding is that overemployment is a multi-faceted construct. Most prior research has measured only the length of time worked before classifying individuals as "matched," or "overemployed" (e.g., Bielenski & Wagner, 2003). However, this simplified conceptualization has proved problematic, as studies using only slightly different items have shown strongly divergent rates of overemployment (e.g., Holst & Bringmann, 2016) and research participants have found it difficult to indicate exact working time desires with precision (Campbell & van Wanrooy, 2013). Our theoretical framework takes this into account: we define overemployment as a desire (according to the desire definition in Perugini & Bagozzi, 2004) to reduce work time (either overall, on certain tasks, or in a particular time period). Overemployment refers in one or more ways relating to the length of time worked, time competition, work density and work time distribution.

Overemployment is caused by a combination of personal needs and external factors (normative and/or task demands) reinforcing each other, and this reinforcement may contribute to its persistence. Prior literature has focused on individual and mainly external aspects in the development of overemployment, especially on normative pressures (e.g., Eastman, 1998; Landers et al., 1996), task/work characteristics (Matta, 2015; van Echtelt et al., 2006), occupational and industry characteristics (Golden & Gebreselassie, 2007) or demographic characteristics (e.g., Golden & Gebreselassie, 2007; Reynolds, 2003). Our interviews show that individual motivation together with situational aspects may contribute to a better explanation of overemployment. Reynolds and Aletraris (2010) found that mismatches persist for extensive periods of time (i.e., 5 years, in their study). The dynamics of the circle may be one explanation for this persistence.

Our theoretical framework has also highlighted the distinction which can be made between overemployment and the psychophysiological consequences of overemployment. This is in line with previous research showing that working more than preferred correlates with lower job satisfaction (Angrave & Charlwood, 2015; Wooden et al., 2009; Wunder & Heineck, 2013), poorer health (Bell et al., 2011) and lower life satisfaction (Angrave & Charlwood, 2015; Wooden et al., 2009). However, not all employees are equally affected. According to our theory, the relationship between overemployment and its consequences is moderated by work time sovereignty. The influence of this moderator may also explain the

inconsistent prior results relating to the impact of overemployment on life satisfaction (e.g., Friedland & Price, 2003; Wunder & Heineck, 2013 vs. Angrave & Charlwood, 2015; Wooden et al., 2009). The effects of the moderator are in line with research findings on the positive effects of schedule control on job satisfaction (e.g., Krausz et al., 2000).

Our theoretical framework proposes an integrative approach to overemployment that may prove very useful for work time literature in general, especially as overemployment is widespread among employees, whose own voices have nevertheless only seldom been analyzed in detail. Finally, the propositions we have derived in our qualitative study may also serve as a basis to generate hypotheses to be tested in a quantitative study—also with larger, representative samples (Boyatzis, 1998).

6.5.2. Practical implications

Our multi-faceted theory of overemployment can serve as a basis for developing a new measure of overemployment that encompasses all four facets of overemployment and could lend itself to mapping overemployment within individual companies, comparing different teams or departments, and generating results that could form the basis for targeted healthcare initiatives or employee training measures. Describing overemployment as a multidimensional construct is also helpful when it comes to acting to combat it. It is clear now, for example, that reducing working hours by moving to part-time work may not always represent the best way to reduce overemployment, since improvements in work time length could come at the cost of increased work density. The reorganization of tasks, however, may help to reduce work density (or positively modify work time distribution) and therefore also reduce overemployment. People who have more fun at work and are under less time pressure might also prefer to work longer. If part-time positions are introduced, but jobs are not adequately redesigned, work time distribution could worsen, since part-time work often includes fewer challenging tasks. Before planning a course of action, it therefore makes sense to take a holistic view and to look at the complete picture of overemployment.

As was also apparent in our interviews, work time is often a topic companies choose to ignore, since reducing (unpaid) actual working hours means higher labor costs. However, not broaching the topic may lead to dissatisfaction and employee health problems that also impact negatively on companies, for example through greater rates of absenteeism and employee fluctuation. The identified causes of overemployment and intervening variables already point to strategies for reducing overemployment or minimizing its negative consequences. Some strategies may come at a high cost to companies, e.g., employing more people to reduce task demands, while others may come at a low cost or, indeed, cost little

or nothing, e.g., improving work processes or facilitating time models like job sharing or working from home. Reducing normative demands may be a bigger challenge for employers, since organizational cultures typically evolve gradually over time and are resistant to change (Schein, 1990). Supervisors could play a major role here, because they may or may not support employee work time priorities and serve as good role models.

Our interviews show that enhancing work time sovereignty is crucial to reducing the negative emotional consequences of overemployment. Flexible working hours and moving toward results-only work environments may represent a possible solution to increasing work time sovereignty (Ressler & Thompson, 2008). However, some regulation still seems to be necessary, as other results (Matta, 2015) show that unregulated work hours can lead to higher overemployment.

6.5.3. Limitations and directions for future research

The results of our study must naturally be viewed considering some limitations. Although it is not a necessary step in conducting Grounded Theory (Charmaz, 2014; Corbin & Strauss, 1990, 2008), comparing people who perceive themselves as overemployed and people who do not might usefully have served to further explore the causes of overemployment by making comparisons between both groups.

In addition, this study did not look at a representative sample of the German workforce, or the workforce in any other country. Our sample consisted of highly educated, well-paid employees. Thus, none of them suffered from economic hardship, which is probably not the case for all overemployed persons. Future research should therefore seek to validate our theoretical framework for a larger and more diverse workforce. It would be interesting to explore overemployment as it affects employees with lower levels of educational attainment and lower incomes. Research indicates that people from poorer backgrounds face greater family demands. Together with their lower resources, this leads to less time for work (Pitesa & Pillutla, 2019). Competing work and family demands may therefore be a crucial component in poorer workers' overemployment.

Within the European context, German working culture is characterized by medium flexibility and a strongly regulated labor law environment (Eurofound, 2016, 2019). It may be asked whether and in how far our results are transferable to other countries with different working time cultures and legal regulations. Additionally, research has shown that people typically overestimate their weekly work hours when asked to estimate them in retrospect (Robinson et al., 2011). Overestimation may have occurred here, as only about half of the interviewees documented their work hours on a daily basis, while others reported their estimated weekly work hours. However, as we focus on subjective experiences here, this may be a minor

problem. Another possible limitation relates to the strong focus of our theory on the employee perspective. An organizational perspective giving more attention to, say, opinions held by HR management experts or leaders could add an extra dimension to our results, as managers might, for example, have different insights into the causes of overemployment in their organizations. Future research should consider the organizational perspective, especially in relation to the development of strategies for combating overemployment. Our theory also needs to be further tested with different samples quantitatively and qualitatively. Regarding quantitative research we strongly suggest developing a scale on overemployment based on our findings of the overemployment concept. Different from the past one-item measures a scale could map the four different dimensions of overemployment, and also could differentiate between desires and intentions. In larger quantitative studies it would also be interesting to examine whether people with particular subtypes of overemployment differ, e.g., on whether they have intentions to change their situation or which consequences of overemployment they experience (e.g., consequences for well-being, but also performance or turnover). Although we did not find that people with desires versus those with desires and intentions to reduce work time differed regarding psychophysiological strain, this could as well be tested in larger quantitative studies using an overemployment scale. Our theory should not be seen as complete, but as open to enhancement, as there may be other consequences, e.g., in relation to turnover or performance, that we did not identify in our data. Although we found initial indications that work time sovereignty acts as a moderator, this needs to be tested in a quantitative study with a larger sample in the future. Additional moderators may yet be discovered between overemployment and consequences e.g., social support. Our theoretical framework is also rather static. Reynolds and Aletraris (2006) showed a dynamic picture of hour mismatches as they are created and resolved within the context of a fluid labor market. Using longitudinal data to track changes in the levels of overemployment people encounter over their working lives might aid understanding of the causes of overemployment.

Given the limitations described, the ideas presented need to be tested in future quantitative studies. The conceptual model presented here may help to inspire and guide fresh research.

Chapter 7

7. Research Project 3: The multidimensionality of overemployment: Scale development and initial validation

7.1. Abstract

It has been suggested that overemployment, i.e., working more than preferred, negatively impacts individuals' well-being, job attitudes, and behavior. However, no universally accepted and reasonably complex measure of overemployment exists to date, hindering progress in the field. To address this issue, a multidimensional overemployment scale (MOS) is developed here. The MOS is the first psychometrically tested scale for measuring overemployment. In study 1, using exploratory factor analysis (EFA) and confirmatory factor analysis (CFA), we identified three dimensions of overemployment, i.e., work time length, work time density, and work time distribution (on tasks), that refine the existing one-dimensional overemployment measures. In studies 2, 3, and 4 we tested the reliability and validity of the MOS within different samples (N_{total}>1,400). We confirmed the three-dimensional structure and provided evidence for construct validity by relating the MOS to traditional overemployment measures (convergent validity) and to work-life balance (discriminant validity). Regarding criterion and incremental validity, we tested the relationships between the MOS dimensions and well-being, work attitudes, and work behavior. The MOS can be used for research purposes to develop knowledge on overemployment and in practice for organizational diagnosis to derive actions against overemployment.

Keywords: overemployment, multidimensional overemployment scale, work time

7.2. Introduction

Working life today is often characterized by long work hours and demanding requirements for availability (Kossek et al., 2016). Global changes in the labor market related to new technologies, pressure from financial markets, and organizational restructuring initiatives have normalized companies' 24/7 expectations (Kelly & Moen, 2020). This affects not only the growing number of secondary job holders (Klinger & Weber, 2020) or those working in elite professional service firms (Blagoev & Schreyögg, 2019) but also employees in what used to be considered "good jobs" (Kelly & Moen, 2020, p. 8), i.e., the upper middle class. At the same time, studies show that many people would like to spend less time working than they do at present, i.e., they are overemployed (for example, 30% of people in Europe; Eurofound, 2019). As overemployment can be linked to negative individual and organizational outcomes, such as reduced job satisfaction (e.g., Angrave & Charlwood, 2015; Pagan, 2017; Wooden et al., 2009) and lower performance (Virtanen et al., 2009), it is an individual problem, but it also challenges organizations and HR managers (Kelly & Moen, 2020).

Despite the importance of overemployment, to date there is no existing reliable and adequately complex measure of overemployment. However, a valid and reliable measure would be the crucial first step toward a systematically growing body of research on overemployment. A measure could be used to explore the causes and consequences of overemployment and possibly protective factors to counteract it. It could also be used to systematically examine whether different groups of people (for example, looking at gender, age, or industry) are more affected by overemployment than others. In practice, it could be used to diagnose overemployment and, if necessary, take action against it and thus improve job satisfaction and performance of employees.

To date, measures of overemployment have been restricted to single-item questions and discrepancy values worded very differently (see, for example, Allan et al., 2016; Golden & Gebreselassie, 2007; see also Chapter 5). One result of this inconsistent measurement is that the estimation of overemployment rates varies dramatically within the same population (Holst & Bringmann, 2016, 2017). In addition, the inconsistent measurement has contributed to conflicting research results, for instance, regarding the consequences of overemployment (e.g., for well-being: results of Angrave & Charlwood, 2015; Bell et al., 2011; Wooden et al., 2009 versus results of Friedland & Price, 2003; Wunder & Heineck, 2013). To measure overemployment, studies usually ask individuals whether they would like to reduce their work hours or not (e.g., Bryan, 2007). Other studies enquire about the exact number of actual and preferred work hours and calculate a discrepancy value (e.g., Wang & Reid, 2015). People are classified as overemployed when current hours exceed preferences.

However, there are various problems with these categorizations. We here propose that overemployment is multidimensional (see Chapter 6). Using single-item measures, therefore leads to validity problems because the content validity is not provided when the constructs are high in complexity or even multidimensional (Diamantopoulos et al., 2012; Fuchs & Diamantopoulos, 2009; Loo, 2002). In addition, as our interviews in Chapter 6 have shown, overemployment is a complex psychological phenomenon and people consider more aspects than just the specific number of hours spent at work. These aspects however are not mapped by the current measures. To date, overemployment studies suffer from a simplistic measurement which assumes "that a simple 'yes' or 'no' answer to a working time preference question can be taken at face-value, as accurately reflecting an underlying 'true preference'" (Campbell & van Wanrooy, 2013, p. 1134). However, people have difficulty giving exact answers to working time preference questions, and the retest reliability of these questions is weak. Therefore, the use of a scale-based measure has been proposed in previous research (Campbell & van Wanrooy, 2013). This does not exist at present, however.

In Chapter 6, we introduced a multidimensional conceptualization of overemployment (see Figure 6 above). However, to date, there is no existing measure for this construct. To address this gap and follow the call for research in this area (Campbell & van Wanrooy, 2013), the main objectives of this research project are:

(1) Develop a comprehensive and reliable scale to measure overemployment.
(2) Provide first evidence of the measure's validity through a multi-stage validation process.

Based on the interview study in Chapter 6, we came up with several propositions on overemployment. Proposition 1 is describing overemployment as a multi-faceted construct consisting of four aspects. Proposition 3 is suggesting negative psychophysiological consequences of overemployment and Proposition 4 is stating that these consequences are moderated by work time sovereignty.[10] We base our scale development on the conceptualization of overemployment presented in Figure 6 and test these propositions here. But before describing the scale development procedure, a short review of the overemployment construct is given because providing a proper definition of the construct forms the basis for any scale development effort (MacKenzie et al., 2011).

[10] Proposition 4 also suggests a direct effect of work time sovereignty lowering psychophysiological strain. As the focus of Chapter 7 is on overemployment and scale development, however, we will not test this part of the proposition in detail.

7.3. The overemployment construct

The two central elements of the overemployment definition put forward in Chapter 6 are:

1) Overemployment refers to a *desire* to reduce work time, not necessarily an intention to do so. Unlike an intention, a desire considers performability less, is less action-connected, and does rather not have a specific timing (Perugini & Bagozzi, 2004). However, if performability and action-connectedness are high, and timing is specific the desire may transform into an intention.
2) Overemployment is a *multidimensional* construct consisting of the two quantitative dimensions work time length and work time competition (with time outside of work) as well as the two qualitative dimensions work time distribution and work time density.

Work time length refers to the desire to reduce the total time spent on work, i.e., mainly actual hours spent working. Work time competition reflects mismatches between work time and time for other life domains, e.g., for family and friends. Work time distribution refers to a desire to reduce time spent on certain work tasks and increase time spent on other work tasks. Work time density signifies a higher than preferred volume of tasks to be accomplished in a certain time frame.

This conceptualization will be the foundation for our scale development here. A measurement based on this multi-faceted construct will provide numerous opportunities for research and practice. For example, the scores on the different overemployment facets may indicate what action to take to combat overemployment: if length is high, for instance, recommendations may be different than if distribution is high or if both are high. In addition, a multidimensional measure provides the basis for examining the consequences of overemployment in more detail, as consequences may vary for different dimensions of overemployment.

In the Grounded Theory presented in Figure 6, we propose that overemployment causes psychophysiological strain. Thus, we would assume that overemployment decreases well-being. This assumption is theoretically also supported by person-job (P-J) fit theory, which deals with the (mis)fit between a "person's characteristics and those (characteristics) of the job" (Kristof-Brown et al., 2005, p. 284). Since working time is a job characteristic and the person component is reflected in the preference for work hours, overemployment can be regarded as a form of person-job misfit (see Angrave & Charlwood, 2015). Kristof-Brown et al. (2005) also differentiate between various types of fit such as the demands-abilities fit where knowledge and abilities are in line with what the job requires and the needs-supply fit that occurs when employees' desires are met by the job they

perform. As overemployment is defined as a desire to reduce work time, it can be regarded as a needs-supply misfit. The meta-analytic findings of Kristof-Brown et al. (2005) showed that a needs-supply fit is strongly positively related to job satisfaction as well as organizational commitment and negatively to the intention to quit. Overemployment as a misfit should consequently be associated with lower levels of job satisfaction and commitment and with a higher intention to quit. Both theoretical approaches, the Grounded Theory in Chapter 6 and the P-J fit theory, are supported by previous research which suggests that overemployment is negatively related to well-being and job-related attitudes (see Appendix 1).

As suggested by the P-J fit framework (Kristof-Brown et al., 2005), we also assume that overemployment is correlated with certain behaviors. This assumption can also be drawn from the theory of reasoned action (Fishbein & Ajzen, 1975) which proposes that cognitions result in corresponding behaviors. If overemployment negatively relates to positive attitudes toward work, this should lead to behaviors such as higher turnover and less organizational citizenship behavior (OCB), i.e., an individual's behavior fostering the productivity of organizations but that is not formally required (Organ, 1988; see also Organ, 2018). Also, reducing OCB and leaving the organization may be attempts to cope with overemployment (Reynolds & Aletraris, 2010). Research to date has not dealt much with the behavioral consequences of overemployment but some studies show that overemployment may be linked to OCB and turnover intention (see Appendix 1) which can be understood as a good proxy for actual turnover behavior (Cho & Lewis, 2011).

To conclude, overemployment appears to negatively impact well-being, positive job attitudes, and certain job-related behaviors. Related variables should therefore be adequate to test for criterion validity.

7.4. The present research

We followed the basic steps for scale development described in MacKenzie et al. (2011) and DeVellis (2012). In a pre-study, items were generated, and their content validity was assessed. In study 1, a questionnaire was designed, and items were administered to a development sample. The scale's dimensionality was examined, and it was further refined. Studies 2, 3, and 4 served to further validate the scale structure and to provide initial evidence of the measure's validity with different samples (high education sample, low education sample, university researcher sample). To test criterion validity for well-being, we use life satisfaction, health satisfaction, and a burnout measure. For job-related attitudes, commitment and job satisfaction are used. And finally, for behavior, organizational citizenship behavior and turnover intention (as a proxy for turnover) are used.

7.5. Pre-study: item-generation and assessment of content validity

New items needed to be generated because, to date, there are no existing scales to measure overemployment. We based our item development for the multidimensional overemployment scale (MOS) on the interviews described in Chapter 6 and thus on employees' understanding of overemployment. Items for the four dimensions (work time length, work time competition, work time density, and work time distribution) were generated from statements by the interviewees regarding the relevant dimension (see Table 10 for sample statements). We constructed an initial set of 28 items (seven for each of the four overemployment dimensions). To check for their content validity, we asked 27 German master's students of human resource management to provide feedback on the comprehensibility of the items and their representativeness for overemployment (see Hinkin & Tracey, 1999). Using students to evaluate content validity has also been proposed in previous research, as the primary concern of choosing evaluators is that they have sufficient intellectual ability to judge the correspondence between the items and the construct definitions (Hinkin & Tracey, 1999; MacKenzie et al., 2011). Participants were provided with a questionnaire (see Appendix 3.4) that included a definition of the four dimensions of overemployment. For each dimension, they were asked how representative the items designed to measure this dimension are. Rating was done on a 4-point Likert scale from 1 (*not representative)* to 4 (*very representative*).

Also, participants could sort items they rated as not representative or rather not representative to another dimension or no dimension at all. In addition, participants were asked to provide feedback on any wording they considered difficult to understand. The questionnaire was administered during class to make sure students spent enough time on it. In addition to the detailed instructions provided on the questionnaire, the research assistants distributing it explained the procedure and were able to answer any questions arising. The results of the survey showed that all items except one were rated above the theoretical mean (>2.5) on representativeness for the relevant dimension and they were rated as most representative for the dimension they were assigned to. The item below the mean (M=2.29) was excluded, which left 27 items. In addition, the wording of four items was simplified as a response to the students' comments. Appendix 3.5 shows the changes during the content validation process. Appendices 3.8 and 3.9 show the 27 items of the original scale in their original German version and translated in English.

Table 10: Sample statements as basis for item generation

Dimensions of overemployment	Examples
Work time length	"I would reduce to a four-day week." "A 40-hour week would be nice with nothing to do on weekends." "For me, it would be important that I don't get calls after the end of the working day."
Work time competition	"I would love to do more sports. I would really like to do some voluntary work regularly and maybe spend more time with friends and read more." "I have a lot of hobbies, which are neglected a bit now." "Because I thought I could manage to do a PhD as well as working a 40-hour week, and then I realized that it is not doable for me."
Work time density	"But it is not like you ever have a period when you can say 'Ok, now I will work a bit slower.' [...] That means at times it is even more stressful." "When there are peaks, and you realize that you would need a break." "Work is so tight, because I simply try [...] to act immediately."
Work time distribution	"There are some tasks I like more than others and it would be nice to have more time for those tasks." "I would like to spend less time in meetings [...] It takes too much of my work time [...] and therefore I have too little time for strategic topics or projects I would like to spend more time on." "I would like to spend more time in useful meetings."

7.6. Study 1

In study 1, we administered the 27 items to a development sample; we evaluated the items and the dimensionality (Proposition 1) of the preliminary version of the scale using EFA and CFA in a split sample method as suggested for scale development in DeVellis (2012).

7.6.1. Method

Participants and procedure

An online survey was distributed via social networks (Xing, LinkedIn, Facebook, and e-fellows). Participants were informed that they would be taking part in a study about work time. 1,140 persons clicked on the link (including double

clicks) and 370 completed the questionnaire (shown in Appendix 3.6). After we excluded respondents whose job was not their main occupation (e.g., students), the sample was *N*=303 German working adults (115 men, 188 women; age *M*=33.59, *SD*=10.84). About 66% of the participants held a university degree and 17.8% were in a leadership role. Participants worked in different sectors (17.5% public sector, 77.9% private sector, 4.6% self-employed). Respondents reported an average of 41.67 actual hours (*SD*=10.30), 36.35 contractual hours (*SD*=6.66) and 35.04 preferred hours (*SD*=8.44) per week. Split samples 1 und 2 were randomly generated (DeVellis, 2012) and did not differ in terms of demographic data. The split was not completely even (split sample 1: *N*=160; split sample 2: *N*=143) with a view to arriving at a ratio of around six participants per item for the EFA (Tinsley & Tinsley, 1987).

Preliminary version of the multidimensional overemployment scale

The 27 items of the preliminary version of the MOS were to be answered on a 5-point Likert scale from 1 (*definitely disagree*) to 5 (*definitely agree*). Six items represented the dimension work time length (e.g., "I would like to reduce my work time."), seven items were used in each case for work time competition (e.g., "Due to my work, I have too little time for family and friends."), work time density (e.g., "I am often under time pressure."), and work time distribution (e.g., "I would like to invest more time in work tasks that allow me to realize myself."). Items were introduced by "When thinking about your current work time, how much do you agree with the following statements?"

7.6.2. Results

Split sample 1: exploratory factor analysis

Because the responses were all self-reported and collected through the same survey, we checked for common method variance (CMV) using Harman's one-factor test (Podsakoff et al., 2003). To do this, we conducted an exploratory factor analysis of all items used, constraining the number of extracted factors to one. This one-factor solution accounted for 29.71% of the variance. As this is less than 50% of the variance, the possibility of CMV problems with our data could be discounted (Gaskin, 2011; Podsakoff et al., 2003).

Next, frequency distribution, items' means, and standard deviations were assessed for each variable. The means for two items of the MOS were around one standard deviation above the theoretical mean of *M*=3.0 and so these items were excluded ("There are times at work when I need to think about too many things at once." *M*=4.04, *SD*=0.94; "I would like to dedicate more time to certain work tasks and less time to others." *M*=3.83, *SD*=0.88).

We conducted a principal axis factor analysis using oblique rotation (direct oblimin). We chose oblimin rotation because factors were expected to be correlated (see Field, 2014). The findings suggested a factorable correlation matrix (Kaiser-Meyer-Olkin Measure of Sampling Adequacy, KMO=.89, Bartlett's Test of Sphericity: $\chi^2(300, N=160)=2025.97$, $p<.001$). The scree plot indicated a three-factorial, the Kaiser criterion a five-factorial solution. As only two items loaded significantly on factor 5 ("I spend too much of my work time on tasks I get bored with."; "I spend too much time at my work on tasks I find less meaningful."), we excluded the fifth factor. In order to determine the final factor structure, we used parallel analysis (Horn, 1965), described as one of the most accurate factor retention methods (Hayton et al., 2004). It is a simulation method that compares the eigenvalues observed with those obtained from random data. A factor is retained if the associated eigenvalue is higher than the 95th percentile of the distribution of eigenvalues derived from random data. Parallel analysis with the remaining 23 items confirmed the three-factorial structure (see Appendix 3.10).

The three-factor solution was again factorable (KMO=.90, Bartlett's Test of Sphericity: $\chi^2(253, N=160)=1911.35$, $p<.001$) and explained 49.75% of the variance. Six items showed communalities smaller than .40 and cross-loadings with a gap smaller than .30. We therefore deleted these and conducted another analysis with the remaining 17 items (see Field, 2014; Tabachnick & Fidell, 2001). The results again revealed that the matrix was factorable (KMO=.90, Bartlett's Test of Sphericity $\chi^2(136, N=160)=1434.78$, $p<.001$) and a three-factor solution explained 56.06% of item variance.[11] Two items originally intended to measure "work time competition" showed weak primary factor loadings (<.60) and so were excluded. This left only two items which were conceptually designed to measure "work time competition" and loaded on factor 1. As these items did not fit conceptually with the other items loading on factor 1, we excluded them. The items did not refer to the length of working time but rather to specific aspects, i.e., having time for oneself and for hobbies. We continued our analyses with 13 items loading on three factors (Table 11).[12] A factor analysis with these 13 items again revealed a factorable matrix (KMO=.86, Bartlett's Test of Sphericity $\chi^2(78, N=160)=1026.53$, $p<.001$) and the three-factor solution explained 59.59% of item variance

[11] Possible higher-order structures are presented in Appendix 3.13. The items meant to measure competition with work time were excluded during the EFA process described here. However, with the 17 items (that still included items measuring work time competition) it would have been possible to calculate a second-order solution (2 lower-order, 2 higher-order factors) using CFA. Theoretically this would have corresponded to the Grounded Theory in Chapter 6 (Figure 6) and is therefore presented in Appendix 3.13.1.

[12] Additional EFAs also led to exclusion of these two items when items with cross-loadings with a gap smaller than .30 were excluded.

(eigenvalues: 4.80, 1.77, and 1.18), which can be regarded as satisfactory (Diekhoff, 1992). All items had strong primary loadings above .62 and loaded clearly on one single factor. The scale reliabilities were good and the three scales were positively correlated, $r(160)=.26$ to .58, $p<.001$ (Table 11 and Appendix 3.9).

Table 11: Study 1 (split sample 1): results of the final exploratory factor analysis

Items	Factor loadings			Communalities	*M*	*SD*
1. Factor: work time length, Cronbach's α = .88	1	2	3			
I would like to reduce my work time.	**.87**	-.03	.08	.68	3.21	1.31
I would prefer not to work such long hours, for example, in the evenings.	**.82**	.01	.00	.67	2.83	1.30
I think the hours I work (including overtime) are too much.	**.79**	.01	-.10	.72	2.97	1.23
Overall, I am investing too much time in work (including time driving to work and travel times).	**.64**	.08	-.10	.53	2.81	1.31
2. Factor: work time distribution, Cronbach's α = .85						
I would like to dedicate more time to work tasks where I can really make a difference.	-.14	**.83**	-.04	.67	3.21	1.11
I would like to invest more time in work tasks that allow me to realize myself.	.01	**.76**	.06	.56	3.26	1.06
At work I have too little time for the things that I'm really interested in.	.08	**.76**	.01	.60	3.84	1.07
Work tasks that I don't like mean I don't have enough time left for the work tasks I like better.	.09	**.66**	-.06	.52	3.67	1.07
3. Factor: work time density, Cronbach's α = .84						
In my job I have to do too many tasks within a short time frame.	-.12	-.03	**.97**	.83	3.68	1.05
I am often under time pressure.	.01	-.05	**.70**	.47	2.82	1.21
In my job I often have to do too many things almost at once.	.05	.07	**.65**	.49	3.24	1.16
At work I don't have time to take breaks or to catch my breath.	.00	.11	**.63**	.47	3.15	1.09
I wish I had fewer work-intensive peak phases in my job.	.23	-.05	**.62**	.56	3.48	1.14

Note. *N*=160. Response scales range from 1=*definitely disagree* to 5=*definitely agree*. Bold: primary factor loadings.

Split sample 2: confirmatory factor analysis

Again, we checked for CMV using Harman's one-factor test (e.g., Podsakoff et al., 2003). In an exploratory factor analysis of all items used, constraining the number of extracted factors to one, this factor accounted for 29.39% of the variance, i.e., less than 50% of the variance which speaks against CMV problems with our data (Gaskin, 2011; Podsakoff et al., 2003).

To test for the stability of the three-factorial model, we conducted a CFA with the second half of our sample (N=143) with AMOS using a maximum likelihood estimation method. The three-factorial model showed a very good model fit (χ2=62.9, df=62, Comparative Fit Index, CFI=.99, Tucker-Lewis Index, TLI=.99, Root Mean Square Error of Approximation, RMSEA=.01, Standardized Root Mean Square Residual SRMR=.04; see Hu & Bentler 1999; Worthington & Whittaker, 2006). Since the EFA showed a considerable drop in eigenvalues after the first factor, we tested an alternative one-factor model, which, however, had no acceptable fit (χ2=396.74, df=65, CFI=.62, TLI=.54, RMSEA=.19, SRMR=.15; see Hu & Bentler, 1999). Study 1 therefore found that overemployment is a multidimensional construct consisting of the three dimensions work time length, density, and distribution. Relations of the final MOS subscales to demographic and work time-related variables are presented in Appendix 3.11 (Table 3.11.1) and Appendix 3.12. The reliabilities of the three subscales were good: Cronbach's alphas were .90 for work time length, .84 for work time density and .82 for work time distribution.[13]

To check for convergent validity regarding the MOS subscales, i.e., whether a set of items share a high proportion of common variance, we applied criteria from Hair et al. (2010) and Hu and Bentler (1999). According to these, the factor loadings should be over .50, the average variance extracted (AVE) should reach .50 and composite reliability (CR) should be above .70. In our three-factorial solution factor loadings were between .57 and .92 (in split sample 2), AVE was consistently over .50 and CR was between .82 and .90 (see Table 12). To check for discriminant validity of the subscales, i.e., whether the three dimensions can be separated from each other, we applied Fornell and Larcker's (1981) test using the AMOS plugin developed by Gaskin et al. (2019).

According to this method, two constructs are different when the square root of each construct's AVE is higher than the correlation between the two constructs. This was the case for all three factors (Table 12). Also, the maximum shared

[13] We also tested the possibility of another higher-order model, i.e., we tested whether the three dimensions form one higher-order factor. The higher-order solution was discarded. For space reasons these results are reported in Appendix 3.13.2.

variance (MSV) was smaller than the AVE again speaking for discriminant validity (Hair et al., 2010). In sum, this confirms the validity of the three-factorial structure of overemployment.

Table 12: Study 1 (split sample 2): results of the discriminant validity analysis of the MOS subscales

	CR	AVE	MSV	MOS-length	MOS-distribution	MOS-density
MOS-length	.90	.70	.23	**.84**		
MOS-distribution	.82	.53	.30	.43***	**.73**	
MOS-density	.84	.52	.30	.48***	.55***	**.72**

Note. ***p<.001. CR=composite reliability, AVE=average variance extracted, MSV=maximum shared variance. Bold values on the diagonal: square root of AVE. Calculated with Gaskin et al. (2019).

7.7. Study 2

Study 2 primarily aimed to test the construct, criterion, and incremental validity of the MOS. In order to establish construct validity, the factorial structure of the MOS was tested again. In addition, two further aspects of construct validity, convergent and discriminant validity, were tested. Convergent validity is shown by linking a construct to existing measures of the same construct, while discriminant validity is established by showing that the construct and its measure can be separated from measures of different constructs (Campbell & Fiske, 1959). We established convergent validity by linking the MOS to previous overemployment measures. Despite the criticism of discrepancy values (e.g., Edwards, 2001), and the simple categorization of people in categories of overemployed versus not overemployed (Campbell & van Wanrooy, 2013; see also Chapter 5), we used these existing measures, because of a lack of better alternatives—which was the motivation for this scale development effort. A measure of work-life balance was used to check for discriminant validity. Work-life balance refers to balancing expectations about different areas of life and different corresponding roles and motivations with actual reality (Syrek et al., 2011). It does not primarily focus on work time preferences and should be separable from the MOS.

Study 2 also served to explore the nomological network of the three-dimensional overemployment construct, i.e., it relates overemployment to other constructs (MacKenzie et al., 2011). Therefore, we established criterion validity (Cronbach & Meehl, 1955) by linking the MOS to measures of subjective well-being (Proposition 3), work attitudes, and behavior. As another part of building a nomological network, study 2 tested a possible moderating effect of work time sovereignty on the relationship between the MOS subscales, and well-being, work attitudes, and behaviors. The Grounded Theory presented in Chapter 6 suggested

that higher work time sovereignty would dampen the negative effect of overemployment on psychophysiological consequences (Proposition 4). We therefore would expect a moderation for the well-being variables, i.e., life satisfaction, health satisfaction, and burnout. The attitude-related variables (job satisfaction and commitment) and the behavioral variables (OCB and turnover intention) were also included in the analyses for exploratory reasons. Although the Grounded Theory focuses on psychophysiological strain as an outcome, a similar moderation effect would be imaginable for other outcome variables and therefore should be tested.

Next, incremental validity (Hunsley & Meyer, 2003) was tested by studying whether the MOS subscales are adding to the prediction of well-being, work attitudes, and behaviors above the previous overemployment measures.

In addition, a measurement invariance test was conducted in study 2 in order to test whether the MOS measures overemployment equally well for people with high education (holding a university degree) versus lower education (not holding a university degree). Previous research has shown that higher education positively correlates with overemployment (Golden & Gebreselassie, 2007; Reynolds & Aletraris, 2010). Comparing people with different educational backgrounds should therefore be possible with the MOS which is why we tested whether the MOS measures the same in people with high versus lower education.

7.7.1. Method

Participants and procedure

An online survey was distributed via alumni networks of large German universities as well as through a survey panel (respondi). As in study 1, participants were informed that they would be taking part in a study about working time. 1,240 people clicked on the link (including double clicks) and 500 completed the questionnaire. Appendix 3.7 shows the questionnaire. The sample comprised N=500 German working adults (261 men, 239 women; age: M=41.11, SD=10.63). We deliberately chose a highly educated sample to ensure a high percentage of overemployed persons, as studies have shown that overemployment is widespread among highly educated persons in particular (Golden & Gebreselassie, 2007). Of the participants 86.4% held a university degree and 32.8% fulfilled a leadership role. Participants worked in different sectors (23.0% public sector, 69.6% private sector, 7.4% self-employed). They reported average actual work hours of 42.93 (SD=9.30) per week, their contractual hours were on average 37.11 hours (SD=5.60) per week and their preferred hours were on average 35.22 (SD=7.89) per week.

Measures

Considering that the measures are almost the same from studies 2 to 4, they are described in detail only here. Any deviations are sample specific and explained in the respective studies.

Overemployment

We assessed overemployment with the three-factorial version of the MOS consisting of 13 items (Table 11). To test the convergent validity of the MOS, we also included a conventional discrepancy measure of overemployment. We used the wording from the Socio-Economic Panel (Matta, 2015): "How many hours do you actually work per week including overtime?" and: "If you could choose your work hours considering that your income would change accordingly: How many hours per week would you prefer to work?" Two values were constructed on the basis of these questions (see Pagan, 2017): "Overemployment(OE)-discrepancy", i.e., the difference between actual and preferred hours such that higher positive values represent higher overemployment, and "OE-dichotomous" i.e., coding all employees with higher actual than preferred hours as "1" and those where actual and preferred hours corresponded as "0" (for both values underemployed persons were excluded).

Well-being variables

Life satisfaction was measured using a single-item measure ("All in all, how satisfied are you with your life at the moment"; 1=*very dissatisfied* to 10=*very satisfied*) developed by Beierlein et al. (2015). Health satisfaction was also measured with one item ("All in all, how satisfied are you with your health?" 1=*very dissatisfied* to 10=*very satisfied*, see Friedland & Price 2003). Burnout was measured using the Oldenburg Burnout Inventory (Demerouti et al. 2001), which comprises the two factors exhaustion (eight items, e.g., "There are days when I feel tired before I arrive at work.", α=.82) and disengagement (eight items, e.g., "I always find new and interesting aspects to my work.", *reverse coded*, α=.85). The answering format was a 5-point Likert scale (1=*definitely disagree* to 5=*definitely agree*).

Job attitudes

Affective commitment was measured with five items (Felfe et al., 2014), e.g., "I am proud to belong to this organization." A 5-point answering format was used (1=*definitely disagree* to 5=*definitely agree;* α=.84). Job satisfaction was measured using a single-item Kunin scale (Neuberger & Allerbeck, 2014), i.e., "All in all, how satisfied are you with your current work?" (7-point rating scale, scale anchors are represented by smileys looking *very sad* to *very happy*, α=.92).

Behavior-related variables

OCB was measured with items developed by Staufenbiel and Hartz (2000a, 2000b) for helpfulness (e.g., "I help others when they are overworked.", α=.66), individual initiative (e.g., "I inform myself about new developments within the organization.", α=.73) and straightforwardness (e.g., "I spend a lot of time complaining about trivial things.", *reverse coded*, α=.62), on a 5-point rating scale (1=*definitely disagree* to 5=*definitely agree*, five items per dimension). Turnover intention was measured with three items from the Michigan Organizational Assessment Questionnaire (Cammann et al. 1983, e.g., "I often think about quitting this organization.") plus one item adapted from Shore et al. (1990), which is "If it were possible, I would like to have a new job.", on a 5-point Likert scale (1=*definitely disagree* to 5=*definitely agree*, α=.95).

Work-life balance

Work-life balance was measured with five items by Syrek et al. (2011), e.g., "I am satisfied with the balance between my private and working life." on a 5-point Likert scale (1=*definitely disagree* to 5=*definitely agree*; α=.92).

Work time sovereignty

Work time sovereignty was measured with five items relating closely to previous measures used by Krausz et al. (2000) and by Moen et al. (2013). A sample item is "I can determine which days I work." The answering format again was a 5-point Likert scale (1=*definitely disagree* to 5=*definitely agree*; α=.85).

Control variables

We asked for participants' gender (1=*male*, 2=*female*), school education (1=*no university degree*, 2=*university degree*), age (open-ended), sector (*private sector, public sector, self-employed*) and current occupation and industry (open-ended). Based on an examination of participants' current occupations and industries, we decided to divide them into three main categories: business and the economy (*n*=263, e.g., sales manager, HR business partner), education/health/social (*n*=79, e.g., teacher, doctor), engineering/science and IT (*n*=157, e.g., engineer, software developer). In addition, we asked about multiple/second job holding (1=*no*, 2=*yes*), shift work (1=*no*, 2=*yes*), organizational tenure (months working at the current organization), temporary contract/job (1=*no*, 2=yes), leadership position (1=*no*, 2=*yes*) and monthly gross income. We asked about participants' relationship status (1=*no partner*, 2=*partner*), whether they had children (1=*no*, 2=*yes*) and the age of any children.

Explanation for the use of control variables

When exploring the criterion validity of the MOS subscales we conducted conservative tests and controlled for several variables. As this is a first validation effort of the MOS we wanted to make sure that the MOS subscales contribute to predicting the criteria (i.e., well-being, attitudes, and behaviors) in addition to the control variables (for similar argumentation for using control variables see Bernerth & Aguinis, 2016 and Coté & Miners, 2006). On the one side, using control variables can be problematic, for instance because it reduces statistical power of tests (Bernerth & Aguinis, 2016). On the other side, exclusion of control variables can lead to incorrect conclusions, for instance by inflating the amount of explainable variance in the criterion when in fact there would be no relationship between predictor and criterion (Bernerth & Aguinis, 2016). The use of control variables without explanations has been criticized (Bernerth & Aguinis, 2016; Spector & Brannick, 2010) which is why we will follow previous recommendations and provide a transparent explanation of the control variables we used. Whenever we decided to use a variable as control variable, we consistently used it across all studies and for all dependent variables. This was done to ensure better comparability of the results. In addition, all analyses (for studies 2 to 4) are provided in Appendix 3.14 without control variables. Despite minor differences, the main results did not differ between the analyses with as opposed to without control variables.

In general individual and job characteristics were used as control variables because they have been shown to relate to overemployment (e.g., Golden & Gebreselassie, 2007; Groezinger et al., 2010; Lee et al., 2015; Reynolds, 2003; Stier & Lewin-Epstein, 2003). Research however has not been conclusive about their exact relations to overemployment (Reynolds & Aletraris, 2010), but "various theories of the labor market suggest that overemployment, all else constant, may be more prevalent among certain types of workers" (Golden & Gebreselassie, 2007, p. 21). Thus, individual and job characteristics are likely to influence the relation of overemployment to its consequences.

Regarding job characteristics, research shows that overemployment is more likely among privileged workers, i.e., people having a higher education, earning high incomes, and working in leadership positions (Clarkberg & Moen, 2001; Golden & Gebreselassie, 2007; Jacobs & Gerson, 2004; Reynolds & Aletraris, 2010). One theoretical explanation for this is that these people can better afford to reduce their hours (Reynolds & Aletraris, 2010). Also, the review by Golden and Gebreselassie (2007) suggests that occupation is related to overemployment. For example, some occupations bind longer hours to future rewards or penalize preferences for short work hours (Golden & Gebreselassie, 2007; Perlow, 2012). In addition, job satisfaction as one example of our criteria variables, differs strongly

between different occupations (e.g., Rose, 2003). To conclude, if we find a relation between the MOS subscales and one of our dependent variables it could be because of these discussed job-related characteristics rather than because of the overemployment dimensions. To rule out this possibility we controlled for occupation, work sector, income, leadership position, and educational level. Similarly, in previous studies on overemployment having a managerial position, sector, income (e.g., Allan et al., 2016; Lee et al., 2015; Otterbach et al., 2019; Pagan, 2017), as well as education (e.g., Bartoll & Ramos, 2020; Pagan, 2017; van Emmerik & Sanders, 2005; Wunder & Heineck, 2013) have been included. In addition, we also controlled for temporary job holding, shift work, and multiple job holding because they might influence some of the criteria variables: for example, temporary job holding can influence job satisfaction (Aleksynska, 2018), health has been related to shift work (Costa, 2003), and multiple job holding correlates with different indicators of well-being (Boyd et al., 2016).

Regarding individual and family characteristics, i.e., gender, being in a relationship, and having children, previous results again have been inconclusive in determining how they relate to overemployment. Having children was often theoretically expected to be related to overemployment by lowering the amount of preferred work hours (e.g., Drago et al., 2009; Reynolds & Johnson, 2012). This should especially be the case for women who typically carry the major burden of caretaking and it should apply if children still need some caretaking (see the child mismatch hypothesis in Reynolds & Johnson, 2012). Empirical evidence for this is mixed. For example, Reynolds (2003) found rather counterintuitive results, i.e., childless men whose wives do not work and women in dual earner couples without children were most likely to desire a reduction. Golden and Gebreselassie (2007) however found an effect in the proposed direction: married women who are mothers of children in caretaking-age (here up to 13 years) were more likely to be overemployed than others. To control for effects of family characteristics we consequently included gender, relationship status (having a partner vs. not having a partner) and having children under 14 years of age. In a similar vein, family variables have been used as control variables in past research (see Bartoll & Ramos, 2020; De Moortel et al., 2017; Lee et al., 2015; Pagan, 2017). Regarding individual variables, some studies also controlled for age and/or organizational tenure (e.g., Lee et al., 2015; Pagan, 2017; van Emmerik & Sanders, 2005). Age and tenure (which are naturally correlated) presumably have small effects on overemployment (see, for example, Golden & Gebreselassie, 2007). In study 2, we found age to be negatively correlated with MOS-length and MOS-distribution (see Appendix 3.11, Table 3.11.2). Considering this relation and considering that age and tenure could be related to our criteria variables (e.g., Bedeian et al., 1992), we included them as control variables.

In addition, we also controlled for actual work hours. Actual work hours correlate with overemployment (e.g., Golden & Gebreselassie, 2007; Stier & Lewin-Epstein, 2003) as well as with individual consequences especially for well-being (e.g., Ganster et al., 2018; Sato et al., 2020). By including work hours among the control variables, we wanted to rule out the possibility that any effects are only due to the number of work hours, not to the MOS dimensions. In our conceptualization, overemployment is a subjective phenomenon, and a person can be overemployed regardless of the specific work hours (see Chapters 5 and 6). Thus, any effects of overemployment should remain relatively stable also when including actual work hours.

Finally, when analyzing criterion-related validity, work time sovereignty was included and treated as a control variable. Work time sovereignty is different from our other control variables because it was also supposed to have a moderating effect (Proposition 4). However, there is research suggesting that flexibility of work hours has a direct effect on well-being, e.g., on job satisfaction and health (Costa et al., 2006). In addition, work time sovereignty could be related directly to overemployment: one could expect sovereignty to lower overemployment because the ability to have control over one's work time should lead toward preferred work time. However, research shows that a flexible work schedule, e.g., having the ability to choose daily start and ending times, is rather positively related to overemployment (Golden & Gebreselassie, 2007; Matta, 2015). Work time sovereignty was therefore included to see whether the MOS explains variance above this variable.

7.7.2. Results

Construct validity and reliability of the MOS

First, we checked for CMV using Harman's one-factor test (e.g., Podsakoff et al., 2003). An exploratory factor analysis of all items used, constraining the number of extracted factors to one, revealed that one factor accounted for 25.01% of the variance speaking against CMV problems with our data (Gaskin, 2011; Podsakoff et al., 2003).

In order to validate the three-factorial structure of the MOS, we conducted a CFA, which revealed a good model fit (χ^2= 272.52, *df*=62, CFI=.94, TLI=.93, RMSEA=.08, and SRMR=.06; see Weiber & Mühlhaus, 2014). An alternative one-factor model was not acceptable (χ^2=1279.09, *df*=65, CFI=.68, TLI=.61, RMSEA=.19, SRMR=.11). The three MOS subscales were again positively correlated (*r*(500)=.49 to .54, *p*<.001). Cronbach's alphas were high for all subscales (MOS-length: .90, MOS-density: .87, MOS-distribution: .84). Correlations of the MOS with the most important variables are displayed in Table 13. For space

reasons relationships to control variables and other work time-related variables are displayed separately in Appendix 3.11 (Table 3.11.2) and Appendix 3.12.

The MOS subscales correlated positively with both the OE-discrepancy value and the OE-dichotomous value, $r(468)=.22$ to $.52$, $ps<.01$ and they were all negatively correlated with work time sovereignty, $r(500)=-.27$ to $-.32$, $ps<.01$, as were OE-discrepancy and OE-dichotomous, $r(468)=-.21$ and $-.17$, $ps<.01$, which speaks in favor of convergent validity.

The overemployment scales were closely related to work-life balance, $r(500)=-.48$ to $-.68$, $ps<.01$, as were OE-discrepancy and OE-dichotomous, $r(468)=-.31$ and $-.51$, $ps<.01$. Using the same scaling for both the work-life balance and the overemployment scales may have led to high correlations. To test for the divergence of work-life balance from the three MOS subscales, we used Fornell and Larcker's (1981) test, i.e., two constructs are different when the square root of each construct's AVE (=average variance extracted) is higher than the correlation between the two constructs. Also, the MSV should be smaller than the AVE (Hair et al., 2010). This was the case when testing work-life balance and the three MOS subscales (Table 14).

Table 13: Study 2: correlations of the MOS with well-being, attitudes, behaviors, work time variables, and work-life balance

	M	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. MOS-length	3.23	1.14																			
2. MOS-density	3.27	0.96	.54**																		
3. MOS-distribution	3.31	0.93	.49**	.52**																	
4. Life satisfaction	7.03	1.90	-.27**	-.23**	-.30**																
5. Health satisfaction	6.82	2.12	-.28**	-.28**	-.29**	.63**															
6. Exhaustion	2.86	0.73	.56**	.51**	.49**	-.50**	-.52**														
7. Disengagement	2.78	0.77	.44**	.23**	.48**	-.44**	-.29**	.59**													
8. Commitment[1]	3.49	1.01	-.27**	-.21**	-.25**	.23**	.16**	-.37**	-.65**												
9. Job satisfaction	4.95	1.45	-.48**	-.36**	-.50**	.48**	.33**	-.56**	-.76**	.69**											
10. OCB-helpfulness[1]	3.83	0.52	.04	.13**	.10*	.05	.01	-.05	-.08	.12**	.06										
11. OCB-initiative[1]	3.75	0.66	-.04	.16**	.03	.09	.05	-.11*	-.25**	.25**	.13**	.49**									
12. OCB-straightforwardness[1]	3.85	0.59	-.22**	-.26**	-.31**	.21**	.20**	-.38**	-.37**	.27**	.31**	.04	.04								
13. Turnover intention	2.55	1.34	.37**	.29**	.42**	-.34**	-.22**	.44**	.66**	-.72**	-.72**	-.04	-.06	-.28**							
14. Actual work hours	42.93	9.30	.32**	.32**	.21**	-.02	-.00	.09	.03	-.03	-.12*	.12**	.16**	-.10*	-.06						
15. Contractual work hours	37.11	5.60	.22**	.10	.11*	.00	.01	.00	.08	-.03	-.10*	.02	.04	-.10	.05	.74**					
16. Preferred work hours	35.22	7.89	-.18**	-.03	-.10*	.16**	.19**	-.26**	-.22**	.13*	.18**	.03	.12*	.02	-.13**	.57**	.58**				
17. OE-discrepancy[2]	8.64	7.20	.52**	.38**	.33**	-.22**	-.17**	.37**	.26**	-.15**	-.34**	.12**	.05	-.09	.20**	.57**	.22**	-.28**			
18. OE-dichotomous[2]	0.88	0.32	.37**	.22**	.27**	-.08	-.11*	.28**	.27**	-.12**	-.27**	.05	-.07	-.08	.19**	.18**	.16**	-.21**	.44**		
19. Work time sovereignty	3.33	2.03	-.32**	-.27**	-.30**	.21**	.14**	-.24**	-.25**	.24**	.30**	-.06	.06	.12**	-.26**	-.12**	-.10	.04	-.21	-.17**	
20. Work-life balance	3.16	0.96	-.68**	-.54**	-.48**	.45**	.43**	-.73**	-.41**	.28**	.47**	-.00	-.03	.22**	-.37**	-.29**	-.10	.15**	-.51**	-.31**	.29**

Note. *N*=428-500 (due to missing values on some variables, e.g., contractual work hours, as not all had fixed contractual hours). *p<.05, **p<.01. [1]self-employed persons were excluded here. [2]for OE-discrepancy and OE-dichotomous underemployed employees were excluded: *n*=468. OE-discrepancy: the higher the value, the higher is overemployment; OE-dichotomous: 1=overemployed, 0=matched.

Table 14: Study 2: results of the discriminant validity analysis of the MOS subscales and work-life balance

	CR	AVE	MSV	MOS-length	MOS-distribution	MOS-density	Work-life balance
MOS-length	.90	.70	.57	**.84**			
MOS-distribution	.84	.56	.39	.58***	**.75**		
MOS-density	.87	.58	.39	.60***	.63***	**.76**	
Work-life balance	.90	.65	.57	-.76***	-.56***	-.59***	**.81**

Note. ***p<.001. CR=composite reliability. AVE=average variance extracted, MSV: maximum shared variance. Bold values on the diagonal: square root of AVE. Calculated with Gaskin et al. (2019).

Criterion validity of the MOS

All MOS subscales correlated significantly with all well-being variables, attitudes, and behavioral intentions (Table 13), except for the OCB dimensions of helpfulness and initiative.

We conducted hierarchical regression analyses to test the predictive validity of the MOS for the proposed well-being, attitude, and behavioral variables (Table 15). In the first step we entered the described control variables (dummies for: gender, age, leadership position, work sector, occupation, educational level, shift work, temporary job holding, multiple job holding, having small children <14 years, having a partner; continuous variables: income, tenure, and actual work hours), followed by work time sovereignty in the second step (see Appendix 3.14, Table 3.14.1 for calculations without control variables and without work time sovereignty).[14] Then the three MOS dimensions were added in step 3. We found mixed support for our assumptions. MOS-length predicted all variables except OCB-helpfulness and OCB-straightforwardness; for life satisfaction, the prediction tended to be significant. MOS-distribution predicted all variables except commitment, OCB-helpfulness (tendency only), and OCB-initiative. MOS-density showed fewer clear relationships, as it only significantly predicted health satisfaction, exhaustion and OCB-straightforwardness in the expected direction, and it tended to be related to life satisfaction and disengagement. Unexpectedly, it positively predicted OCB-initiative. However, in general, the MOS significantly predicted the outcomes (except for OCB-helpfulness) above control variables and work time sovereignty.

[14] The calculations in the Appendix show similar results.

Table 15: Study 2: multiple regressions testing the criterion validity of the MOS dimensions

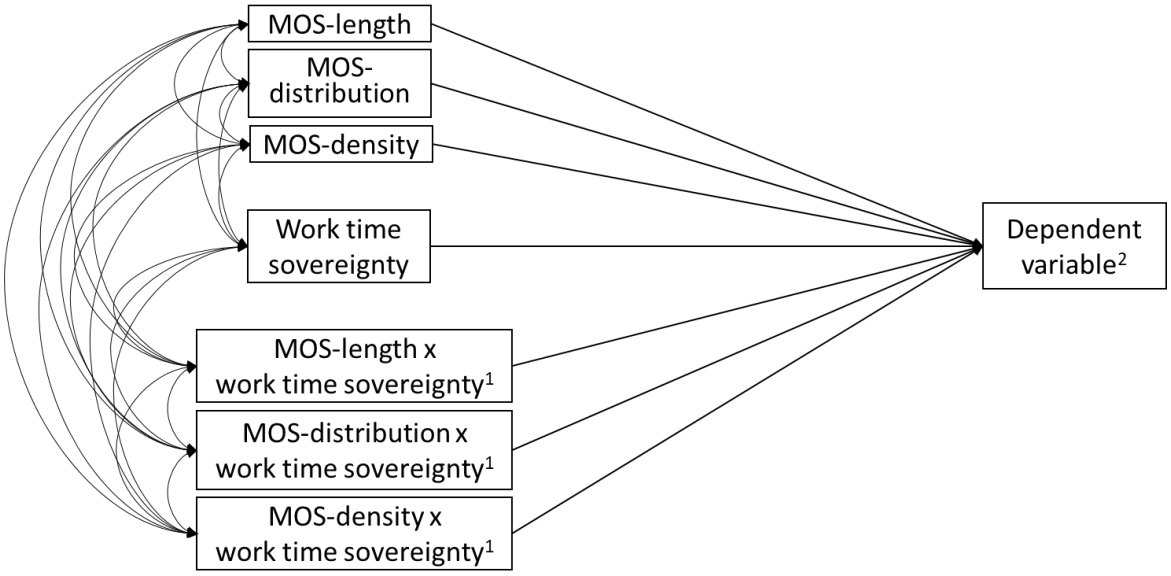
	Life satisfaction		Health satisfaction		Exhaus-tion		Disengage-ment		Commit-ment[1]		Job satisfaction		OCB-helpful-ness[1]		OCB-initiative[1]		OCB-straightfor-wardness[1]		Turnover intention	
	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β
1: Control variables	.09**		.04		.07*		.12**		.09**		.10**		.10**		.16**		.08**		.14**	
2: Work time sovereignty	.03**	.07	.01*	-.01	.04**	.01	.04**	-.05	.03**	.09^{T}	.05**	.06	.00	-.00	.01*	.13*	.01^{T}	-.03	.04**	-.07
3: MOS dimensions	.09**		.13**		.36**		.22**		.05**		.22**		.01		.02*		.09**		.12**	
- MOS-length		-.11^{T}		-.16**		.36**		.35**		-.17**		-.30**		-.09		-.16*		-.08		.20**
- MOS-density		-.11^{T}		-.19**		.28**		-.09^{T}		-.05		-.05		.00		.14*		-.15*		.02
- MOS-distribution		-.20**		-.15**		.22**		.33**		-.10		-.29**		.12^{T}		.07		-.20**		.25**
Total R^2	.21**		.18**		.47**		.38**		.17**		.37**		.12**		.19**		.18**		.30**	

Note. N=423 (due to missing values especially on income). [1]n=391 excluding self-employed persons. *p<.05, **p<.01, ^{T}p<.10. β-weights of the last step in the regression are displayed. Control variables: dummies for: gender, age, leadership position, work sector, occupation, educational level, shift work, temporary job holding, multiple job holding, having small children <14 years, having a partner; continuous variables: income, tenure, and actual work hours.

Moderating effect of work time sovereignty

To test a moderating effect of work time sovereignty on the relationship between the MOS and well-being, attitudes, and behaviors, we calculated moderation analyses separately for each variable, i.e., job satisfaction, life satisfaction, health satisfaction, exhaustion, disengagement, commitment, the three dimensions of OCB, and turnover intention (see Figure 7 for the general moderation model). For the calculations, z-scores of all involved variables were used (see Field, 2014; Nussbeck & Fuchs, 2017). Over all dependent variables, only two of the moderating effects were significant (see Table 16). The effects were investigated in more detail by plotting them (Gaskin, 2016). For health satisfaction, work time sovereignty was found to dampen the negative effect of MOS-distribution. This interaction is in accord with Proposition 4. In addition, the relationship between MOS-density and OCB-helpfulness (positive in Table 16) was dampened by work time sovereignty, i.e., among those with high sovereignty the (positive) effect was lower than among those with low sovereignty. This means that of 30 possible moderation effects (3 MOS subscales and 10 dependent variables) only one was found in the proposed direction. The function of work time sovereignty as a moderator could therefore not be confirmed. Rather, work time sovereignty had direct effects on some variables (see Table 16).

Figure 7: General moderation model for work time sovereignty as moderator between the MOS dimensions and potential consequences



Note. [1]Interaction effects are representing the moderation. [2]Separate moderations were calculated for each dependent variable, i.e., for job satisfaction, life satisfaction, health satisfaction, exhaustion, disengagement, commitment, the three dimensions of OCB, and turnover intention.

Table 16: Study 2: moderation analyses for work time sovereignty as moderator between the MOS dimensions and potential consequences

	Life satisfaction	Health satisfaction	Exhaus-tion	Disengage-ment	Commit-ment[1]	Job satis-faction	OCB- help-fulness[1]	OCB-initiative[1]	OCB-straight-forward-ness[1]	Turnover intention
						β-weights				
MOS-length	-.11*	-.14**	.33**	.30**	-.15**	-.28**	-.07	-.16**	-.04	.19**
MOS-distribu-tion	-.20**	-.15**	.21**	.38**	-.12*	-.32**	.06	-.01	-.22**	.29**
MOS-density	-.05	-.11*	.23**	-.15**	-.02	-.02	.13*	.29**	-.12*	.01
Work time sovereignty	.09*	.01	.00	-.07	.14**	.10*	-.02	.09^{T}	.01	-.10*
MOS-length x sovereignty	.02	.05	-.02	-.02	.05	.01	.06	.08	-.01	-.02
MOS-distribu-tion x sover-eignty	.06	**.15****	-.05	-.05	-.02	.07	-.01	-.02	-.03	-.03
MOS-density x sovereignty	.06	-.04	-.07	-.07	.09	.06	**-.16***	-.10	.06	-.05

Note. N=500. [1]n=463 excluding self-employed persons. *p<.05, **p<.01, ^{T}p<.10. For space reasons only the standardized β-weights are shown. All variables were standardized before calculation (see Field, 2014). Bold values: significant interactions.

Table 17: Study 2: multiple regressions testing the incremental validity of the MOS dimensions over traditional overemployment measures

	Life satis-faction		Health satis-faction		Exhaus-tion		Disen-gage-ment		Commit-ment[1]		Job satis-faction		OCB-helpful-ness[1]		OCB-initiative[1]		OCB-straight-forward-ness[1]		Turnover intention	
	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β
1: Previous OE measures	.05**		.03**		.16**		.10**		.03**		.13**		.02*		.01^{T}		.01		.05**	
- OE-discrepancy		-.09^{T}		-.01		.04		-.03		.02		-.05		.10^{T}		.09		.07		-.05
- OE-dichotomous		.08		.01		.04		.09*		-.02		-.05		.00		-.08		-.01		.04
2: MOS dimensions	.09**		.08**		.27**		.23**		.08**		.22**		.01		.05**		.10**		.19**	
- MOS-length		-.11^{T}		-.12*		.31**		.31**		-.19**		-.26**		-.08		-.19**		-.06		.21***
- MOS-density		-.06		-.12*		.22**		-.12*		-.05		-.04		.12*		.26**		-.15*		.04
- MOS-distribution		-.24**		-.16**		.21**		.39**		-.17**		-.34**		.04		-.05		-.22**		.34**
Total R^2	.14**		.11**		.42**		.33**		.11**		.35**		.03*		.06**		.11**		.24**	

Note. N=468 (due to the exclusion of underemployed persons on OE-discrepancy and OE-dichotomous). *p<.05, **p<.01, ^{T}p<.10. [1]n=437 excluding self-employed persons. β-weights of the second step in the regression are displayed.

Incremental validity of the MOS

In order to examine the incremental validity of the MOS subscales over the previous overemployment measures (OE-discrepancy and OE-dichotomous), a two-step hierarchical regression analysis was performed for each criterion (life satisfaction, health satisfaction, exhaustion, disengagement, commitment, job satisfaction, OCB dimensions, and turnover intention). The criteria were first regressed on the previous overemployment measures, i.e., OE-discrepancy and OE-dichotomous (step 1), and subsequently on the MOS subscales (step 2). The results are shown in Table 17. In step 1 the previous overemployment measures accounted for significant variance in all of the dependent variables except in OCB-initiative and OCB-straightforwardness (significant ΔR^2 ranging from .02 to .16). In step 2 the MOS dimensions accounted for significant variance over the variance explained by the traditional overemployment measures in all dependent variables except for OCB-helpfulness (significant ΔR^2 ranging from .05 to .27). These results show that the MOS explains significant variance over previous overemployment measures when predicting well-being, attitudes, and behaviors.

Measurement invariance test for level of education

We have tested a highly educated sample here. However, we expect the scale to be applicable also among people with lower education. Therefore, we tested for measurement invariance, i.e., whether the items used in the MOS mean the same to people who hold a university degree (n=432) versus those who do not hold a degree (n=68). For calculations we followed the guidelines in Byrne (2004, 2008) and Gaskin (2018). Although the group samples were rather small for a measurement invariance test (Meade, 2005), we think the test could give a first indication on whether the MOS works equally well for people with higher versus lower education. We first tested configural invariance, i.e., here whether participants who hold a university degree versus those who do not hold a degree conceptualize the constructs equally (Cheung & Rensvold, 2002; Vandenberg & Lance, 2000). If configural invariance is given data from different groups should have the same factor structure with the same items belonging to each factor (Cheung & Rensvold, 2002; Meredith, 1993). To check this, we ran the 3-factorial CFA again with the data split by education. Configural invariance was shown by good model fit measures when estimating the two groups freely, i.e., without constraints (χ^2=343,7, df=124, CFI=.94, TLI=.93, RMSEA=.06, and SRMR=.05).

Metric invariance, i.e., equal factor loadings across groups (Cheung & Rensvold, 2002), was demonstrated by a non-significant Chi Square difference test between the unconstrained and fully constrained models where the regression weights were constrained to be equal across groups, $\Delta\chi^2$=17.6, Δdf=13, p=.17.

This is a first indication that the MOS works equally well for people with higher and lower education. However, because our groups for testing invariance were small here (Meade, 2005), we will explore the MOS with a sample with lower education in study 3.[15]

7.8. Study 3

Previous results have shown that education correlates with overemployment (Golden & Gebreselassie, 2007; Reynolds & Aletraris, 2010). In study 2 the sample was highly educated, and the number of people who did not hold a university degree was not large enough to reliably test for measurement invariance. Therefore, we conducted study 3 to cross-validate our results and to check whether the results are reliable for a sample with rather low education, as well.

7.8.1. Method

The same survey as described in study 2 (see Appendix 3.7) was distributed through social media, primarily Facebook, and through a survey panel (respondi). There were two small changes regarding the questionnaire compared to the survey in study 2. First, to get a sample with rather low education compared to the sample in study 2, people with a university degree were filtered out at the beginning of the survey. The second change was due to the timing of the survey: the main part of the data for study 3 were collected between May and June 2020 when the Covid-19 pandemic affected work life. During that time, a significant part of German employees worked short hours ("Kurzarbeit", see Destatis, 2020b). We filtered out these workers from the beginning because working short hours did not reflect their normal work time situation, and we wanted to avoid that this affected the answers to the questionnaire.[16] Around 1,626 people clicked on the survey (including double clicks). After controlling the data, the sample comprised N=350 German working adults (185 men, 165 women; age M=42.69, SD=12.46). Regarding education, 23.4% indicated the German "Hauptschule" (the lowest possible school degree in Germany) and 49.1% indicated the German "Realschule" (=the second lowest possible school degree in Germany) as their highest

[15] We did not test for scalar invariance, i.e., the item intercept being invariant across the two groups. According to Vandenberg and Lance (2000), if there is an expected group difference in mean values, which is due to real differences and not to measurement, a scalar invariance test is not appropriate because there will be fully expected group differences. As level of education was found to correlate with overemployment in previous studies (e.g., Golden & Gebreselassie, 2007; Reynolds & Aletraris, 2010) we would expect these real group differences in the mean here.

[16] We cannot fully rule out the possibility that the data were influenced by the situation in 2020, e.g., aspects like fear of job loss or higher workload due to the Covid-19 pandemic could have influenced the data. We will discuss this in the limitations.

school degree. 27.4% had acquired a university entrance diploma (German "Abitur"), but none of them held a university degree. 16.0% had leadership responsibilities. Participants worked in different sectors (22.9% public sector, 76.3% private sector, 0.9% self-employed). Regarding work hours they indicated that they worked on average 40.35 hours (*SD*=7.54) per week, whereas their contractual hours were 36.84 (*SD*=6.05) and their preferred hours were 33.54 (*SD*=6.29) on average per week. Participants indicated their occupation in an open question. Based on their answers to this question, participants were divided into four categories: business/administration (*n*=146, e.g., office clerk), education/health/social (*n*=39, e.g., nurse), crafts/production/technology (*n*=95, e.g., production worker), and other services (*n*=70, e.g., train attendant, retail clerk).

7.8.2. Results

Construct validity and reliability of the MOS

Again, we first checked for CMV using Harman's one-factor test (e.g., Podsakoff et al., 2003). An exploratory factor analysis of all items used, constraining the number of extracted factors to one, showed that one factor accounted for only 26.10% of the variance which speaks against CMV problems with our data (Gaskin, 2011; Podsakoff et al., 2003).

A CFA with three factors showed an acceptable model fit ($\chi 2$=270.18, *df*=62, CFI=.92, TLI=.90, RMSEA=.10, SRMR=.06). The RMSEA can be regarded as mediocre according to MacCallum et al. (1996) but would be regarded as weak when applying stricter guidelines (Hu & Bentler, 1999). The SRMR however was good also referring to more conservative standards for cut-offs (Hu & Bentler, 1999: SRMR equal or below .08). TLI achieved the minimum required value of .90 (Bentler & Bonett, 1980, see Weiber & Mühlhaus, 2014 for an overview), and CFI did also reach a good value (Hu & Bentler, 1999: CFI above .90). In sum, the model fit was acceptable.

A correlation of the error terms between the items "distribution 4" ("I would like to dedicate more time to work tasks where I can really make a difference.") and "distribution 5" ("I would like to invest more time in work tasks that allow me to realize myself.") led to a better model fit. Now, the CFA with three factors showed a good model fit ($\chi 2$=155.90, *df*=61, CFI=.97, TLI=.96, RMSEA=.07, SRMR=.04). Correlating error terms on the same factor would be possible, however it has been criticized in previous research because two highly correlated residuals may be an indicator of another latent variable that is however not specified

in the model (Hermida, 2015). Therefore, we suggest using the model without correlated error terms.[17]

Again, an alternative one-factor model was tested, but showed no acceptable fit (χ^2=860.90, *df*=65, CFI=.70, TLI=.64, RMSEA=.19, SRMR=.11). The three MOS subscales were again positively correlated (*r*(350)=.43 to .64, *p*s<.001). Table 18 displays relationships of the MOS subscales to the most important variables used to validate the scale. For space reasons relations of the MOS to control variables and other work time-related variables are displayed in Appendix 3.11 (Table 3.11.3) and Appendix 3.12. Cronbach's alphas were high for all subscales (MOS-length: .87, MOS-density: .88, MOS-distribution: .84).

The MOS subscales correlated positively with both the OE-discrepancy value and the OE-dichotomous value, *r*(324)=.25 to. 50, *p*s<.01 (Table 18) and MOS-length and MOS-density negatively correlated with work time sovereignty, *r*(350)=-.15 and -.21, *p*s<.01, as did OE-discrepancy, *r*(324)=-.15, *p*<.01. The over-employment scales were closely related to work-life balance, *r*(350)=-.44 to -.66, *p*s<.01, as were OE-discrepancy and OE-dichotomous, *r*(324)=-.34 and -.43, *p*s<.01. We tested for discriminant validity of the subscales and divergent validity to work-life balance using Fornell and Larcker's (1981) test, i.e., constructs are different when the square root of the AVE (=average variance extracted) of each construct is higher than the correlation between the two constructs. Also, the MSV should be smaller than the AVE (Hair et al., 2010). This was the case when looking at work-life balance versus the three MOS subscales (see Table 19).

[17] Further investigations showed that exclusion of any single items would not have improved model fit. Only the correlated error terms had an impact.

Table 18: Study 3: correlations of the MOS with well-being, attitudes, behaviors, other work time-related variables, and work-life balance

	M	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. MOS-length	3.11	1.14																			
2. MOS-density	2.97	1.03	.53**																		
3. MOS-distribution	3.13	0.92	.43**	.64**																	
4. Life satisfaction	6.86	1.92	-.41**	-.30**	-.29**																
5. Health satisfaction	6.67	2.13	-.37**	-.28**	-.29**	.69**															
6. Exhaustion	2.85	0.81	.64**	.56**	.47**	-.58**	-.51**														
7. Disengagement	2.80	0.76	.45**	.30**	.36**	-.50**	-.39**	.68**													
8. Commitment[1]	3.42	0.59	-.37**	-.24**	-.20**	.30**	.24**	-.48**	-.60**												
9. Job satisfaction	5.10	1.37	-.42**	-.35**	-.36**	.47**	.35**	-.61**	-.72**	.75**											
10. OCB-helpfulness[1]	3.75	0.58	-.06	.11*	.13*	.17**	.07	-.09	-.20**	.17**	.12*										
11. OCB-initiative[1]	3.43	0.66	.04	.21**	.20**	.11*	.02	-.07	-.23**	.14**	.09	.55**									
12. OCB-straightforwardness[1]	3.69	0.70	-.23**	-.21**	-.21**	.20**	.19**	-.29**	-.33**	.24**	.28**	.16**	-.01								
13. Turnover intention	2.23	1.28	.40**	.34**	.36**	-.36**	-.25**	.50**	.58**	-.68**	-.72**	.02	-.02	-.26**							
14. Actual work hours	40.35	7.54	.38**	.26**	.13**	-.18**	-.07	.28**	.15**	-.18**	-.21**	-.05	.05	-.09	.21**						
15. Contractual work hours	36.84	6.05	.28**	.06	.02	-.07	.03	.13*	.08	-.09	-.12*	-.13*	-.00	-.07	.08	.84**					
16. Preferred work hours	33.54	6.28	-.14**	-.10	-.11*	.04	.12*	-.12*	-.16**	.06	.10	-.05	.01	.07	-.09	.52**	.56**				
17. OE-discrepancy[2]	7.76	6.13	.50**	.38**	.25**	-.30**	-.24**	.44**	.32**	-.27**	-.32**	.01	.03	-.17**	.33**	.57**	.30**	-.33**			
18. OE-dichotomous[2]	0.85	0.35	.39**	.34**	.31**	-.25**	-.17**	.39**	.28**	-.25**	-.26**	-.01	.05	-.17**	.27**	.24**	.11	-.24**	.52**		
19. Work time sovereignty	2.54	1.12	-.15**	-.21**	-.09	.14**	.10	-.21**	-.14**	.18**	.25**	-.03	.06	.01	-.14*	-.13*	-.07	-.02	-.15**	-.08	
20. Work-life balance	3.38	0.99	-.66**	-.57**	-.44**	.49**	.42**	-.77**	-.52**	.44**	.52**	.11*	-.06	.23**	-.44**	-.36**	-.20**	.05	-.43**	-.34**	.24**

Note. N=350. *p<.05, **p<.01. [1]self-employed persons were excluded here. [2]for OE-discrepancy and OE-dichotomous underemployed employees were excluded: n=324. OE-discrepancy: the higher the value, the higher is overemployment, OE-dichotomous: 1=overemployed, 0=matched.

Regarding the discriminant validity between MOS-distribution and MOS-density, values were less clear, i.e., the square root of the AVE for MOS-distribution was equal to its correlation with MOS-density and the MSV for MOS-distribution was about the same than the AVE. This shows that MOS-distribution and MOS-density could not be perfectly discriminated here (see Gaskin et al., 2019).

Table 19: Study 3: results of the discriminant validity analysis of the MOS subscales and work-life balance

	CR	AVE	MSV	MOS-length	MOS-distribution	MOS-density	Work-life balance
MOS-length	.88	.64	.53	**.80**			
MOS-distribution	.84	.57	.58	.48***	**.76**		
MOS-density	.88	.60	.58	.59***	.76***	**.77**	
Work-life balance	.92	.69	.53	-.73***	-.49***	-.60***	**.83**

Note. ***p<.001. CR=composite reliability, AVE=average variance extracted, MSV=maximum shared variance. Bold values on the diagonal: square root of AVE. Calculated with Gaskin et al. (2019).

Criterion validity of the MOS and possible moderating effect of work time sovereignty

The MOS subscales correlated with all well-being, attitudes, and behavioral-related variables in the expected direction (Table 18), except for the OCB dimensions of helpfulness and initiative, which correlated positively to MOS-density and MOS-distribution, and not to MOS-length.

We conducted hierarchical regression analyses to test the validity of the MOS for predicting the proposed variables. We first entered control variables,[18] followed by work time sovereignty (Table 20). We found mixed support for our assumptions. MOS-length predicted all variables in the expected direction. MOS-distribution predicted health satisfaction, burnout (exhaustion and disengagement), job satisfaction, and turnover in the expected direction. It unexpectedly positively predicted two of the OCB dimensions (helpfulness and initiative). MOS-density showed the weakest predictive power. However, it was significantly positively related to exhaustion and unexpectedly positively to OCB-initiative. The MOS predicted the outcomes better than work time sovereignty and predicted outcomes above control variables, also including actual work hours. Again, we tested for a possible moderating effect of work time sovereignty on the relation

[18] Control variables were comparable to study 2 but without education as control variable.

between overemployment and its consequences using the same procedure as in study 2 (see also Figure 7). As none of the possible moderation effects was significant, we do not report this in detail here.

Incremental validity of the MOS

Again, we tested for incremental validity using the same two-step hierarchical regression approach as in study 2 for each of the dependent variables. The results are shown in Table 21. In step 1 the previous overemployment measures accounted for significant variance in all of the dependent variables except OCB-helpfulness and OCB-initiative (significant ΔR^2 ranging from .04 to .23). In step 2 the MOS dimensions accounted for significant variance over the variance explained by the traditional overemployment measures in all dependent variables (ΔR^2 ranging from .04 to .28). These results are evidence of the incremental validity of the MOS over previous overemployment measures.

Measurement invariance test for level of education with samples from studies 2 and 3

Considering that the model fit in study 3 was weaker compared to study 2 (and also study 1) and the two samples mainly differed in education, we again tested for measurement invariance to find out whether the MOS works equally well between groups with different educational levels (Vandenberg & Lance, 2000). We analyzed the data of studies 2 and 3 together in order to have large groups to compare (high education=university degree: n=432 vs. low education=no university degree: n=418). We followed the guidelines in Byrne (2004, 2008), Putnick and Bornstein (2016) and Gaskin (2018). Configural invariance (Cheung & Rensvold, 2002; Vandenberg & Lance, 2000) was shown by good model fit measures when estimating the two groups freely, i.e., without constraints (χ^2=542.94, df=124, CFI=.93, TLI=.92, RMSEA=.06, and SRMR=.05). Metric invariance was demonstrated as evidenced by a non-significant Chi Square difference test between the unconstrained and fully constrained models where the regression weights were constrained to be equal across groups, $\Delta\chi^2$=10.2, Δdf=13, p=.68.

Table 20: Study 3: multiple regressions testing the criterion validity of the MOS dimensions

	Life satisfaction		Health satisfaction		Exhaustion		Disengage-ment		Commit-ment[1]		Job satisfaction		OCB- helpfulness[1]		OCB-initiative[1]		OCB-straight-for-wardness[1]		Turnover intention	
	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β
1: Control variables	.12**		.06		.13**		.06		.09**		.10**		.08*		.14**		.07^T		.16**	
2: Work time sovereignty	.01*	.06	.01	.02	.02**	-.04	.02*	-.06	.02*	.10	.05**	.19**	.00	.01	.00	.04	.00	-.02	.01^T	-.04
3: MOS dimensions	.14**		.15**		.37**		.20**		.09**		.14**		.03*		.05**		.05**		.13**	
- MOS-length		-.31**		-.30**		.43**		.36**		-.30**		-.24**		-.16*		-.13*		-.15*		.23**
- MOS-density		-.08		-.04		.26**		-.03		-.05		-.06		.07		.17*		-.08		.07
- MOS-distribution		-.10^T		-.17*		.12*		.24**		-.02		-.19**		.14*		.13*		-.08		.17**
Total R^2	.27**		.21**		.52**		.27**		.20**		.29**		.11**		.19**		.12**		.30**	

Note. N=347 (due to missing values on the income variable). [1]n=344 excluding self-employed persons. *p<.05, **p<.01, $^T p$<.10. β-weights of the last step in the regression are displayed. Control variables: dummies for: gender, age, leadership position, work sector, occupation, shift work, temporary job holding, multiple job holding, having small children <14 years, having a partner; continuous variables: income, tenure, and actual work hours.

Table 21: Study 3: multiple regressions testing the incremental validity of the MOS dimensions over traditional overemployment measures

	Life satisfaction		Health satisfaction		Exhaustion		Disengagement		Commitment[1]		Job satisfaction		OCB-helpfulness[1]		OCB-initiative[1]		OCB-straightforwardness[1]		Turnover intention	
	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β
1: Previous OE measures	.10**		.06**		.23**		.12**		.09**		.12**		.00		.00		.04**		.12**	
- OE-discrepancy		-.08		-.07		.08^T		.11^T		-.07		-.13*		.04		-.02		-.04		.15*
- OE-dichotomous		-.05		.04		.08^T		.05		-.08		-.02		-.05		-.00		-.06		.03
2: MOS dimensions	.10**		.11**		.28**		.14**		.07**		.12**		.04**		.08**		.04**		.11**	
- MOS-length		-.34**		-.29**		.39**		.34**		-.27**		-.24**		-.17*		-.16*		-.10		.22**
- MOS-density		.00		-.02		.26**		-.09		-.04		-.05		.10		.20**		-.08		.02
- MOS-distribution		-.08		-.15*		.09^T		.23**		-.04		-.20**		.16*		.17*		-.09		.21**
Total R^2	.20**		.17**		.51**		.26**		.16**		.24**		.04*		.08**		.07**		.23**	

Note. N=324 (due to the exclusion of underemployed persons on OE-discrepancy and OE-dichotomous). *p<.05, **p<.01, $^T p$<.10. $^1 n$=321 excluding self-employed persons. β-weights of the second step in the regression are displayed.

Comparing persons without university degree in studies 2 and 3

The mean values on the MOS were apparently higher in study 2 than in study 3 (Tables 13 and 18). The differences on MOS-length were not statistically significant, $t(848)=1.47$, $p=.14$. MOS-density showed significantly higher values in study 2 ($M=3.27$, $SD=0.96$), than in study 3 ($M=2.97$, $SD=1.03$), $t(848)=4.33$, $p<.001$. Also, MOS-distribution showed significantly higher values in study 2 ($M=3.31$, $SD=0.93$), than in study 3 ($M=3.13$, $SD=0.92$), $t(848)=2.92$, $p<.001$. The main and intended difference between the samples of studies 2 and 3 was in educational level. So, the differences could be linked to educational level. As described above, however, the data for study 3 were mainly collected during the time of the Covid-19 pandemic, while the data for study 2 were collected before. Therefore, any differences between studies 2 and 3 could also be (or partly be) due to the timing of the data collection. We consequently compared only those people that did not hold a university degree between studies 2 and 3. Any differences regarding the mean values on the MOS here could not be explained by education but might be differences linked to the timing of the survey. Results showed that the means of all three MOS subscales for people without degree were the same in studies 2 and 3, ts$(416)<.45$, ps$>.64$. This suggests that the timing of data collection did not influence the MOS values, and that the mean value differences might rather be linked to the educational level of participant or to job characteristics related to education.

7.9. Study 4

We have now tested the MOS over three studies, focusing on scale construction (study 1) and scale validation in a rather highly educated (study 2) and in a lower educated sample (study 3). In study 4 we want to answer the question whether the MOS can also be applied in the working context of academia. A growing body of research deals with the academic work culture (e.g., Acker & Armenti, 2004; Houston et al., 2006; Sang et al., 2015), however, to our knowledge, overemployment has not yet been investigated among university researchers. The context of academia is interesting due to the special characteristics of this work environment. On the one side academia is characterized by a culture of long work hours and high work intensification (Sang et al., 2015). On the other side academic jobs compared to other high-level jobs provide a lot of flexibility regarding work hours but also regarding work content (Sang et al., 2015). It will be interesting to see, whether the MOS can reliably measure overemployment in such a particular work environment, too.

7.9.1. Method

We distributed an online survey to researchers at two large German universities. Around 2,200 emails were sent directly to researchers asking them to take part in the survey. The questionnaire was completed by 272 persons (142 men, 130 women; age: *M*=35.63, *SD*=9.27). All participants held a university degree, 29.4% indicated that they had leadership responsibilities and 14.3% held a professorship. A large proportion (76.1%) had temporary contracts. Participants reported an average workload of 44.57 hours per week (*SD*=10.93), whereas their contractual hours were on average 32.79 hours per week (*SD*=8.76, 12.9% had no contractually fixed work hours) and their preferred hours were on average 36.92 (*SD*=8.95) per week. We used the same measures as in study 2.[19]

7.9.2. Results

Construct validity and reliability of the MOS

We checked for CMV using Harman's one-factor test (e.g., Podsakoff et al., 2003). In a one-factor solution of all items used, this factor accounted for 20.70% of the variance which speaks against CMV problems (Gaskin, 2011; Podsakoff et al., 2003).

We conducted a CFA with the same parameters as in study 2. Results revealed a good model fit for the three-factorial structure (χ^2= 178.21, *df*=62, CFI=.94, TLI=.92, RMSEA=.08, and SRMR=.06; see Weiber & Mühlhaus, 2014). Subscales were positively correlated, *r*(272)=.34 to .53, *p*<.001. We also found positive correlations of the MOS subscales with both the OE-discrepancy value and the OE-dichotomous value, *r*(252)=.17 to .52, *p*s<.01. The MOS subscales were negatively related to work time sovereignty and work-life balance, as were the OE-discrepancy and OE-dichotomous values (Table 22, see also Appendix 3.11, Table 3.11.4 for relations to other control variables). Cronbach's alphas were high for all subscales (MOS-length: .90, MOS-density: .83, MOS-distribution: .85). As in studies 2 and 3, we also tested for discriminant validity of the subscales and divergent validity to work-life balance using Fornell and Larcker's (1981) test and the AMOS-plugin by Gaskin et al. (2019). No validity problems occurred here.

[19] In addition to the variables used in studies 2 and 3, having a professorship and university affiliation (University of Bamberg vs. University of Erlangen) were entered as control variables in study 4. Education, occupation, and sector were not used as control variables since the sample was homogenous regarding these variables. Also shift work was not used as control variable, as there were no people working shifts in this sample.

Criterion validity of the MOS and possible moderating effect of work time sovereignty

Table 23 shows the results of the hierarchical regressions testing the criterion validity of the MOS. First, we entered control variables, second work time sovereignty, and third the MOS dimensions. Overall, we found mixed support for our assumptions. MOS-length predicted well-being variables (life satisfaction, health satisfaction, burnout) and job satisfaction in the proposed direction. MOS-distribution predicted all outcomes except commitment and OCB-helpfulness (only a tendency was found for exhaustion). MOS-density was tendentially related positively to exhaustion, and against our assumption positively to OCB-helpfulness and OCB-initiative. Apart from commitment and OCB, the MOS subscales were good predictors and predicted the outcomes over and above work time sovereignty and control variables.

Again, a possible moderating effect of work time sovereignty on the relation between overemployment and its consequences was tested using the same procedure as in studies 2 and 3 (see Figure 7). Only two significant moderations were found. First, work time sovereignty was found to dampen the positive relationship between MOS-distribution and turnover (β-weight=-.19, $p<.01$), which is in line with Proposition 4. Second, work time sovereignty was found to moderate the relationship between MOS-distribution and commitment, i.e., among people with low work time sovereignty there was a negative relation between MOS-distribution and commitment, whereas there was no relation among people with high work time sovereignty (β-weight=.15, $p=.04$). The direction of this moderation is also in accordance with our theory.

Incremental validity of the MOS

We also tested incremental validity of the MOS for the university researcher sample by using the same two-step hierarchical regression approach as in studies 2 and 3 (Table 24). In general, for all dependent variables, a significant proportion of variance could be explained except for OCB-helpfulness and OCB-initiative. In step 1 the previous overemployment measures accounted for significant variance in all of the dependent variables except for OCB-helpfulness and OCB-initiative (significant ΔR^2 ranging from .04 to .17). In step 2 the MOS dimensions accounted for significant variance over the variance explained by the traditional overemployment measures in the dependent variables except for OCB-helpfulness and commitment (significant ΔR^2 ranging from .03 to .20). These results again are evidence of the incremental validity of the MOS.

Table 22: Study 4: correlations of the MOS with well-being, attitudes, behaviors, other work time-related variables, and work-life balance

	M	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1. MOS-length	3.03	1.14																			
2. MOS-density	3.23	0.89	.53**																		
3. MOS-distribution	3.32	1.00	.34**	.41**																	
4. Life satisfaction	7.38	1.75	-.32**	-.23**	-.27**																
5. Health satisfaction	7.10	2.00	-.33**	-.25**	-.28**	.59**															
6. Exhaustion	2.87	0.71	.55**	.41**	.33**	-.51**	-.52**														
7. Disengagement	2.55	0.69	.34**	.15*	.38**	-.43**	-.32**	.53**													
8. Commitment	3.54	0.93	-.10	-.02	-.13*	.25**	.16*	-.26**	-.62**												
9. Job satisfaction	5.07	1.30	-.40**	-.23**	-.42**	.57**	.41**	-.55**	-.71**	.58**											
10. OCB-helpfulness	3.78	0.55	-.08	.05	-.09	.16**	.02	-.18**	-.36**	.38**	.30**										
11. OCB-initiative	3.64	0.68	-.05	.07	-.11	.25**	.09	-.23**	-.42**	.36**	.29**	.55**									
12. OCB-straightforwardness	3.88	0.60	-.19**	-.22**	-.27**	.24**	.27**	-.35**	-.34**	.34**	.39**	.13*	.14*								
13. Turnover intention	2.59	1.27	.22**	.07	.23**	-.32**	-.17**	.36**	.55**	-.52**	-.58**	-.21**	-.18**	-.29**							
14. Actual work hours	44.57	10.93	.37**	.31**	.13*	-.15**	-.10	.17**	.02	-.04	-.10	-.08	.10	-.09	.11						
15. Contractual work hours	32.79	8.76	.17*	.14*	.08	.07	.04	.02	-.04	.02	.03	-.10	.06	.01	.05	.66**					
16. Preferred work hours	36.92	8.95	-.02	-.00	-.07	.08	.07	-.16**	-.20**	.05	.15*	-.01	.11	.01	-.03	.68**	.44**				
17. OE-discrepancy[1]	8.75	7.51	.52**	.39**	.22**	-.36**	-.23**	.39**	.24**	-.12	-.33**	-.10	-.05	-.17**	.20**	.52**	.28**	-.22**			
18. OE-dichotomous[1]	0.78	0.41	.46**	.27**	.17**	-.16*	-.14*	.35**	.14*	.06*	-.18**	-.05	-.02	-.01	.04	.24**	.11	-.24**	.62**		
19. Work time sovereignty	3.99	0.69	-.32**	-.29**	-.25**	.15*	.21**	-.31**	-.28**	.19**	.26**	.08	.09	.17**	-.15*	-.10	-.05	.07	-.16*	-.21**	
20. Work-life balance	3.06	0.92	-.71**	-.50**	-.32**	.47**	.43**	-.69**	-.35**	.14*	.41*	.14*	.11	.23**	-.20**	-.33**	-.09	.07	-.55**	-.41**	.26**

Note. N=272. *p<.05, **p<.01. [1]for OE-discrepancy and OE-dichotomous underemployed persons were excluded: n=252. OE-discrepancy: the higher the value, the higher is overemployment, OE-dichotomous: 1=overemployed, 0=matched.

Table 23: Study 4: multiple regressions testing the criterion validity of the MOS dimensions

	Life satisfaction		Health satisfaction		Exhaustion		Disengagement		Commitment		Job satisfaction		OCB- helpfulness		OCB-initiative		OCB-straightforwardness		Turnover Intention	
	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β
1: Control variables	.14**		.04		.10**		.13**		.08*		.10*		.06		.12**		.06		.19**	
2: Work time sovereignty	.01	-.01	.03**	.09	.08**	-.15*	.05**	-.12^T	.02*	.14*	.04**	.08	.01	.06	.01	.05	.02*	.07	.01	-.06
3: MOS dimensions	.08**		.09**		.19**		.13**		.01		.16**		.02		.03*		.05**		.03*	
- MOS-length		-.21**		-.28**		.40**		.27**		-.03		-.29**		-.12		-.12		-.05		.08
- MOS-density		-.01		.04		.12^T		-.09		.06		.07		.16*		.16*		-.12		-.07
- MOS-distribution		-.16*		-.16*		.10^T		.26**		-.09		-.30**		-.11		-.14*		-.14*		.17**
Total R^2	.22**		.15**		.38**		.30**		.11*		.30**		.09		.15**		.13**		.23**	

Note. N=248 (due to missing values on income). *p<.05, **p<.01, $^T p$<.10. β-weights of the last step in the regression are displayed. Control variables: dummies for: gender, age, leadership position, temporary contract, multiple job holding, having small children <14 years, having a partner, university: Bamberg or Erlangen, being a professor; continuous variables: income, tenure, and actual work hours.

Table 24: Study 4: multiple regressions testing the incremental validity of the MOS dimensions over traditional overemployment measures

	Life satisfaction		Health satisfaction		Exhaustion		Disengagement		Commitment		Job satisfaction		OCB-helpfulness		OCB- initiative		OCB-straightforwardness		Turnover intention	
	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β
1: Previous OE measures	.14**		.05**		.17**		.06**		.04**		.11**		.01		.00		.04**		.05**	
- OE-discrepancy		-.32**		-.09		.07		.14^{T}		-.22**		-.21**		-.13		-.05		-.18*		.21*
- OE-dichotomous		.16*		.07		.07		-.09		.24**		.11		.03		.04		.18*		-.18*
2: MOS dimensions	.07**		.10**		.20**		.16**		.03^{T}		.17**		.02		.03*		.08**		.08**	
- MOS-length		-.20**		-.25**		.40**		.29**		-.11		-.30**		-.07		-.10		-.06		.23**
- MOS-density		.01		-.05		.11^{T}		-.18*		.10		.12^{T}		.16*		.17*		-.07		-.16*
- MOS-distribution		-.16*		-.17*		.12*		.34**		-.14^{T}		-.33**		-.09		-.16*		-.23**		.21**
Total R^2	.20**		.15**		.37**		.22**		.07**		.27**		.03		.03^{T}		.12**		.13**	

Note. N=252 (due to the exclusion of underemployed persons on OE-discrepancy and OE-dichotomous). *p<.05, **p<.01, ^{T}p<.10. β-weights of the second step in the regression are displayed.

7.10. Discussion

7.10.1. Theoretical implications

To measure overemployment, previous literature has used one-dimensional, single- or two-item measures with wording that differed greatly (see Chapter 5). This has led to problems of diverging results, for instance, regarding the amount of overemployment (e.g., Holst & Bringmann, 2016, 2017) and the consequences of overemployment (e.g., Angrave & Charlwood, 2015; Bell et al., 2011; Friedland & Price, 2003; Wunder & Heineck, 2013). Researchers have begun to criticize the shortcomings of previous measures (Campbell & van Wanrooy 2013; Holst & Bringmann, 2016, 2017) but the question of how to adequately measure overemployment has remained open. Here, we aim to close this research gap.

In Chapter 6, we introduced a new four-dimensional construct of overemployment consisting of two quantitative dimensions (work time length and work time competition) and two qualitative ones (density and distribution of work time) (see Proposition 1). In the scale development project presented here, this structure was partly confirmed: across four studies, we found that overemployment can be conceptualized as a three-dimensional construct including length, density, and distribution of work time. No evidence was found for a fourth factor "competition of work time with time outside of work." This fourth factor is conceptually different from the others, as it deals with time outside of work and therefore has the largest conceptual overlap with work-life balance (Greenhaus & Allen, 2011). Work-life balance here, however, could be separated from the three-dimensional MOS.

After exclusion of the fourth dimension, the overemployment construct only refers to work itself, but not to the connection of work with other areas of life. This is also in accordance with Kelly and Moen's (2020) view on work time of professionals in the 21st century. According to the authors, "the core for many professionals and managers is not *balancing* work and family obligations, but rather to manage all that one is asked to do *at work*." (Kelly & Moen, 2020, p. 11). These findings modify the theory on overemployment presented earlier and sharpen the overemployment construct further. Thus, we define overemployment as follows:

> *Overemployment is a desire to reduce any of three work time dimensions: length of work time, distribution of work time on certain tasks, and density of work time.*

Here, length refers to the desire to reduce the time spent on work. Distribution of work time refers to the desire for a different distribution of time on work tasks, i.e., a desire to reduce time spent on some tasks and increase time spent on other

tasks. Density refers to a desire for a lower number of tasks in a certain time frame.

Based on this three-dimensional construct, the MOS developed here is, to the best of our knowledge, the first scale to measure overemployment. It addresses the main problems of previous attempts to measure it. First, there is no need to indicate an exact work hour preference, which has proven to be difficult for respondents in the past (Campbell & van Wanrooy, 2013). Second, in previously used single- or two-item questions slight changes in wording have caused big differences in answers (Holst & Bringmann, 2016, 2017), which can be avoided by using a consistent scale. And, most importantly, third, it addresses the problem of validity of the previous overemployment measures. Single items only have content validity when the construct is narrow and single-faceted in scope and there is unanimous agreement among respondents about what is being measured (Diamantopoulos et al., 2012; Fuchs & Diamantopoulos, 2009; Rossiter, 2002). Previous interview research (Campbell & van Wanrooy, 2013) and our own study in Chapter 6 have clearly shown that this does not apply to the overemployment construct. From a psychological perspective, there is more about overemployment than can be mapped by a single item since overemployment is multidimensional and should therefore be adequately measured by a scale.

Overall, the MOS showed good characteristics across different groups of people. In addition, discriminant and convergent validity were established and it was shown that the MOS predicted outcomes over and above the control variables (criterion validity) and the previous overemployment measures (incremental validity).

As far as the consequences of overemployment were concerned, the findings from previous research were ambiguous (e.g., Abrahamsen, 2010; Allan et al., 2016; Angrave & Charlwood 2015; Friedland & Price 2003; van Emmerik & Sanders, 2005). The inconsistent findings were, however, presumably also due to measurement problems (Holst & Bringmann, 2016, 2017). In our analysis of the MOS, the subdimensions MOS-length and MOS-distribution were good predictors of well-being and job satisfaction across the studies. The largest percentage of variance that was explained by the MOS here was for burnout (especially the exhaustion component) and for job satisfaction. For health and life satisfaction, the relationships were also mainly significant, but mostly weaker. However, life and health satisfaction are indeed global indicators of well-being and these are influenced by many different aspects, thus reducing the impact of overemployment (see also Wooden et al., 2009). MOS-density showed a weaker ability to predict the outcome variables compared to MOS-length and MOS-distribution. As for well-being, MOS-density was, however, quite consistently related to exhaustion. In general, the results on well-being were in accordance with the theory

proposed in Chapter 6. Thus, Proposition 3, suggesting that overemployment may have negative psychophysiological consequences, is supported here.

Also, the results extend the theory by showing that there are clear differences in the predictive power between the three overemployment dimensions. The data also point toward a possible explanation for this. Although it is an unexpected effect, MOS-density was consistently positively related to OCB-initiative (Tables 15, 20, and 23).[20] As the design of our studies was cross-sectional, it might be possible that people showing high initiative consequently experience more density of work time. This would be supported by literature showing that the OCB component of initiative is positively related to stress (Bolino & Turnley, 2005). It is also feasible that the connection between OCB-initiative and MOS-density is caused by third factors affecting both aspects. For example, individuals with a high work motivation may show more initiative and, at the same time, have higher values on MOS-density. To further explore this relationship, however, future studies would be necessary.

There was little previous research on the consequences of overemployment for commitment, OCB, and turnover intention (with a few exceptions, e.g., Abrahamsen, 2010; Krausz et al., 2000; van Emmerik, 2005; van Emmerik & Sanders, 2005). Derived from P-J fit theory, overemployment could be described as a form of needs-supply fit (Angrave & Charlwood, 2015; Kristof-Brown et al., 2005). Consequently, we expected a negative relationship to OCB and commitment and a positive to turnover intention. Results for OCB were mixed across the studies: MOS-length had a slight negative effect on OCB-initiative in particular and MOS-distribution had a slight negative effect on OCB-straightforwardness (both effects significant in two of three studies). However, the total variance explained by the MOS for OCB was low across the studies. In addition, as explained, we unexpectedly found positive relationships between MOS-density and OCB-initiative. For commitment, studies 2 and 3 found a negative relationship to MOS-length, while study 4 found no such relationship. For turnover, effects were clearer: MOS-length and MOS-distribution were quite consistently related positively to turnover intention. Only in study 4, the effect of MOS-length disappeared when control variables were taken into consideration, but it could be seen when the control variables were not taken into account (see Appendix 3.14, Table 3.14.3). However, this seemed to be due to the special work environment in academia, where many people have relatively short temporary contracts and are working to achieve a

[20] This effect is also shown in the regression analyses without control variables (see Appendix 3.14).

higher academic qualification.[21] Working longer hours than preferred for a certain period may be more tolerable when the end of that period is in sight and when there is a clear career goal.

In sum, most of our findings were consistent with the predictions of P-J fit theory. However, the findings regarding OCB and commitment as well as regarding the predictive validity of MOS-density were inconsistent and relationships were weaker. The P-J fit theory as a framework for overemployment does not seem to allow for precise enough predictions on the consequences of overemployment. The Grounded Theory presented in Chapter 6 seems to better fit the data as the theory addresses psychophysiological consequences, and the consequences for well-being were mostly confirmed here. Our findings also suggest that different aspects of overemployment have different consequences. The length and distribution facets of overemployment seem to be negatively related to well-being and job satisfaction and positively to turnover intention. The density aspect was mainly related to exhaustion. We therefore propose refining the theory presented in Chapter 6 (Figure 6) accordingly. Looking at the overemployment dimensions separately opens opportunities to conduct more nuanced analyses which may prove useful for future research.

Finally, a moderating effect of work time sovereignty could not be confirmed here. While 90 possible moderating effects were explored (3 MOS dimensions and 10 dependent variables in 3 studies), in sum only three moderating effects in the proposed direction were found for MOS-distribution (in studies 2 and 4). However, these effects were for different dependent variables, which is why we think these results cannot be generalized. Consequently, proposition 4 must be discarded.[22]

One possible explanation might be that the relationship of work time sovereignty to overemployment and psychophysiological consequences is more complex than depicted here. For example, research has shown that self-managed work schedules can increase overemployment (Matta, 2015) but individual autonomy also showed direct positive effects on health, well-being, and work satisfaction (Costa et al., 2006). Work time sovereignty could therefore have positive as well as negative relationships to overemployment and well-being. One important aspect here may be the degree of employees' self-management, i.e., their "ability and willingness to make use of their right to self-control and to work self-

[21] A detailed look at the control variables confirmed that having a temporary contract had a big impact here.

[22] Although not reported in detail here, work time sovereignty did also not show consistent direct effects on the well-being, attitudinal, and behavioral variables with exception of a small consistent positive effect on commitment across studies 2 to 4.

directedly" (Andresen, 2015, p. 110; see also Andresen, 2009; Munz, 2006). Thus, not only the amount of autonomy given to employees may be of importance but rather whether employees want and dare to make use of this autonomy. Future research may therefore take a closer look at the individual component "self-management."

7.10.2. Practical implications

When seeking to act on overemployment, (HR) management should consider all three dimensions, i.e., work time length, density, and distribution. The MOS can be used as a diagnostic tool, for example, as part of an overall employee survey, to advise managers and HR departments on how to improve employees' satisfaction with work time and to derive targeted plans of action. The MOS may also be used by managers and employees in feedback rounds to discuss individual options for improving work time. In deciding whether and how to take action to decrease overemployment, a look at the subdimensions will be helpful. If, for instance, employees score high on MOS-length, approaches to reducing workload (Kossek et al., 2016), i.e., a reduction in work hours or job sharing, may be appropriate measures to take. If MOS-density is high, task allocation within the team could be revised and job profiles and processes could be reviewed. In addition, training may help employees to deal with stressful phases at work. If MOS-distribution is high, task distribution and work organization can be reviewed. When action is taken, however, it should be borne in mind that we cannot rule out the possibility that overemployment may also have positive effects which have not yet been studied. The positive relation of MOS-density and OCB-initiative points toward such an effect. In addition, the financial costs of initiatives must be weighed up against the benefits of increased well-being or reduced turnover of employees.

Ensuring good working conditions should also be an objective for policymakers and society. With current overemployment measures used in survey panels, it is not only difficult to determine overemployment rates (Holst & Bringmann, 2016, 2017) but also difficult to answer more complex questions such as about the causes of or possible ways to reduce overemployment (see Campbell & van Wanrooy, 2013). Integrating the MOS into future panel studies would help gain a better picture of the multiple facets of overemployment and its extent, which could serve as a basis for deriving more effective policy actions. One well-known example of such an action is the French 35-hour working week, although research findings show that employees' well-being has not been improved by this policy (Estevão & Sá, 2006). While this failure to enhance well-being may have various causes, one reason might be that only work time length was addressed and not the distribution of work time, which our studies also found to be a good predictor of well-being and job satisfaction. Taking into consideration all three

overemployment dimensions, political actions will have to be more creative as well as multi-faceted.

7.10.3. Limitations and directions for future research

Our participants came from different fields of employment, had different educational levels, and covered a large range of ages. Therefore, our findings are based on a broad and heterogeneous sample of participants. Nevertheless, our research has limitations. Study 3 was conducted mainly in May and June 2020, whereas all other studies were conducted before. Sample 3 responses could therefore have been affected by the Covid-19 pandemic. However, as explained, we excluded people who were forced to work short hours ("Kurzarbeit") which may have reduced any biasing effects. In addition, a comparison of people without a university degree between studies 2 and 3 showed no differences on the MOS. Mean value differences on the MOS between studies 2 and 3 might therefore be linked to education rather than to the timing of studies. Also, they could be linked to job characteristics that correlate with education. Another limitation in study 3 is that the model fit was mediocre and lower than in the other studies. The analysis of discriminant validity in study 3 also showed that MOS-density and MOS-distribution could be less discriminated here than in the other studies. Thus, despite the measurement invariance tests speaking against this, it may be that some of the items did not fit as well to the work reality of the people in the lower as opposed to the higher educated sample.
Another explanation might be that due to educational differences more people in study 3 than in the other studies had problems understanding the items.[23]

Future studies will need to further examine the structure of the MOS, for example, using different samples or different variables for criterion validity. Considering the discriminant validity issues between MOS-density and MOS-distribution in study 3 and considering the similarity in the results for consequences between MOS-length and MOS-distribution (as opposed to MOS-density), a higher-order structure may be possible (see Appendix 3.13). This needs to be clarified in future studies.

It can also be criticized that our study is cross-sectional which leaves the issue of causality open. For example, the mixed results for OCB suggest that especially individuals' initiative may lead to greater overemployment, particularly in terms of density of work time, as people end up trying to carry out more (additional) tasks during their work hours. The same might apply to people with a high level of commitment. Consequently, a more in-depth longitudinal analysis,

[23] However, people in the studies were given the chance to make comments at the end of the survey. There were no comments indicating toward any difficulty in understanding the items.

considering also short- and long-term consequences of overemployment would be beneficial (see also van Emmerik, 2005).

We found initial evidence that overemployment measured with the MOS can be harmful for both individuals and organizations. Therefore, exploring strategies for reducing its negative effects and cultivating factors which may serve to buffer them will be of high interest to practitioners. However, although the negative effects of overemployment dominate our findings, it would be interesting to see whether overemployment might also have positive effects, for instance, on performance.

In addition to exploring the consequences of overemployment, research on the causes of overemployment is also a valuable undertaking for future research. Exploring the previously proposed interaction of personal needs and situational demands, i.e., normative and task demands, would be of great interest (see Proposition 2 in Chapter 6).

Moreover, further expanding the samples observed would be of great interest. The four samples used here already differed greatly in some characteristics, for example, regarding education and occupation but also regarding the means on certain work time related variables, e.g., work time sovereignty. However, it may be interesting to see if the results hold for groups with even more exceptional work time circumstances such as high-level managers, professors, or self-employed people. Although we have some of these people in our sample, the groups are not large enough to justify a separate analysis. These groups, however, would be interesting because they have unusual work hour circumstances, for instance, regarding work time sovereignty and number of work hours (e.g., Andresen, 2015; Brett & Stroh, 2003; Hilbrecht & Lero, 2014; Solomon, 2011). Another approach would be to look at groups of people on the basis of psychological rather than objective characteristics. One interesting question would be, for example, whether even people who experience a calling, i.e., who see their career "as a central part of a broader sense of purpose and meaning in life" (Duffy & Dik, 2013, p. 429), can suffer from overemployment.

Finally, since all our studies were conducted in Germany, i.e., in a western culture with relatively employee-friendly work time regulations (compared, for example, to Japan: Kanai, 2009), the transferability to other countries should be tested. Past results have shown that overemployment rates differ widely even across western countries (Eurofound, 2019). Future studies could therefore explore whether the structure and experience of overemployment vary depending on labor market factors, cultural values, or social rules.

Chapter 8

8. Overall results

The main objective of this thesis was to work out a comprehensive conceptualization and measurement of overemployment against the background of previous research and including a psychological perspective (research questions I to III). In addition, the causes, and reasons for persistence (research question IV) should be analyzed. Finally, the consequences of overemployment were to be examined (research question V). To answer our research questions three research projects were conducted applying qualitative and quantitative methods.

The combination of different methods used can be seen as a strength here. The traditional argument that an application of mixed methods draws on the strength of both qualitative and quantitative methodology (Creswell & Pano Clark, 2011; Jick, 1979) is strongly supported here. The systematic review first provided the basis for understanding the overemployment concept and shed light on the shortcomings of previous overemployment definitions and measurement methods. The qualitative data in research project 2 enabled us to listen carefully to what employees had to say and to capture their view of overemployment, its causes, and its consequences (Campbell & van Wanrooy, 2013; Creswell & Pano Clark, 2011). Unlike quantitative data, it allowed us to dig deeper into the phenomenon observed and to consider the individual views of overemployed employees without imposing a priori hypotheses on them (Kelle et al., 2017). Thus, qualitative data helped us construct a Grounded Theory of overemployment and to reveal the complexity of a self-reinforcing circle causing overemployment. Using quantitative data in the next step helped us overcome the problem of generalizability that may have been caused by a small qualitative sample (Creswell & Pano Clark, 2011; Kelle et al., 2017). Moreover, quantitative data can be used to avoid the pitfall of personal interpretations made by researchers in qualitative studies (Creswell & Pano Clark, 2011). Thus, research project 3 was based on quantitative data to validate the multidimensional construct of overemployment, to make it measurable, and to explore its consequences.

The systematic literature review on overemployment (see Chapter 5) showed that previous research has used different overemployment conceptualizations that could be grouped into three categories. First, overemployment was defined as the preference to work less. Second, it was regarded as the preference to work less while also earning less. Third, it was defined as the impossibility of working less. This inconsistent use of the term "overemployment" limited the comparability and generalizability of previous research findings on the subject. The main characteristic of all definitions was that overemployment has been described in terms of a desire to work less. A reference to income or the feasibility of reducing

work hours, however, was not included in all definitions. Thus, desirability was clearly at the core of previous overemployment definitions. The systematic literature review showed that despite some overlap, overemployment could be separated from other concepts, for instance, from "work hour mismatch/discrepancy" (Reynolds, 2003, 2004; Reynolds & Aletraris, 2010) or "hours constraints" (Kuroda & Yamamoto, 2013; Sousa-Poza & Henneberger, 2002). Compared to other concepts, overemployment was the only one referring to length and to a specific mismatch where actual work hours are higher than preferred.

The review also illustrated that the differences in measurement of overemployment are even more pronounced than the differences in definitions. Three different categories of measurement could be identified. First, measures differed regarding the reference to income: some measures did not mention income (e.g., Abrahamsen, 2010), others made a general reference (e.g., Wooden et al., 2009), and others again included a proportional income reduction with fewer work hours (Pagan, 2017). Second, measures differed in terms of measurement level, i.e., whether overemployment was treated as a categorical (overemployed vs. not overemployed, e.g., Bryan, 2007) or as a continuous variable (i.e., as a discrepancy between actual and preferred hours, e.g., Matta, 2015). Third, measures differed in terms of how questions were worded. Here, the timeframe of the question about actual hours varied: it might, for instance, refer to hours worked on average (e.g., Allan et al., 2016) or in the previous week (e.g., Brown & Sessions, 2001). Also, the steps of measurement differed, i.e., asking about a preferred reduction and then about the amount of reduction (=two steps, e.g., Böheim & Taylor, 2004) or asking directly about preferred hours (=one step, e.g., Abrahamsen, 2010). And finally, some measures included special instructions such as to also consider the partner's income (e.g., Altonij & Paxson, 1988). Our analysis also showed that the different measures did not always correspond systematically to the definitions. For example, even when the definition in a study did not include a reference to income, the measure in the relevant study might or might not include a reference to income (e.g., Abrahamsen, 2010; van Echtelt et al., 2006). These inconsistent measures probably also have caused different research results in the past. To illustrate this, we compared overemployment data from the UK, the US, and Germany, which indicated effects of different measurement methods on overemployment rates.

The literature review also revealed gaps in the overemployment concept, as previous research had not dealt sufficiently with theory development. This is reflected in the fuzziness of the overemployment concept and the use of multiple but unspecific theoretical approaches addressing the consequences of overemployment (see section 2.3.). We concluded that previous conceptualizations have regarded overemployment mainly as a trade-off between time and money. They,

however, left aside the fact that there are other aspects regarding work (time) that may be important to an individual. Particularly from a psychological point of view, work clearly has different functions than only bringing in money. For example, work can be intrinsically rewarding (e.g., Dik & Duffy, 2009), serve to maintain social contacts (Jahoda, 1981), or to pursue a career (Sullivan & Baruch, 2009). We also suggested that time spent outside of work, for instance, for pursuing private activities or for recreation may be important, too. In the previous overemployment concepts, the time-money relation has been unduly focused on, whereas these other aspects of work time have been neglected. We referred to these time and job facets that are important to the individual as "reference points" and suggested including them in the overemployment definition. Chapter 5 consequently proposed viewing overemployment as working beyond one's preferred time engagement at work with regard to one's reference points, i.e., the time and job facets that are important to the individual.

Our second research project (see Chapter 6) served to analyze these reference points in more detail, i.e., it aimed at finding out how people affected by overemployment define this. The two main results regarding the definition of overemployment were as follows: first, overemployment, as perceived by overemployed persons, is a *multi-dimensional* construct. Second, overemployment describes a *desire,* not necessarily including a specific *intention* to reduce work time. It was subsequently defined as a desire to reduce work time consisting of the four dimensions length of work time, time competition (with time outside of work), density of work time, and distribution of work time (on different tasks at work). Whereas length and time competition formed the quantitative subtypes of overemployment, i.e., they referred to *how much* time is spent working; density and distribution formed the qualitative subtypes of overemployment, i.e., they also referred to *how* the time is spent. In other words, length described the desire to reduce the time spent on work. It included not only the time that is spent at the workplace (for example, at the office) but the total time invested in work. Competition referred to having enough time for other things in life besides work. Distribution of work time referred to the desire for a different distribution of time spent on various work tasks, i.e., a desire to reduce time spent on some tasks and enhance time spent on other tasks. Density described a desire for a lower number of tasks in a certain time frame. What is characteristic of desires as opposed to intentions is that desires per se consider performability less, are less connected to action-taking, e.g., to change the situation, and are vaguer than intentions in terms of timing. Desires, however, may be translated into actions if performability and action-connectedness are high and there is specific timing in mind (Perugini & Bagozzi, 2004).

This four-dimensional construct was then further explored in research project 3 (see Chapter 7). During these further analyses, we found overemployment to be a three-dimensional construct referring only to time spent at work (not outside of work), thus excluding the time competition factor. This is also what separates overemployment from the construct of work-life balance which relates to balancing work inside as well as outside the work domain (e.g., Kalliath & Brough, 2008; Kelly & Moen, 2020). In our final conceptualization, overemployment refers to the work domain only. Considering the differentiation of desires as opposed to intentions and the multi-faceted nature of overemployment, the final construct definition we propose is:

> *Overemployment is a desire to reduce any of three work time dimensions: length of work time, distribution of work time on certain tasks, and density of work time.*

Based on this conceptualization, a corresponding measure of overemployment, the MOS (multidimensional overemployment scale) is presented in research project 3. Over four studies, the scale showed good characteristics regarding validity (construct, criterion, and incremental validity) and reliability. Also, the scale could be applied to individuals both with and without a higher education and in a special work setting with university researchers. The three-dimensional structure of the MOS, comprising MOS-length, MOS-density, and MOS-distribution, provides new options for exploring overemployment and its consequences in more detail (see section 9.4.).

The empirical analyses of this thesis also gave an insight into the causes of overemployment and reasons for its persistence. Research project 2 provided evidence that overemployment is caused by a self-reinforcing circle of personal aspects and situational, i.e., normative and/or task, demands. Previous approaches (see section 2.2.) have focused mainly on single aspects causing overemployment such as employer-side restrictions (e.g., Golden & Gebreselassie, 2007), striving for career advancement (e.g., Landers et al., 1996) or post-Fordist work environments (e.g., van Echtelt et al., 2006). We here suggested that overemployment is not caused by any single aspect but rather by a combination of situational aspects, which are more employer-side and personal aspects, i.e., employee-side factors. As the different aspects reinforce each other, it is difficult to break the circle of overemployment, which explains its persistence. For example, if a heavy workload and company norms of working long hours are combined with an individual who is extremely conscientious, it is likely that overemployment occurs. A conscientious person will also be more likely to follow norms of long work hours and engage in many tasks which creates a high workload. However, for a less conscientious person or in a situation with a lighter workload and/or different norms, overemployment is less likely to occur. Thus, our results point toward the

responsibility of both employers and employees when dealing with overemployment. However, as personal aspects were present in all interviews, this indicates a key role of the employee, for instance, when reducing overemployment.

Finally, the consequences of overemployment regarding well-being (life satisfaction, health satisfaction, burnout), job attitudes (job satisfaction, commitment) and behavioral variables (organizational citizenship behavior, turnover intention) were examined. In research project 2, overemployment was found to cause psychophysiological strain in most but not all of the people interviewed. They mainly reported exhaustion and fatigue as well as negative emotions, and health problems such as headaches. Work time sovereignty here was moderating the relationship between overemployment and negative consequences, i.e., those who had a high level of sovereignty reported less detrimental consequences when overemployed than those with low work time sovereignty.

When the consequences of the three dimensions of overemployment were explored in the quantitative studies in research project 3, a more nuanced picture could be seen. MOS-length and MOS-distribution were relatively consistently related to burnout (exhaustion and disengagement), health, and life satisfaction, as well as to job satisfaction and turnover intention.[24] For well-being MOS-density only showed a relatively consistent relationship to exhaustion. Also, organizational citizenship behavior and commitment were investigated, but the expected negative relations could not be found, as results were inconsistent between studies. With the exception of study 4, however, MOS-length showed the expected negative relation to OCB-initiative and to commitment. And except for study 3, MOS-distribution showed a negative relation to OCB-straightforwardness. Contrary to our expectations, MOS-density was consistently related positively to the OCB facet of initiative. Unlike proposed in research project 2 (Chapter 6) no moderation of work time sovereignty between the MOS dimensions and its consequences could be confirmed during the quantitative studies (Chapter 7).

[24] In study 4, the relationship of MOS-length to turnover is only significant when not considering control variables, which is likely due to sample characteristics.

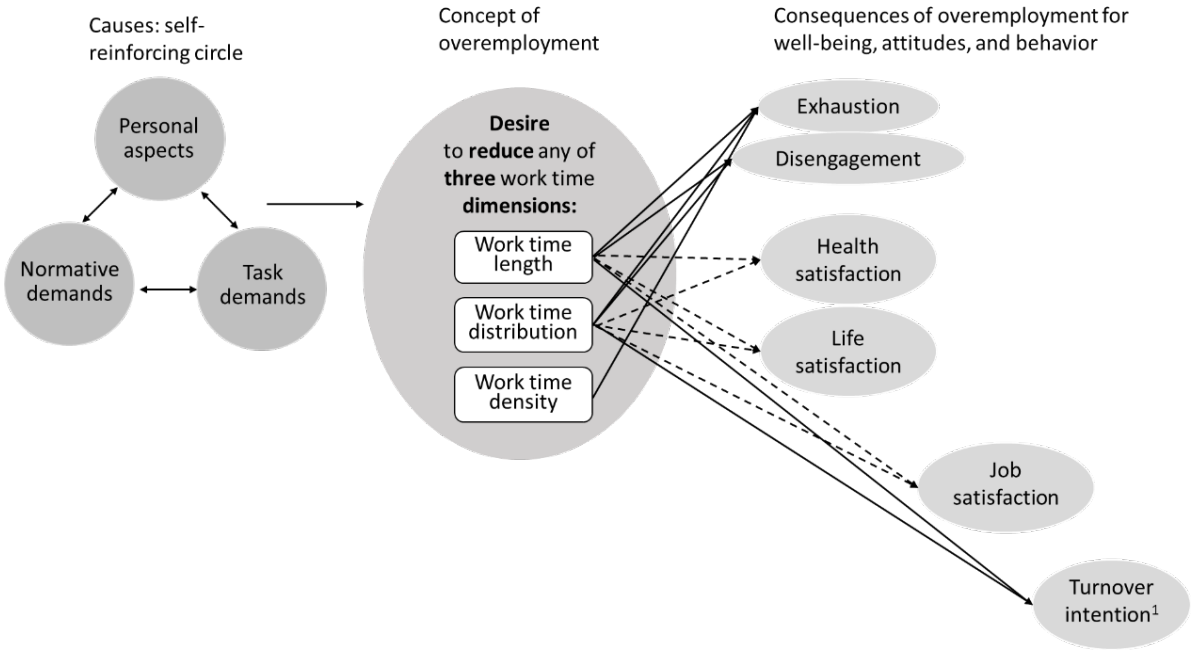
Chapter 9

9. Overall discussion

9.1. Theoretical implications

In research project 2, a theory of overemployment, including its causes and consequences, was developed and presented. Taking into account the results of research project 3, this theory should be further modified to match the findings (see Figure 8 below). Regarding the consequences of overemployment, only those that occurred consistently (significantly or tendentially significantly) across the studies in research project 3 are displayed. Relationships to OCB and commitment are not displayed, as the results were inconsistent here. Also not included is the here found consistent positive relationship between density of work time and OCB-initiative. Unlike the other effects, this was not anticipated in our theory and it can be less explained. Therefore, we think, it needs further research before being included in the theory.

Figure 8: A theory of overemployment, its causes and consequences modified on the basis of the empirical results of the thesis

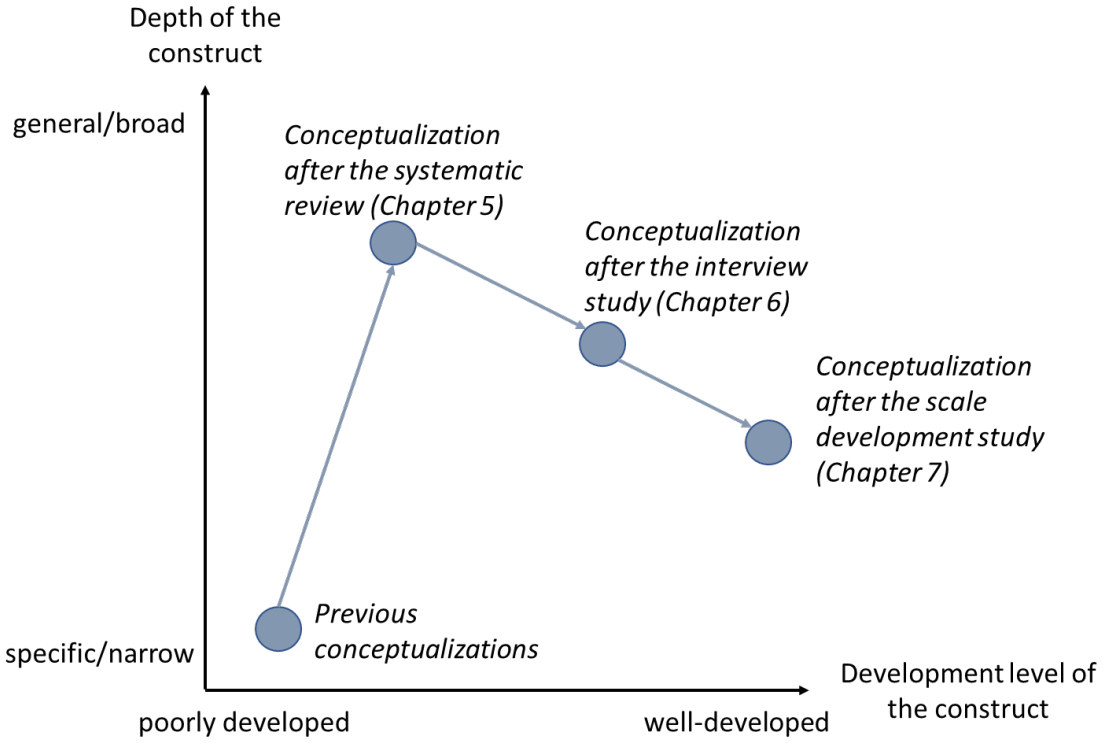


Note. Solid lines represent positive relationships. Dashed lines represent negative relationships. Regarding the consequences, only results that were consistent (at least tendentially significant) across all studies in Chapter 7 are displayed. [1]In study 4, a relation between length and turnover could only be found when control variables were not included.

One main theoretical contribution is the development of the construct of overemployment. Figure 9 describes this development during the three research projects on a meta level in terms of construct depth and development level of the construct. Construct depth refers to the specificity versus generality of the construct according to Bagozzi and Edwards (1998). Specific constructs are narrowly defined phenomena or individual aspects of broader constructs, whereas general constructs refer to more global holistic phenomena or a combination of several more specific constructs. For the development level of the construct, we follow Edmondson and McManus (2007, see also Chapter 3) who differentiate between nascent and mature theories. Mature theories present well-developed constructs, and, unlike less developed theories, they have been studied over time with increasing precision which has resulted in a body of consistent knowledge. Here, we apply this definition of development level to the construct of overemployment.

Figure 9 below shows the development process of the overemployment construct across the research projects. The positioning in Figure 9 is relative, i.e., the development stages are compared to each other but not to the development level and depth of other constructs.

Figure 9: Development of the overemployment construct in the thesis



Note. Positioning of conceptualizations must be seen relative to each other (but not proportionally) and not compared to other constructs.

As shown in Figure 9 we started with previous poorly developed conceptualizations at a point where overemployment was inconsistently defined and measured, and the validity of the construct was questionable (see Campbell & van Wanrooy, 2013, section 2.1., and Chapter 5). In addition, since the concept referred to the number of work hours only, it was relatively narrow in relation to the subsequent steps of construct development. The first development step was the systematic review (research project 1, see Chapter 5). Here, we concluded that the core of overemployment is desirability rather than feasibility and that a reference to income is not necessarily a defining criterion. So, we further developed the construct by specifying its characteristics. To close gaps in previous conceptualizations, we proposed including time and job facets that are important to the individual (i.e., reference points) in the definition of overemployment. This broadened the construct compared to previous conceptualizations.

In research project 2 (see Chapter 6), we further developed the construct by elaborating on the four dimensions of overemployment. We came up with a more sophisticated definition of overemployment, referring to this as a desire rather than an intention. In addition, we narrowed the construct: out of *all possible* aspects which might be important to individuals (as discussed in Chapter 5), we decided to focus on *four specific* facets of overemployment.

In research project 3 (see Chapter 7), the construct was then further developed by operationalizing it. It was subsequently narrowed to three, as opposed to four, facets. These referred to the work sphere only and excluded the aspect of "time outside of work." Finally, compared to the previous conceptualizations, we arrived at a better developed and comparably wider multidimensional construct of overemployment.

Overall, broadening the construct also seemed to be necessary in terms of construct validity. Campbell and van Wanrooy (2013) showed that there is widespread ambiguity when respondents answer the question whether they would like to reduce their work hours. This finding could also point toward the multidimensionality of the overemployment construct: if someone experiences overemployment to a different degree regarding the three dimensions, this will possibly lead to problems answering a question about overemployment, which is only one-dimensional. Thus, validity problems could arise because of using an overly simplified measurement.

Of the three dimensions found here, length is the one that fits closest to previous concepts of overemployment (see Chapter 5). The density dimension can be found similarly in Kalleberg (2008) under the term "overwork," which has sometimes been used interchangeably with overemployment. Kalleberg (2008) describes working harder than preferred within a fixed number of hours as one form of temporal mismatch and as part of overwork. The distribution aspect is probably

the aspect extending previous overemployment concepts the most. Especially in economics, overemployment has often been regarded as a trade-off between time and money, neglecting qualitative aspects (e.g., Altonji & Paxson, 1988; Böheim & Taylor, 2003). Following this conceptualization, the length aspect would be the only relevant component since it measures the amount of time invested. However, dealing with the quality and meaning of work, psychology has described different functions of work other than bringing in money, such as social contact and personal identity (Jahoda, 1981) or even following one's calling (Dik & Duffy, 2009). Even the traditional theories of work motivation and work satisfaction take into account that work has more functions than merely generating income (e.g., Alderfer, 1972; Gagné & Deci, 2005; Hackman & Oldham, 1974; Herzberg et al., 1959). This supports the idea that distribution of time between different tasks is also important since different tasks can fulfill these other functions of work (besides income) to a different degree. Therefore, a psychological view of overemployment supports the dimension of work time distribution revealed here.

Whereas in research project 2 competition of work time (with time outside of work) was described as another dimension of overemployment, this aspect had to be discarded in research project 3. The competition aspect was the only one dealing with time outside of work. Reducing overemployment to the three dimensions of length, distribution, and density therefore refines the construct, which ultimately refers only to the work sphere.

Based on this three-dimensional overemployment construct, the MOS developed here is the first scale to measure overemployment, a) whose construction results from an empirical conceptualization, b) which is constructed and evaluated with heterogenous working samples, and c) which considers the complexity of overemployment using a multidimensional approach.

Apart from introducing a new concept and measure of overemployment, to the best of our knowledge, the present thesis is also the first to develop a theory specifically for overemployment, including its causes and consequences. Previous research has drawn on theories from other areas, such as person-job fit (Angrave & Charlwood, 2015), or effort-recovery theory (De Moortel et al., 2017) when explaining the consequences of overemployment (see Appendix 1). Here, we propose a theory specifically addressing overemployment and including both causes and consequences (see Figure 8).

With regard to the causes and reasons for persistence of overemployment, the inclusion of situational aspects (task demands and normative demands) is in line with other research proposing that work characteristics contribute to overemployment (Perlow, 1999, 2012; Perlow & Kelly, 2014; van Echtelt, 2007; van Echtelt et al., 2006). It also fits with the idea of the labor supply approach, which claims employer-side constraints and thus situational aspects are responsible for

overemployment (Altonij & Paxson, 1988; Böheim & Taylor, 2004; Golden & Altman, 2008; Golden & Gebreselassie, 2007; Reynolds, 2003). The inclusion of personal aspects matches the rat race approach in particular (Eastman, 1998; Landers et al.,1996; Schor, 1991) because here individuals' striving for a career (a personal aspect in our theory) is seen as being responsible for overemployment. The inclusion of normative demands in our model is also in line with the rat race approach, as striving for a career ultimately determines work hour norms (Eastman, 1998; Landers et al., 1996). It also fits in with Blagoev and Schreyögg's (2019) explanation of the persistence of long work hours through norms created and maintained by customer expectations. What is new about our theory is the description of the interplay between norms, task demands, and personal aspects (self-reinforcing circle). It has been mentioned previously that situational and personal aspects interact to cause overemployment (Reynolds, 2003) but, as far as we are aware, our theory is the first to describe the underlying mechanisms in detail. We also explain in more detail than previously which situational, normative, and particularly personal aspects exactly contribute to overemployment.

The empirical analyses presented here also clarify the effects of overemployment on well-being and on attitudinal and behavioral variables. The variables more closely related to the work sphere, i.e., burnout and job satisfaction, showed stronger relationships than more distant variables such as health satisfaction or life satisfaction. The finding that overemployment affects well-being and job satisfaction is in line with existing research that has shown these relations using previous overemployment measures (Angrave & Charlwood, 2015; Bartoll & Ramos, 2020; Bell et al., 2011; Boyles & Shibata, 2009; Wooden et al., 2009; see also Appendix 1). To our knowledge, the relation of overemployment and turnover intention had not yet been studied with the sole exception of Krausz et al. (2000), who did not refer to overemployment directly, however. The relation of overemployment and turnover intention found in this thesis also highlights the importance of overemployment from an organizational perspective, as a high turnover may cause problems for organizations. The relationships of overemployment to commitment and OCB remain unclear. In studies 2 and 3 described in Chapter 7, relationships were found between length and commitment and OCB-initiative, whereas no relationship was found in study 4 with the sample of university researchers. One possible explanation may be that sample characteristics played a greater role for these variables than for the others. The few previous studies dealing with commitment and overemployment were also not consistent (Abrahamsen, 2010; Krausz et al., 2000; van Emmerik & Sanders, 2005). Potentially, there are also moderating factors, i.e., personal or job characteristics, not examined here that affect the correlation between overemployment and commitment. For OCB, van Emmerik (2005) found a relation between overemployment and OCB

directed toward supervisors but not toward colleagues. The OCB measures used here did not make this distinction, which may be one reason for the results. However, here, too, moderators that were not studied might be of importance.

One unexpected finding was the positive relation between work time density and OCB-initiative. As this was not expected, we did not include it in the revised theory (see Figure 8). However, we think it warrants attention in future research. If the cause of this effect is not the reverse, i.e., initiative causing high density, it raises the question whether overemployment may have positive consequences or at least positive side effects. As in previous research, here, too, we focused on the negative consequences of overemployment, but it might be possible that the theory needs to be extended.

For example, overemployment may be positively related to task performance. Putting in more time (than preferred) or working more intensely, or even working on a task that is disliked could contribute to higher performance either due to more time and effort put in (length, density) or due to new skills acquired when working on tasks initially not preferred (distribution). Another possibility is that overemployment also correlates with positive outcomes through personal aspects. Our interview study indicates that being conscientious in order to meet one's own quality standards at work or having a high level of motivation to learn are personal factors contributing to overemployment albeit combined with situational factors. These personal factors per se are believed to relate to higher performance; for instance, Hurtz and Donovan (2000) describe a positive correlation between conscientiousness and job performance. In as far as these personal characteristics are related to both higher performance and overemployment, this may create a positive relationship of overemployment and performance. What speaks against a possible positive effect, however, is the here found relationship of overemployment and burnout. Also, Virtanen et al.'s (2009) results speak against it, showing that long work hours, which correlate with overemployment, can have negative effects on cognitive performance.

On the individual level, another possible positive outcome of overemployment might be career success. To the best of our knowledge, there is no study linking overemployment with career success but there is research indicating a positive correlation between long work hours and career success (Brett & Stroh, 2003; Gicheva, 2013). If an individual's career success is high, presumably preferences for work hours are high as well (Frederiksen et al., 2018), thus perhaps not leading to overemployment. However, preferences may change with time and people may decide to accept some periods of overemployment to get ahead in their career.

Also, what is not yet included in the theory presented here are possible feedback effects. For example, overemployment may not only affect job satisfaction, but job satisfaction may in turn reduce overemployment; for example, it may raise

the preferences for work time. Another possible extension of the theory could be through including moderators between overemployment and consequences. In the interview study (see Chapter 6), we found that people react differently to overemployment, i.e., the extent to which they showed signs of psychophysiological strain diverged. One explanation for this might be moderators but the proposed moderator of work time sovereignty could not be confirmed in the quantitative studies. We will discuss the possibility of other moderators further in section 9.4.

9.2. Practical implications

The multidimensional overemployment scale developed here can be applied in various contexts. We will discuss three areas in which implementing the scale can create added value: 1) the organizational context, 2) the context of coaching, and 3) the political context.

Regarding 1) the organizational context, the MOS could be used in organizational development as a diagnostic tool to discover possible work time problems or explain differences in burnout levels, turnover, and job satisfaction among employees, teams, or departments. Primarily, the users of the scale will be HR and management, but also, where available, work councils. Appropriate courses of action to reduce overemployment could be developed on the basis of a detailed analysis of the three dimensions. The multidimensionality of overemployment shows that simple solutions such as reducing work time by introducing part-time work may fail or even increase problems. If work hours are cut, this may reduce the length dimension of overemployment but, at the same time, it may intensify density and distribution—the latter because part-time positions often come with a reduction in responsibility or job quality (McDonald et al., 2009). In addition, if work hours are reduced without changing task demands or normative pressures, people may end up working just as much for lower pay. Thus, any interventions aiming to improve work time should be made taking into account all three dimensions of overemployment and include the causes of overemployment defined here, i.e., norms, task demands, and personal aspects. If we adopt a multidimensional view on overemployment, it becomes clear, that actions against overemployment need to be more diverse than merely cutting work hours.

The traditional handling of work time in organizations focuses on input control, i.e., recording work hours. Models of work time flexibilization, however, focus on output control, i.e., recording goal achievement (see, for example, Andresen, 2015). The latter are referred to as results only work environments (ROWE, Ressler & Thompson, 2008; see also Andresen, 2015). An interesting question is which of the two approaches, i.e., input or output control, is preferred from the perspective of reducing overemployment. Whereas controlling and limiting work hours (input control) may help to reduce the length dimension of

overemployment, it does little to address the density and distribution facets. In the ROWE, employees are flexible to work where they want, when they want, and how they want so long as their work goals are achieved (Perlow & Kelly, 2014; Ressler & Thomson, 2008). Thus, ROWE might help reducing density because the volume of tasks that must be done in a certain time frame is not defined if the time frame is flexible. However, we would expect individuals to still set a certain time frame for themselves taking into consideration their different responsibilities and considering expectations of others, e.g., customers or coworkers. ROWE might also help with the distribution component of overemployment because the time that has to be spent on certain tasks is by definition less fixed than in more traditional work environments, as long as the tasks serve goal achievement (Ressler & Thompson, 2008). However, ROWE also carries the risk of self-exploitation, burnout, and health problems since no boundary is set as an upper limit to work time (Andresen, 2015).

As both approaches, i.e., input and output control, have their weaknesses, we plead for process control to complement these. This means that supervisors and subordinates should regularly discuss workload and work time as well as steps toward goal achievement. It also means that managers should always have an idea of the workload of every single team member and be able to intervene if necessary. Intervention may also include advising an employee how to better achieve his/her goals. Also, supervisors should be able to adapt the extent of control to the individual self-management capacities of their subordinates, where self-management refers to the "ability and willingness to make use of [...] (the) right to self-control and to work self-directedly" (Andresen, 2015, p. 110, see also Andresen, 2009; Munz, 2006). If persons have a high capability to self-manage, then they probably need less external control, because it follows that they can deal with a large amount of autonomy given to them by their employers (see Andresen, 2015).

The self-reinforcing circle of overemployment poses a challenge to practitioners in HR and management when attempting to introduce change initiatives addressing work hours. It shows that actions focusing on only one aspect, for instance, time management training, may fail because task demands, normative pressures, and many personal aspects still remain unchanged. However, with a more optimistic view, the results show that overemployed people acknowledge their own responsibility in contributing to overemployment. The participants interviewed in research project 2 were very reflective on their situation and realized that they themselves contributed to overemployment: although personal aspects interacted with task demands and/or normative demands to create overemployment, a personal aspect was mentioned in all the interviews. We think this realization of one's own contribution to overemployment bears a potential for change.

Some of the personal aspects found here, such as high motivation to learn, having fun at work, or being conscientious are of course positive for organizations and should not be changed. However, individuals can rethink other personal aspects such as whether they want to give up certain responsibilities and share them with coworkers, or whether they have dysfunctional high standards that they should let go of. Individuals suffering from overemployment could address this in personal feedback rounds and work on solutions together with their teams or supervisor. In negotiating solutions, it would be important for individuals to be willing to make a change. Finding solutions might entail giving up on some extrinsic or intrinsic rewards. Cutting back on some incentives or giving up some responsibilities could be the price to pay for reduced overemployment. Managers, however, should also be willing to accommodate the needs of employees, for example, by trying to change task demands.

When implementing change initiatives in practice, one should always consider the cost-benefit relation. As our research showed, on the positive side of reducing overemployment, there is reduced burnout, reduced turnover, as well as higher job, life, and health satisfaction. For an organization, these positive well-being effects may, for instance, lead to higher performance (Judge et al., 2001) and lower absenteeism (Cooper & Dewe, 2008). There could also be lower costs due to less turnover, as a result of reducing the costs of losing experienced professionals and of recruitment. A lower rate of overemployment may also make the company more attractive to future employees. On the cost side of counteracting overemployment, some financial outlay would be required, for instance, for personnel development measures or for employing more people to reduce task demands. Also, potential negative side effects of change initiatives should be kept in mind (e.g., Flovik et al., 2019). For example, change initiatives regarding work time may alter attitudes toward work. They may lead people to reflect on their work time situation and draw their attention to work time problems which they had not previously thought about. Moreover, faced with attempts to change organizational norms of work time, people who had put in enormous—and perhaps unwanted—work time effort may feel disrespected. In addition, even asking about work time problems in the first diagnostic step will possibly raise employees' expectations of change. Change, however, can be a difficult process, especially when organizational norms developed over years are involved (Blagoev & Schreyögg, 2019). Before taking any actions, organizations should therefore have an appropriate plan of how to manage and fulfill employees' expectations so as not to create disappointment. As suggested in our theory, overemployment is caused by task demands, normative demands, and personal aspects. Thus, addressing all three would be most effective when attempting to reduce overemployment. However, for established companies this may be difficult (see Blagoev & Schreyögg, 2019):

it would mean beginning to make a change not by introducing individual actions such as part-time work for some employees but looking at all HR and work processes. For HR, starting with recruitment would be essential to ensure that people's motivation and time preferences meet their job requirements. Work processes and customer expectations must also be considered when changes are made. To sum up, when trying to deal with overemployment, organizations should have a clear idea of costs and benefits and possible side effects of any action taken.

A second area of application for the multidimensional overemployment scale could be coaching. Time-related problems, including those focusing on work time, are an important and growing topic in the field of coaching (Boniwell, 2005; Boniwell et al., 2014). This thesis might be of high value for individual coaching related to work time since it provides detailed knowledge of the different facets of overemployment. The scale can be used as a screening tool to assess whether a person suffers from overemployment and to determine which facet is most pronounced. Solutions can then be based on the constellation of individual overemployment. The self-reinforcing circle creating overemployment can be discussed with coaching clients to develop solutions. Overemployed people need to understand how they themselves and their situational circumstances contribute to overemployment. As mentioned above, if individuals want to change their overemployment situation, they may consider trading some incentives (intrinsic or extrinsic) for a better work time situation. Coaching may also be aimed at strengthening the self-management capacities of individuals, for instance, to help individuals set priorities. Moreover, to prevent negative consequences of overemployment if they have not occurred already, coaching should deal with possible protective measures such as social support from colleagues. In addition, the possibility of job change should be critically evaluated as a potential solution. Depending on the analysis of the overemployment dimensions and causes, this in fact may or may not be a solution. Personal aspects contributing to overemployment, such as conscientiousness, for example, will be no different in a new job. In addition, normative and task demands may be similar in another company, particularly when people remain in the same occupation (e.g., Blagoev, 2016; Perlow & Kelly, 2014). Taking into consideration the solutions to overemployment discussed above, supervisors play a crucial role in supporting individuals in an effort to avoid overemployment. Thus, leadership coaching and training may also raise awareness about this topic.

These two areas, the organizational and coaching context, are closely related. As overemployment is a complex phenomenon, a one-step solution such as reducing work hours, changing job, switching tasks, etc. may not be effective. It can also have undesirable and unforeseen consequences, for instance, negative

consequences for individuals' careers. One possible solution could therefore be a gradual change initiative as proposed in Brett and Stroh (2003). Initially discussed as a means to reduce long work hours, the authors propose what they call GRITR (Graduated Reinforced Initiatives in Time Reduction). This means one party starts with a small reduction in a first step. This step needs to be big enough to signal a desire for change but small enough not to signal vulnerability or weakness. If the other party responds positively, a de-escalation process begins (Brett & Stroh, 2003). We think this process can be applied to overemployment and turned into GRIOV (Graduated Reinforced Initiatives in Overemployment Reduction). For example, an employee may start the first step by discussing the situation with a supervisor or by acting accordingly, for instance, addressing the issue of length by going home on time or addressing the issue of distribution by spending more time on certain tasks and less on others. Then he or she may wait for reactions in the work environment, i.e., from the supervisor and/or the team before taking any further steps. Taking gradual action like this allows possible negative side effects to be avoided.

The third area of application for the MOS is in the context of politics. For policy advice, it would be interesting to include the MOS in panel surveys such as the SOEP (e.g., Bell et al., 2011; Matta, 2015). Panel surveys to date have included overemployment questions worded differently, mainly asking about preferred and actual hours in order to calculate mismatches (see section 2.1.1. and Chapter 5). These one-item measures might be useful for certain purposes such as an initial indication of the distribution of overemployment, but they are less suited for detailed analyses or for deriving targeted actions (see also Campbell & van Wanrooy, 2013). Including the multidimensional scale could provide a more detailed picture of the structure of overemployment. This can be used to advise policymakers on work time regulations and legislation. For example, the idea of a redistribution of work hours by cutting overemployed people's hours and prolonging underemployed or unemployed people's hours (Seifert, 2000) cannot be supported by a multidimensional view on overemployment. In particular, the distribution aspect makes it clear that work hours cannot simply be exchanged at will. This also means that taking political action such as introducing a shorter working week (Estevão & Sa, 2006) may not achieve the goal of reducing overemployment because it only addresses length of work time and is not target-oriented. Not everyone wishes to work shorter hours and people working less than the proposed maximum may also want to reduce the length of their working week. In addition, setting a maximum number of work hours per week does not address work time density or distribution. Thus, when thinking about political actions to reduce overemployment, we propose taking a close look at the three dimensions of

overemployment and how they manifest themselves among various population groups and occupations.

Compared to length, it may be more difficult for policymakers to regulate distribution or density: however, with work safety regulations, employees may be obliged to act against inappropriately high values of density and distribution. In addition, where a direct intervention of policymakers is not desirable or possible, regulations may be put in place to reasonably compensate people working in jobs where overemployment is high. In other words, if a high overemployment situation cannot be changed, at least people may be reasonably financially compensated for this. Regarding this aspect, the overemployment scale may also be of great value to labor unions. A comparably high overemployment situation could be a useful argument when negotiating higher compensation for groups of workers. Calculating an estimation of how many people are overemployed will, however, not be easy with the MOS, as the scale does not clearly separate people into categories of overemployed or not overemployed. This is not a problem arising specifically from our scale but rather a general problem when using a scale-based measurement of overemployment (Campbell & van Wanrooy, 2013). Thus, it will be necessary to establish norms also for different occupations in order to classify the values.

9.3. Limitations

There are several limitations of this thesis that need to be discussed. Some of these are also the basis for proposals for future research (see section 9.4.).

First, as mentioned above, several extensions of the theory would be possible, especially concerning the consequences of overemployment and moderators between overemployment and consequences but also regarding feedback effects. This thesis has focused on scale development and mainly used variables from previous research to validate the scale. Future research will have to extend the number of variables examined and, consequently, also the theory on overemployment to make better predictions. For example, looking at turnover, we followed the common practice of analyzing turnover intention, which is, however, not always closely related to actual turnover behavior (Wong & Cheng, 2020). Investigating actual turnover behavior in a longitudinal study would create added value. Also, other variables such as performance could be studied to strengthen the informative value of the theory presented here. Additionally, although we have included consequences of overemployment in our theory, we did not shed further light on the mechanisms explaining precisely why the overemployment dimensions relate to some consequences more than to others. To expand the theory, future research would have to address this question, also by examining possible mediators between the overemployment dimensions and consequences.

Second, another part of the theory deals with the question of causes of overemployment. The self-reinforcing circle here was found when we studied a small sample of overemployed people. Although this sample was heterogenous, its size calls into question its generalizability. Future research should therefore explore the causes of overemployment using a larger sample.

Third, since our studies are based on cross-sectional data, the causality of the relations found is difficult to interpret. From participants' descriptions of their situation in the interviews, it was concluded that overemployment was causing reductions in well-being. However, longitudinal data would have to be analyzed to confirm causality.

Fourth, there is a risk of common method bias because self-reporting was used for all variables included. As we were interested in the subjective view of overemployment and its consequences on well-being and attitudes, the use of data from other sources would not have been an appropriate solution for most of the thesis (Conway & Lance, 2010). In addition, to test for problems with common method variance, we conducted Harman's one-factor test for all data sets (Podsakoff et al., 2003). These results revealed no problems of common method bias. However, when it comes to behavior-related variables such as organizational citizenship behavior, in future research external assessments could be used in addition.

Fifth, regarding the data sets used in research project 3, two limitations need to be discussed. Data for study 3 were mainly collected during the Covid-19 pandemic which might have biased the data, for example, due to higher job insecurity during that time. The sample used in study 3 differed mainly from the sample in study 2 in terms of education, as it only included people with no university degree. A comparison of people with no degree between studies 2 and 3 revealed no differences regarding the overemployment dimensions. This reduces the possibility of bias but does not completely exclude it. In addition, with regard to the three-dimensional structure of overemployment, the model fit was slightly lower in study 3 than in the other studies. However, the measurement invariance test indicated that overemployment could be measured using the MOS for people with high as well as lower levels of education.

Finally, the focus on one national constellation, here Germany, limits the generalizability of our results to other countries. We decided to concentrate on one national context to rule out confounding effects due to country-specific characteristics such as differences in labor legislation or economic circumstances (e.g., Bielenski et al., 2002). However, it will be a task for future research to explore whether the overemployment construct is appropriate for different countries and to find out how different country specifics, for instance, economic circumstances, affect the overemployment dimensions.

9.4. Implications for future research

Future research building on the present thesis could further explore and validate the three-dimensional overemployment construct and its corresponding scale. Whereas here the length and distribution factor predicted consequences of overemployment similarly, density only predicted exhaustion. This should be further examined, for instance, using different dependent variables and different samples, as it might be possible that length and distribution form a higher-order factor. In our data, there was no clear indication of such a factor, but our samples and variables used were limited. Some possibilities to extend the samples would be by using a sample representative of the German working population, using samples from different countries, or studying people working in particular work environments, for example, the self-employed, high-level managers, professors, or temporary workers. The use of different samples could show to what extent the overemployment concept can be generalized. In addition, it may clarify whether the three-dimensional structure of overemployment is robust. Also, if possible, a study of organizational or political change initiatives addressing work time, e.g., by cutting work hours, may help clarify the structure of overemployment. Measuring the overemployment dimensions before and after an intervention will show to what extent different dimensions react differently or equally to change. If they react differently to change, this would be an indication of their independency. Another important aspect regarding the new construct of overemployment would be to determine its duration, i.e., how long employees typically remain overemployed and what factors lead to a solution of the overemployment situation (e.g., Reynolds & Aletraris, 2010).

In addition, use of the MOS in research and practice would benefit greatly from establishing norms for the scale which aid to interpret different scores on the MOS dimensions (see MacKenzie et al., 2011). Researchers and practitioners alike will need to know which values on the dimensions can be regarded as "high," "medium," or "low." We think by looking at the working population in general and different occupational groups more specifically, these norms can be established. They will be useful in particular when providing policy advice on where possible interventions should be initiated.

Another interesting avenue to explore in future is the more general overemployment theory proposed here. The self-reinforcing circle causing overemployment could be further examined, for instance, using surveys or case studies from different organizations. To be able to map the complexity of the circle's dynamics, we think that case studies might be more suitable to use in a first step rather than surveys (see also Blagoev & Schreyögg, 2019).

Future survey research could further clarify the effects of overemployment using different variables than those used here. We believe that considering its

practical importance for companies, performance may be an interesting variable to look at first. Also, taking the costs into account, it would be important to examine turnover in long-term studies since here we have only looked at turnover intention. In addition, quantitative research might identify moderators and mediators between overemployment and its consequences. Moderators might explain why some people react to overemployment with more serious consequences than others. Mediators might shed light on why exactly overemployment leads to certain consequences, but not to others.

As we mentioned in Chapter 6, different interviewees attached different importance to the topic of work time in their lives. This "importance of work time" could be further investigated as it may be a possible moderator. However, first it needs to be investigated if there are individual factors determining this importance and if so, what are these factors. Another possible moderator could be social support. From the stress literature we know that social support moderates the relation between stress and strain (e.g., Viswesvaran et al., 1999). Therefore, it may be possible that social support also buffers the negative effects of overemployment.

One possible mediator of the correlation between overemployment and its consequences could be perceived fairness. If people are overemployed according to one or more of the three dimensions, they may feel treated unfairly which in consequence could lead to negative outcomes. Equity theory (Adams, 1965), for example, explains people's motivation following the principles of fairness. Individuals compare their input/output ratio with those of others and feel distressed if inequity is perceived. If they feel under-rewarded, they aim to reestablish equity. A newer version of the theory, equity sensitivity theory (Huseman et al, 1985; Huseman et al, 1987) also proposes individual differences in reactions to inequity. Applied to overemployment, this may mean that people compare themselves to coworkers regarding the time they put in and the rewards they get from work, for instance, in terms of financial or career aspects. Overemployment may have negative consequences because a feeling of being under-rewarded is the result of this calculation. In addition, people may react differently to perceived inequity caused by overemployment depending on their personality (Huseman et al, 1985; Huseman et al, 1987).

Methodologically, we propose longitudinal research to ensure causal relationships and, as mentioned above, examine the duration of overemployment. Longitudinal research will help further explore the consequences of overemployment. In addition, different methods may be used for measuring consequences. Especially when considering performance, external assessments from supervisors, for example, are of interest and avoid the problem of common method bias. For health, data on sickness absenteeism may be used instead of self-perceived health

(e.g., Marmot et al., 1995). Additionally, it would be interesting to see whether there are positive as well as negative or long- as well as short-term effects of overemployment. Individuals may accept a temporary phase of overemployment and reduced well-being in exchange for career advancement. If they get ahead in their career, this may lead to more career satisfaction and higher well-being in the long run.

Furthermore, considering the negative effects of overemployment found here, future research could explore potential strategies to reduce overemployment. We have already made some suggestions above and previous literature also offers some interesting starting points (e.g., Brett & Stroh, 2003; Perlow & Kelly, 2014; Ressler & Thompson, 2008). Asking experts from HR, management and research as well as listening to what employees themselves have to say, for instance during interviews or in workshops, may all help to find solutions.

Our final remark here is about the potential of exploring overemployment in organizations. We think studying overemployment in single organizational contexts has certain advantages. Although it limits generalizability, it would offer the opportunity to collect a huge amount of different data from various sources and over different time periods (see also Blagoev, 2016; Blagoev & Schreyögg, 2019). Overemployment might have negative consequences for companies, as shown here, but work hours often are a sensitive topic in organizations (e.g., shown in Blagoev, 2016). This may complicate research conducted in the organizational context. Therefore, future researchers will also have to find solutions for how to raise organizations' awareness of the importance of examining overemployment.

Chapter 10

10. Conclusion

Previous overemployment conceptualizations and measurements have been problematic in terms of consistency and validity. This has prevented integration and comparison of research results from different studies and led to inconsistent conclusions regarding the consequences of overemployment, for instance. Here, we show that overemployment is a multidimensional construct consisting of three dimensions. Consequently, we define overemployment as a desire to reduce any of three work time dimensions: length of work time, distribution of work time on certain tasks, and density of work time. Based on this conceptualization, the MOS (multidimensional overemployment scale) is developed and validated in five studies, i.e., one qualitative interview study and four quantitative studies. In addition, a theoretical model of overemployment and its causes and consequences is presented and further refined based on the empirical data. We suggest that overemployment is caused by a self-reinforcing circle of situational aspects, i.e., task demands, normative demands, and personal aspects. Also, the empirical analyses show that work time length and distribution of work time are related to higher burnout values, lower job satisfaction, lower levels of health and life satisfaction, as well as higher turnover intention. Work time density here was related to higher exhaustion, i.e., one aspect of burnout. An initially proposed moderation of work time sovereignty between overemployment and its psychophysiological consequences could not be confirmed in the present thesis. In sum, these findings particularly on the consequences of overemployment illustrate that this is a challenge for affected individuals as well as organizations. Our results point toward employees acknowledging their own responsibility in contributing to overemployment, which may be a starting point for change. However, organizations, comprising managers and teams, also need to be willing to accommodate employees' wishes. Collective efforts that also include political actions might reduce the gap between desirability and reality of work hours.

Appendices

Appendix 1: Overview of studies investigating consequences of overemployment for well-being, attitudes, and behaviors

Author (date)	Journal	Countries	Data/Sample description	Method	Study focus (as relevant for overemployment)	Main results (regarding consequences of overemployment)	Theory to explain consequences of overemployment
Abrahamsen (2010)	Economic and Industrial Democracy	Norway	StudData survey: 1,400 to 1,597 individuals (former students three years after graduation)	Cross-sectional regression analysis	Relationship between under- and overemployment to **commitment** toward the organization and commitment toward the profession	Overemployment is negatively related to professional and organizational commitment.	Preference Theory (Hakim, 2000) and general reward models (no reference): no detailed explanation provided
Allan et al. (2016)	The Counseling Psychologist	USA	462 working adults (age: 18 to 73 years)	Cross-sectional regression analysis	Correlates of work hour mismatches including its relationship to **job satisfaction**	Overemployment was not significantly related to job satisfaction.	No theory was described that would explain consequences of overemployment.
Angrave and Charlwood (2015)	Human Relations	UK	British Household Panel Survey (BHPS): 74,326 to 115,779 observations from 16,947 to 20,886 people (18 waves starting 1991)	Regression analysis with panel data	Relationship between work hour mismatch (including overemployment) and **subjective well-being** (job and life satisfaction, psychological well-being)	Overemployment is associated with a decline in all subjective well-being variables.	Person-environment fit (Kristof-Brown et al., 2005)
Bartoll and Ramos (2020)	International Archives of Occupational and Environmental Health	Europe (28 countries)	European Working Conditions Survey: 20,343 individuals (year 2015)	Cross-sectional regression analysis	Association between work hour mismatches (including overemployment) and **mental well-being**	Overemployment is associated with reduced mental well-being.	Person-environment fit (Kristof-Brown et al., 2005), job-demand-control model (Karasek, 1979)

(Appendix 1 continued)

Baslevent and Kirmanoglu (2014)	Social Indicators Research	Europe (26 countries)	European Social Survey (ESS): data from 14,034 individuals (year 2010)	Cross-sectional regression analysis	Influence of work hour mismatches (over- and underemployment) on **life satisfaction**	Overemployment is associated with lower life satisfaction.	No theory was described that would explain consequences of overemployment.
Bell et al. (2011)	SOEPpaper, SSRN Electronic Journal	Germany, UK	Germany: 127,017 observations from SOEP (years 1992 to 2008), UK: 68,425 observations from BHPS (years 1991 to 2007)	Regression analysis with panel data	Overemployment, self-assessed **health, and health satisfaction**	Overemployment has negative effects on self-perceived health and satisfaction with health.	No theory was described that would explain consequences of overemployment.
Boyles and Shibata (2009)	Feminist Economics	Japan	813 married women having children (taken from a nationwide representative sample from year 1991)	Cross-sectional regression analysis	Impact of mismatch of actual vs. desired time distribution on different tasks (among them paid work) and enjoyment of job on **job satisfaction and stress**	Overemployment (paid work time over desired hours) is related to less job satisfaction, but not to stress. Having less time than preferred for other things (housework, childcare, leisure) impacts stress.	No theory was described that would explain consequences of overemployment.
De Moortel et al. (2017)	Journal of Health and Social Behavior	Europe (21 countries)	European Social Survey: 32,408 individuals (years 2004, 2005 and 2010)	Repeated cross-sectional design	Relationship of involuntary long work hours (more than desired) on **mental well-being**	Involuntarily working long hours is positively associated with poor mental well-being.	Effort-recovery theory (Beckers et al., 2008) is mentioned but it is not explained in detail how it refers to consequences of overemployment.

(Appendix 1 continued)

Friedland and Price (2003)	American Journal of Community Psychology	USA	Americans' Changing Lives Study: 1,429 individuals (two waves in 1986 and 1989)	Regression analysis with panel data	Impact of adequacy of employment status (unemployed, underemployed, overemployed) on **health** and **psychological well-being**	Overemployed workers report more chronic disease and lower job satisfaction; no relation of overemployment to life satisfaction, subjective health and functional health. Overemployed people report less depression symptoms.	No theory was described that would explain consequences of overemployment. (The study focused on under-employment.)
Green and Tsitsianis (2005)	British Journal of Industrial Relations	Germany, UK	UK: 60,546 observations, from BHPS; EiB Survey, Skills Survey and General Household Survey (1993 to 2002), Germany: 98,103 observations from SOEP (1986 to 2002)	Analysis of trends with panel data	Trends in **job satisfaction** in Germany and UK and their relation to mismatches on work hours (working too many or working too few hours) and job intensification	A worker-job mismatch on work hours (also working too many hours) has a negative and statistically significant impact on job satisfaction.	Labor supply model (Altonji & Paxson, 1992) is mentioned, but not described in detail.
Krausz et al. (2000)	Journal of Vocational Behavior	Israel	153 full-time or part-time working nurses	Cross-sectional regression analysis	Actual and preferred work schedule (% of full-time job) and schedule control in relation to **job satisfaction**, **commitment**, **burnout**, and **intention to leave**	Burnout was higher and commitment and job satisfaction were lower for nurses who wanted to work less than they did. No correlation for intention to leave the job was found.	Person-job fit (Kristof, 1996) is mentioned, but not explained in more detail.

(Appendix 1 continued)

Lee et al. (2015)	The International Journal of Human Resource Management	Canada	Workplace and Employment Survey (WES): 12,421 individuals (years 1999 to 2005)	Longitudinal design, regression analysis	Effect of achieving a work hour congruence on **job satisfaction and absenteeism**	Achieving a congruence after overemployment is related to reduced absenteeism; it has no effect on job satisfaction.	Discrepancy theory (Lawler, 1973; Locke, 1969), social exchange theory (Blau, 1964)
Lepinteur (2019)	Social Science & Medicine	Germany	SOEP: 83,000 observations from married couples, both partners employed (1997 to 2012)	Regression analysis with panel data	Effect of overemployment on **own and partner's health** (in couples)	Own overemployment and having an overemployed partner is associated with reduced self-assessed health.	The standard model of labor supply is mentioned, but not explained in detail.
Otterbach et al. (2019)	The International Journal of Human Resource Management	Australia, Germany	Germany: 96,847 observations from 32,500 people from SOEP (six waves from 2002 to 2012), Australia: 56,268 observations from 18,661 people from HILDA survey (same years)	Regression analysis with panel data	Relationship between working time regulation, long work hours, overemployment, and **mental health**	Overemployment is associated with lower levels of mental health both in Germany and Australia.	No theory was described that would explain consequences of overemployment.
Pagan (2017)	Journal of Happiness Studies	Germany	SOEP: 129,049 observations from 26,297 individuals (years 1985 and 2011)	Regression analysis with panel data	Impact of working time mismatches (including overemployment) on **job satisfaction**	Overemployment negatively impacts job satisfaction of people.	Discrepancy theory (Lawler, 1973; Locke, 1969), social exchange theory (Blau,1964)

(Appendix 1 continued)

van Emmerik and Sanders (2005)	Journal of Managerial Psychology	Netherlands	222 employees of a Dutch Ministry	Cross-sectional regression analysis	Mismatch score between contractually agreed hours and preferred work hours and relation to **affective commitment**	Employees that preferred to work fewer hours overall did not show less affective commitment. In part-timers overemployment was related to less commitment.	Psychological contract and breach of psychological contract (Robinson et al., 1994; Rousseau, 1989)
van Emmerik (2005)	The Netherlands' Journal of Social Sciences	Netherlands	178 employees (140 university and 38 printing works employees)	Cross-sectional regression analysis	Consequences of overemployment for **organizational citizenship behavior (OCB)**	Working more hours than preferred was negatively related to OCBs toward the supervisor but was not related to OCBs toward colleagues.	Breach of psychological contract (Robinson et al., 1994; Rousseau, 1989), equity theory (Adams, 1963)
Wooden et al. (2009)	British Journal of Industrial Relations	Australia	HILDA survey 64,905 observations from 17,375 people (years 2001 to 2005)	Regression analysis with panel data	Relationship of mismatches between hours worked, work time preferences and **job and life satisfaction**	Overemployment is negatively associated with life satisfaction and job satisfaction.	No theory was described that would explain consequences of overemployment.
Wunder and Heineck (2013)	Labour Economics	Germany	SOEP: 19,222 observations from couples in which both partners were employed (years 1997 to 2009)	Regression analysis with panel data	Relation between work time mismatches and **life satisfaction**, analysis of spill-over effects of overemployment to **partners' life satisfaction**	Overemployment was associated with small losses in life satisfaction. Spill-over effect: male participants suffered from their partners' overemployment.	Labor supply model (Altonji & Paxson, 1988): utility loss (loss in well-being), when the worker's wage-hours combination is off the labor curve

Note. Underemployment here always refers to hours underemployment. In describing a study's focus and results the wording of the respective study was used. Concepts highly similar to overemployment were included as well, especially when there was very little research regarding the investigated variables (e.g., Krausz et al., 2000).

Appendix 2: Material for research project 2 (Chapter 6)

Appendix 2.1: Call for participation in the interview study—template

Studienteilnehmer gesucht zum Thema
„Arbeitszeit zwischen Wunsch und Wirklichkeit“

Arbeitszeit ist ein Thema, das uns alle fast täglich angeht. Im Rahmen meiner Doktorarbeit am Lehrstuhl für Personalmanagement der Universität Bamberg widme ich mich dem Thema Arbeitszeit. Zur Fortführung meiner Arbeit suche ich im Moment **berufstätige Personen**, die ein **Ungleichgewicht zwischen gewünschter und tatsächlicher Arbeitszeit** verspüren, wobei **die tatsächliche Arbeitszeit länger ist als die gewünschte Arbeitszeit.**
Neben einem **kurzen Fragebogen (5 min.)** geht es darum ein circa **1-stündiges Telefoninterview** zum Thema Arbeitszeit zu geben. Unter anderem sollen diese Fragen beantwortet werden:

- Welche Arbeitszeit wünschen wir uns?
- Wann sind wir mit unserer Arbeitszeit zufrieden?
- Was trägt zu einem Ungleichgewicht zwischen Arbeitszeitwunsch- und -wirklichkeit bei?

All Ihre Daten werden in anonymisierter Form und nur zu wissenschaftlichen Zwecken ausgewertet. Nach Abschluss der Studie erhalten Sie auf Wunsch gerne ein Feedback über die Ergebnisse.

Ich freue mich über eine Rückmeldung an:
julia.hiemer@gmx.net oder
0177 6486135.

Vielen Dank und beste Grüße,

Julia Hiemer

Appendix 2.2: Demographic questionnaire prior to the interview study

Page 1:

Sehr geehrte(r) Teilnehmer(in),

vielen Dank, dass Sie bereit sind, ein Interview zum Thema ***Arbeitszeitrealitäten und Arbeitszeitwünsche*** zu geben, und damit die wissenschaftliche Arbeit unterstützen.

Zur besseren Dokumentation des Interviews bitte ich Sie zuvor einen kleinen Fragebogen auszufüllen. Der Fragebogen dauert ungefähr 5 Minuten. Bitte beantworten Sie die folgenden Fragen sorgfältig und vollständig.

Ihre Angaben werden vertraulich behandelt. Sie werden nur in anonymisierter Form und ausschließlich zu Forschungszwecken verwendet.

Vielen Dank für Ihre Unterstützung!

E-Mail: julia.hiemer@uni-bamberg.de

Page 2:

1. Damit ich die Daten des Fragebogens zu Ihrem späteren Interview in anonymisierter Form zuordnen kann, bitte ich Sie zu Beginn einen persönlichen Code einzugeben. Bitte geben Sie Folgendes an:	
den Tag Ihres Geburtsdatums (z.B. 26 für den 26.3.)	
den Endbuchstaben Ihres Geburtsortes (z.B. N für München)	
Anfangs- und Endbuchstabe des Vornamens Ihrer Mutter (z.B. CA für Christa)	

Page 3:

2. Ihr Geschlecht:

- ○ männlich
- ○ weiblich

3. Ihr Alter:

[ ]

4. Was ist Ihr höchster Schulabschluss?

- ○ Hauptschulabschluss
- ○ Realschulabschluss/ Mittlere Reife
- ○ Fachhochschulreife
- ○ Abitur
- ○ sonstiges, und zwar: [ ]

5. Welche Ausbildung haben Sie?

- ○ Keine Ausbildung
- ○ Berufsbezogene Ausbildung (Lehre, Meisterausbildung), Bezeichnung: [ ]
- ○ Beamtenausbildung, Bezeichnung: [ ]
- ○ Abgeschlossenes Studium, Bezeichnung: [ ]
- ○ Promotion, Bezeichnung: [ ]
- ○ Sonstiges, und zwar: [ ]

Page 4:

6. Sind Sie derzeit in Ausbildung (z.B. auch Studium, Promotion)?

- ○ Ja
- ○ Nein

7. Wie lautet Ihre aktuelle Berufsbezeichnung?

8. Wie lange sind Sie bereits berufstätig?

Jahre

9. Seit wann sind Sie bei Ihrem jetzigen Arbeitgeber beschäftigt?

Monat:

Jahr:

10. Sind Sie derzeit in Elternzeit/ Mutterschutz?

- ○ Ja
- ○ Nein

Page 5:

11. In welchem Sektor sind Sie tätig?

- ○ Privatwirtschaft
- ○ Öffentlicher Sektor
- ○ Selbständig / freiberuflich tätig
- ○ Sonstiges, bitte nennen:

12. Und in welcher Branche/ welchem Wirtschaftszweig sind Sie tätig?

Bitte geben Sie die genaue Bezeichnung an, also z.B. nicht „Industrie", sondern „Elektroindustrie", nicht „Handel", sondern „Einzelhandel", nicht „öffentlicher Dienst", sondern „Krankenhaus"

13. Wie viele Beschäftigte hat das Gesamtunternehmen, in dem Sie arbeiten, etwa?

Gemeint ist das gesamte Unternehmen, nicht die lokale Betriebsstätte.

[Bitte auswählen]

14. Sind Sie offizieller Vorgesetzter für andere Personen?

- ○ Ja , ich bin Vorgesetzter von ____ Personen
- ○ Nein

Page 6:

15. Arbeiten Sie im Moment...?

- ○ Vollzeit
- ○ Teilzeit
- ○ Sonstiges, und zwar: _____

16. Arbeiten Sie in Schichten?

- ○ Ja
- ○ Nein

17. Ist Ihre Arbeitszeit vertraglich festgelegt?

- ○ Nein
- ○ Ja, meine Arbeitszeit beträgt vetraglich pro Woche _____ Stunden

18. Und wie viel beträgt im Durchschnitt Ihre tatsächliche Arbeitszeit pro Woche einschließlich eventueller Überstunden (ohne Arbeitsweg, ohne Pausen)?

Wenn Sie sich nicht sicher sind, schätzen Sie die Zeit.

Stunden pro Woche: _____

19. Werden Sie nach Stunden bezahlt (Stundenlohn)?

- ○ Ja
- ○ Nein

20. Werden Ihre Überstunden ausbezahlt?

- ○ Ja, vollständig
- ○ Ja, zum Teil
- ○ Nein

21. Ist Ihr Urlaub vertraglich festgelegt?

- ○ Ja
- ○ Nein

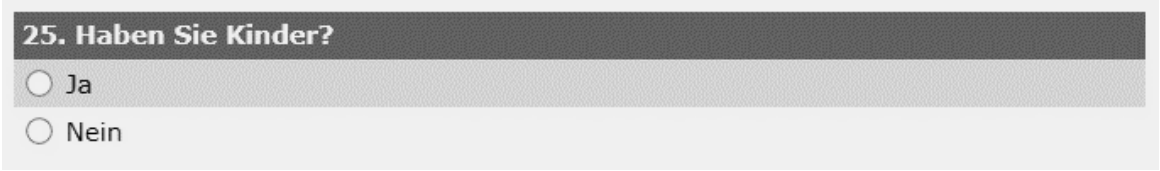
22. Wie viel Zeit benötigen Sie am Tag durchschnittlich, um zu Ihrer Arbeitsstätte und zurück zu gelangen (Hin- und Rückweg zusammen)?

_____ Stunden pro Tag

Page 7:

If yes, filter question 24 is following:

Page 8:



If yes, questions 26 and 27 are following:

Page 9:

28. Wie viele Personen leben in Ihrem Haushalt?

- ○ Ich lebe alleine.
- ○ Ich lebe zusammen mit meinem Partner.
- ○ Ich lebe zusammen mit meinem Partner und [ ] (Anzahl) Kindern.
- ○ Sonstiges und zwar: [ ]

29. Wie viele Personen in Ihrem Haushalt sind berufstätig?

[ ]

30. Wie hoch ist Ihr derzeitiges monatliches Bruttoeinkommen (ohne Vermögenseinkünfte)?

- ○ Ich habe derzeit kein eigenes Einkommen.
- ○ Ich verdiene ungefähr [ ] Euro im Monat.

31. Wie hoch ist im Moment ungefähr Ihr monatliches Netto-Haushaltseinkommen?

Gemeint ist das Einkommen, das allen Mitgliedern Ihres Haushalts zur Verfügung steht, wenn Sie Steuern und Sozialversicherungsbeiträge abziehen. Hierzu gehören z. B. Arbeitsentgelt, Einkommen aus unternehmerischer Betätigung, Vermögenserträge, Kindergeld oder Renten)

Ungefähr: [ ] Euro Netto im Monat

Page 10:

32. Ich bin damit einverstanden, dass meine hier gemachten Angaben, sowie meine Angaben im Interview in anonymisierter Form zu Forschungszwecken und/ oder Publikationszwecken in der Forschung verwendet werden.

- ○ ja
- ○ nein

Vielen Dank für Ihre Unterstützung!

Ich freue mich auf das Interview.

Bitte klicken Sie auf **weiter**, damit die Daten gespeichert werden!

Appendix 2.3: Interview guide for overemployment interviews. [25]

a) Einleitung und Allgemeines zum Ablauf

- *Abfrage des persönlichen Codes zum Matching mit den Angaben des demographischen Fragebogens*: Tag des Geburtsdatums, letzter Buchstabe des Geburtsortes, erster und letzter Buchstabe des Vornamens der Mutter
- *Erklärung des Studienziels:* Konkret geht es mir darum zu erfahren, wie sich die tatsächliche Arbeitszeit von Berufstätigen gestaltet, und darum zu erfahren, welche Arbeitszeit man sich selbst wünschen würde. Dabei muss der Wunsch ja nicht immer der Wirklichkeit entsprechen. Ich beschäftige mich mit Personen, die sich wünschen weniger zu arbeiten, als sie es im Moment tun. Trifft das auf Sie zu?
- *Vertraulichkeit der Daten:* Ihre Daten werden vertraulich behandelt und nur in anonymisierter Form zu wissenschaftlichen Zwecken (Doktorarbeit und wissenschaftliche Publikationen) verwendet. Der Wortlaut der Interviews wird in der Publikation oder Doktorarbeit (übersetzt) beibehalten.
- *Ergebnisse:* Wenn Sie möchten, können Sie einen Ergebnisbericht der Studie erhalten.
- *Einverständnis der Aufzeichnung:* Sind Sie damit einverstanden, dass das Interview aufgezeichnet wird, damit es später im Wortlaut abgetippt werden kann? Das erleichtert die Analyse der Interviews. Nach dem Abtippen der Interviews werden die Aufnahmen gelöscht.
- Haben Sie vorab noch irgendwelche Fragen?

b) Offene Eingangsfragen

- Wie sind Ihre Arbeitszeiten im Moment?
- Wie ist die Länge Ihrer Arbeitszeit?
- Wann arbeiten Sie?
- Wie verteilen sich Ihre Arbeitszeiten über Woche/Monat/Jahr?

c) Zwischenteil/Hauptfragen

- Wenn Sie Ihre Arbeitszeiten im Moment betrachten und in Betracht ziehen, was Sie eben erzählt haben, wie zufrieden sind Sie dann mit Ihren Arbeitszeiten? Wie geht es Ihnen mit Ihrer jetzigen Arbeitszeit?
- Mit welchen Aspekten sind Sie zufrieden?
- Mit welchen Aspekten sind Sie nicht zufrieden?

[25] The questions displayed are sample questions asked. Neither are all questions asked in every interview, nor are the questions always asked in the same order. Also, the wording could change. Introductory notes however, i.e., "Einleitung und Allgemeines zum Ablauf", were always given at the start of the interview.

- Wie zufrieden sind Sie auf einer Skala von 1=überhaupt nicht zufrieden bis 5=sehr zufrieden?
    - Was fehlt zur 5?
- Welche Vorteile und welche Nachteile Ihrer aktuellen Arbeitszeiten sehen Sie?
    - *ggf.:* Welche gibt es kurzfristig, welche langfristig?
- Gibt es Dinge, für die Sie gerne mehr oder weniger Zeit hätten?
    - Außerhalb der Arbeit: Wofür hätten Sie gerne mehr oder weniger Zeit?
    - Bei der Arbeit: Wofür hätten Sie gerne mehr oder weniger Zeit?
- Wenn Sie zurückdenken, hatten Sie schon einmal anderen Arbeitszeiten?
    - *Wenn nein: nächste Frage*
    - *Wenn ja:*
        - Wie war die Veränderung? Was daran war positiv? Was negativ?
        - Warum gab es eine Veränderung? (Inwieweit war Arbeitszeit ein Faktor?)
- Was denken Sie, wie wird sich Ihr Arbeitszeitwunsch mit dem Alter, bzw. der Lebensphase verändern?
- Wenn wir über Arbeitszeiten sprechen und Ihre bisherigen Erfahrungen: Welche Aspekte machen gute Arbeitszeiten für Sie aus? Und was macht schlechte Arbeitszeiten aus?
    - *ggf.:* Wie wichtig ist der Aspekt für Sie? *(verschiedene Aspekte nacheinander aufzählen, ggf. Skala von 1 bis 5 erwähnen)*
    - *ggf. für besondere Aspekte, v.a. wenn sie bislang im Gespräch noch nicht erklärt wurden:* Warum ist das wichtig? Warum ist das nicht (so) wichtig?
- Wie würde Ihre ideale Arbeitszeit aussehen?
    - Unter Berücksichtigung von finanziellen Aspekten?
    - Ohne Berücksichtigung von finanziellen Aspekten?
    - Welche Aspekte außer finanziellen sind Ihnen bei Ihrer idealen Arbeitszeit noch wichtig?
    - Wie wichtig sind die Aspekte jeweils und warum?
    - Warum weichen Ihre Arbeitszeiten von Ihrer gewünschten Arbeitszeit ab?
- Würden Sie im Moment Ihre Arbeitszeit reduzieren?
    - Warum, ja? *Oder*: Warum, nein?
    - Würde Ihnen das schwer oder leicht fallen?
    - Wie würde Ihr Umfeld (Chef, Kollegen, Familie, Freunde etc.) reagieren, wenn Sie Ihre Arbeitszeit reduzieren würden?

- Was würde sich hierdurch verändern?
- Welche Hindernisse würden Ihnen begegnen?
- Wie könnte Ihre ideale Arbeitszeit erreicht werden?

d) Abschlussfragen

- Wer ist Ihrer Meinung nach hauptverantwortlich für gute Arbeitszeiten und warum?
- Was könnten Ihrer Meinung folgende Personen tun, um gute Arbeitszeiten zu schaffen?
  - Sie selbst?
  - Das Unternehmen, für das Sie arbeiten oder Ihr Chef?
  - Die Politik?
- Gibt es noch andere Gruppen oder Personen, die dabei eine Rolle spielen?
- Wenn wir über Arbeitszeit sprechen, gibt es aus Ihrer Sicht noch etwas, was ich noch wissen müsste? Gibt es noch etwas, was Sie ergänzen möchten?

e) Dank und Verabschiedung

- Vielen Dank für die Zeit und Unterstützung!
- *Ggf. weitere Fragen beantworten*
- *Ggf. noch einmal abfragen, ob Person über die Ergebnisse der Studie per E-mail informiert werden möchte*

Appendix 2.4: Representative quotes from the interviews

Work time length
However, I know from my colleagues that they are also **taking their work home**. I haven't done this so far, because **weekends are weekends**. And I try to stick to that. (*working during "free" time*, 8) Because I must consider these **long commuting times**, I don't come away with it, if I want an interesting job (*commuting time*), it is like that, and therefore, I would reduce to a **four-day week**. This is my wish. **Four days** to have the Friday off. (*reducing contractual and actual work time*, 22)
Work time competition
I have a lot of hobbies, which are neglected a bit now**. I read a lot. I go hiking. I play golf.** (*time for leisure activities*, 7) Because I thought, I could achieve it, to do a **PhD next to a 40-hour week**, and then I realized that it is not doable for me. I mean, **the PhD that** I do at the same time. (*time for building human capital*, 13)
Work time distribution
There are **tasks I like more** and it would be nice to have **more time for those tasks**. (*more time for fun tasks*, 14) I would like to invest even **more time to reorganize the working space**, to better organize it. (*more time for important tasks*, 4)
Work time density
From Monday to Thursday work hours are from 9 to 5 or maybe 6 on average. And then **on Friday it goes up promptly,** so that you start at 9 and really work till 10, 11 or 12. (*fluctuating workload*, 21) But it is **not like you ever have a period**, where you can say "Ok, now I work **a bit slower**." I have never experienced that since I am at the company. That means at times it is **even more stressful**. (*time pressure*, 8)
Work time sovereignty
And for my employer it would be important to cancel these **limitations** (of presence) **in the morning and evening**. (*flexible distribution of time*, 9) **Flexible work time** is one point. For every doctor's appointment or any other thing, that changes my work time, I **must ask** if it is ok. And I think this is exhausting. (*flexible distribution of time*, 23)

(Appendix 2.4 continued)

Workload
And when I took over the department lead five years ago, where it was clear, ok, now the **workload is getting even higher** again. (*high volume of tasks*, 6) And the other thing is that I had **difficulties at the beginning**, evaluating which **topics I can delegate** to my employees, because I didn't know them too well, and then the risk is—especially under time pressure—that I **do certain topics on my own**, that maybe an employee could do pretty good as well. (*low practice/experience*, 6)
Presence requirements
You also **work internationally with other countries** and they have different time zones. Therefore, you are **restricted** again. For example, Asia and the US, they are not in our time zone, and then you must see how you can catch them. (*presence required for meetings*, 12) Now in January it wasn't possible (to work less), and the reason was, there was a lot of **business travelling,** where **more hours** came up. (*presence required for business trips*, 15)
Expectations of others
In principle, **it is done when the customer is don**e. (*customer expectations*, 21) I don't think that this (request for working less) would necessarily be rejected, but I think **my boss** firstly **would try to prevent me** from doing this. (*expectations of manager*, 9) I think that I would be **teased by my friends** that I am a lazy dog. (*explanation by the authors:* means when reducing work time). (*expectations in private environment*, 16)
Depreciation of short hours
I don't know what the possibilities are, I have heard that it is **difficult to switch back to full-time**. (*problems when switching back from part-time to full-time*, 14) Or I **want to reduce** my work time, for example to have the Friday or Monday off, but therefore **I pack so much into the other days**, that I am actually **back at my old work time**. (*part-time is accompanied by unpaid overwork*, 19)
Appreciation of long hours
But I think that someone, who is prepared to **sacrifice himself**, and to **put himself at the end of the queue**, has better **chances to be promoted**. (*presence promotes career success*, 18) Because one still hasn't said completely goodbye to the **presence culture**. I think, it is still there. (*presence promotes career success*, 19)

(Appendix 2.4 continued)

Extrinsic motivation
And of course, I realize, that regarding the **financial** situation, you have certain freedoms, which of course is great. (*financial incentives*, 6)
This (position) had offered me a **career possibility** back then, and I took it. Regarding work time, it would have been nice if I had reduced. (*pursuing a career*, 15)
Intrinsic motivation
I think, this is also the phase where you say you will work more and really **want to start right away**, you have an **interesting team** and you **learn a lot**. (*high motivation to learn*, 8)
Sometimes there are these situations where you gain the impression, oh, there are others who could **compete a bit with me for my position** [...] And then of course I am happy that I am not a part-time worker, because then I couldn't **fight for my position** quite as well. (*keep control over tasks/responsibilities*, 15)
Exhaustion/Fatigue
(I wish) that I was not so **exhausted**, this **permanent fatigue**. (*physical and emotional fatigue*, 12)
I am glad if I still get to see the evening news. If I sit on the couch, I might as well go to bed, because I **can't keep my eyes open**. (*physical and emotional fatigue*, 22)
Negative emotions
It really **feels like too much** because it simply is too much. (*feeling stressed*, 25)
(You) feel a bit like a **hamster in a wheel**. You just don't make it. (*feeling stressed*, 8)
Health impairment
Often there were situations, where I suddenly got **sick, really sick**. And my doctor said: "But haven't you noticed that before?" (*other health-related issues*, 15)

Note. In vivo codes are bold, first-order themes are in brackets, headings represent second-order themes.

Appendix 2.5: Examples for steps of the analyses

Step 1: Open coding. Using in vivo codes helped the researchers stay close to the data and insured the likelihood that the different coders encode the same information similarly (Boyatzis, 1998). For example, one interviewee indicated that he would want to "basically work less" (9) and another mentioned that "pressure is high" (26), which both coders coded as in vivo. During this step hundreds of in vivo codes were generated which were then analyzed in step 2.

Step 2: First-order categories. To give an example, the coders found that informants described various perceived disadvantages and obstacles of working part-time as a means to reduce work hours, e.g., the fact that part-time work is uncommon, cannot be realized without having an accepted reason (e.g., having children), or leads to challenges when switching back to full-time. The coders factored these aspects into the category "deprecation of short hours", as it described what these aspects had in common.

Step 3: Axial coding and second-order themes. Continuing with the example, the coders identified that "deprecation of short hours" together with other first-order categories, i.e., "appreciation of long hours" and "expectations of others", indicated normative demands that were imposed on the individual and contributed to overemployment.

Step 4: Theoretical or selective coding. Two of the third-order codes referred to facets of overemployment as perceived by the overemployed interviewees ("quantitative overemployment" and "qualitative overemployment") and three referred to perceived causes of overemployment ("task demands", "normative demands", "personal aspects"), which together formed a self-reinforcing circle preserving overemployment. Another category referred to overemployment having negative psychophysiological consequences, and a final one referred to work time sovereignty.

Appendix 3: Material for research project 3 (Chapter 7)

Appendix 3.1: Sample social media post in study 1

Wie (viel) möchten Sie arbeiten?

Im Rahmen eines Forschungsprojekts zu *Arbeitszeitrealitäten und Arbeitszeitwünschen* führen wir am Lehrstuhl für Betriebswirtschaftslehre, insbesondere Personalmanagement an der Universität Bamberg (Prof. Dr. Maike Andresen) aktuell eine Befragung von hochqualifizierten Berufstätigen durch.

Ziel der Studie ist es, ein zuverlässiges Instrument zur Messung von Arbeitszeitwünschen zu entwickeln. Das Messinstrument wird mittelfristig dazu eingesetzt, kreative Ideen und individualisierte Konzepte für Arbeitsbedingungen zu entwickeln, durch die eine Annäherung von tatsächlichen Arbeitszeiten an Arbeitszeitwünsche geschaffen werden kann.

Ich würde mich daher sehr freuen, wenn Sie unser Forschungsprojekt unterstützen und sich circa 20 Minuten Zeit für die Beantwortung des folgenden Fragebogens nehmen:

https://www.soscisurvey.de/Arbeitszeit_2017_U/

Nach Abschluss der Studie erhalten Sie auf Wunsch gerne ein Feedback über die Ergebnisse.

Wir bedanken uns sehr herzlich bei Ihnen im Voraus für Ihre Unterstützung!

Mit freundlichen Grüßen

Prof. Dr. Maike Andresen, Dipl.-Psych. Julia Hiemer

Note. Pictures show the short and long version of a sample post used as call for participation.

Appendix 3.2: Sample email to alumni networks in study 2

Sehr geehrte Damen und Herren,

im Rahmen eines **Forschungsprojekts zu Arbeitszeitrealitäten und Arbeitszeitwünschen** führen wir am Lehrstuhl für Betriebswirtschaftslehre insbesondere Personalmanagement an der Universität Bamberg (Prof. Dr. Maike Andresen) aktuell eine Befragung von hochqualifizierten Berufstätigen durch.

Die Alumni der Hochschule ***Name der Hochschule*** sind dafür eine spannende Teilgruppe.

Ziel der Studie ist es, ein zuverlässiges Instrument zur Messung von Arbeitszeitwünschen zu entwickeln. Das Messinstrument wird mittelfristig dazu eingesetzt, kreative Ideen und individualisierte Konzepte für Arbeitsbedingungen zu entwickeln, durch die eine Annäherung von tatsächlichen Arbeitszeiten an Arbeitszeitwünsche geschaffen werden kann.

Wir würden uns sehr freuen, wenn Sie unser Forschungsprojekt unterstützen und die Alumni der Hochschule *Name der Hochschule* zur Teilnahme einladen.

Hierfür gibt es z.B. diese Möglichkeiten:

Entweder:

Die Teilnehmer finden den Fragebogen unter folgendem öffentlichen Link:

Link zum Fragebogen

Oder:

Auf Wunsch erhalten die Alumni der Hochschule *Name der Hochschule* einen separaten Link zur Umfrage. Auf diese Weise wäre es möglich, Ihnen eine Ergebnis-Analyse nur für die Alumni Ihrer Hochschule zur Verfügung zu stellen.

Die Beantwortung nimmt circa 20 Minuten in Anspruch. Im Anschluss können Teilnehmende auf Wunsch ein Feedback über die Ergebnisse erhalten.

Wir freuen uns über Ihr Feedback und bedanken uns sehr herzlich bei Ihnen im Voraus für Ihre Unterstützung!

Prof. Dr. Maike Andresen, Dipl.-Psych. Julia Hiemer

Kontakt:
Dipl.-Psych. Julia Hiemer
E-Mail: julia.hiemer@uni-bamberg.de

Note. Stars are marking placeholders.

Appendix 3.3: Sample email to university researchers in study 4

Sehr geehrte Frau *X*/ Sehr geehrter Herr *X*

im Rahmen eines Forschungsprojekts zu *Arbeitszeitrealitäten und Arbeitszeitwünschen* führen wir am Lehrstuhl für Betriebswirtschaftslehre, insbesondere Personalmanagement an der Universität Bamberg (Prof. Dr. Maike Andresen) aktuell eine Befragung von hochqualifizierten Berufstätigen durch. Eine wichtige Personenteilgruppe in unserem Forschungsprojekt stellen Wissenschaftlerinnen und Wissenschaftler an Hochschulen dar, welche die unterschiedlichen zeitlichen Ansprüche von Forschung, Lehre und Administration täglich zu vereinbaren haben.

Ziel der Studie ist es, ein zuverlässiges Instrument zur Messung von Arbeitszeitwünschen zu entwickeln. Das Messinstrument wird mittelfristig dazu eingesetzt, kreative Ideen und individualisierte Konzepte für Arbeitsbedingungen zu entwickeln, durch die eine Annäherung von tatsächlichen Arbeitszeiten an Arbeitszeitwünsche geschaffen werden kann.

Wir würden uns daher sehr freuen, wenn Sie unser Forschungsprojekt unterstützen und sich circa 20 Minuten Zeit für die Beantwortung des folgenden Fragebogens nehmen:

Link zum Fragebogen

Nach Abschluss der Studie erhalten Sie auf Wunsch gerne ein Feedback über die Ergebnisse.

Wir bedanken uns sehr herzlich bei Ihnen im Voraus für Ihre Unterstützung!

Mit freundlichen Grüßen

Prof. Dr. Maike Andresen, Dipl.-Psych. Julia Hiemer

Kontakt:
Dipl.-Psych. Julia Hiemer
E-Mail: julia.hiemer@uni-bamberg.de

Note. Stars are marking placeholders.

Appendix 3.4: Content validity questionnaire

Page 1:

Fragebogen zum Konstrukt "Arbeitszeitwunsch vs. Arbeitszeitwirklichkeit"

Dieser Fragebogen beschäftigt sich mit Unterschieden zwischen gewünschter und tatsächlicher Arbeitszeit. Solche Unterschiede gibt es in verschiedenen Dimensionen.

In Folgendem werden vier Dimensionen des Unterschieds zwischen Arbeitszeitwunsch und –wirklichkeit erklärt. Darunter steht eine Liste von verschiedenen Aussagen, die jeweils diese Dimension messen sollen.

Ihre Aufgabe ist es, für jede Aussage einzuschätzen, inwiefern sie zu der darüberstehenden Dimension passt, d.h. wie repräsentativ sie für die jeweilige Dimension ist.

Die einzelnen Dimensionen werden weiter unten noch ausführlich erklärt. Es sind vier Dimensionen: 1) Länge der Arbeitszeit, 2) Zeit haben für anderes außerhalb der Arbeit, 3) Dichte der Arbeitszeit und 4) Verteilung der Arbeitszeit auf unterschiedliche Arbeitsinhalte.

Indem Sie einschätzen, inwieweit jede der Aussagen zu den einzelnen Dimensionen passt, unterstützen Sie mich bei der Entwicklung eines wissenschaftlichen Instruments zur Erfassung von Arbeitszeitwunsch und –wirklichkeit.

Beachten Sie die folgende Vorgehensweise:

- Lesen Sie zunächst die Beschreibung aller Dimensionen auf der nächsten Seite genau durch, um einen Überblick zu bekommen.
- Beurteilen Sie auf den folgenden Seiten nacheinander für jede Dimension, inwieweit die einzelnen Aussagen auf die darüberstehende Dimension zutreffen. Geben Sie für jede Aussage auf einer Skala von 1=nicht repräsentativ bis 4=sehr repräsentativ eine Einschätzung ab, inwiefern sie repräsentativ ist für die jeweilige Dimension.

Vielen Dank im Voraus für Ihre Unterstützung!

Prof. Dr. Maike Andresen

Dipl.-Psych. Julia Hiemer

Page 2:

Übersicht über die vier Dimensionen:

A. Länge der Arbeitszeit

Die Dimension "Länge der Arbeitszeit" bezieht sich auf den Wunsch einer Person, weniger lange zu arbeiten. Das betrifft sowohl zu viele Arbeitsstunden, aber auch Arbeit zu Zeiten, die nicht vertraglich abgedeckt sind (z.B. am Wochenende, an Feiertagen, am Abend).

B. Zeit haben für Anderes außerhalb der Arbeit

Die Dimension "Zeit haben für Anderes außerhalb der Arbeit“ bezieht sich auf den Wunsch einer Person, ausreichend Zeit für andere Dinge im Leben neben der Arbeit (im Hauptberuf) zu haben.

C. Dichte der Arbeitszeit

Die Dimension "Dichte der Arbeitszeit" bezieht sich auf den Wunsch einer Person, bei der Arbeit nicht zu viele Dinge in einer bestimmten Zeit erledigen zu müssen, bzw. keine zu arbeitsintensiven Hochphasen zu haben.

D. Verteilung der Arbeitszeit auf unterschiedliche Arbeitsinhalte

Die Dimension "Verteilung der Arbeitszeit auf unterschiedliche Arbeitsinhalte“ bezieht sich auf den Wunsch einer Person nach einer unterschiedlichen Verteilung ihrer Arbeitszeit auf ihre Arbeitsaufgaben. Das bedeutet, eine Person wünscht sich mehr Zeit für bestimmte Aufgaben, würde dafür aber anderen Aufgaben lieber weniger Zeit widmen.

Page 3:

A. Länge der Arbeitszeit

Die Dimension "Länge der Arbeitszeit" bezieht sich auf den Wunsch einer Person, weniger lange zu arbeiten. Das betrifft sowohl zu viele Arbeitsstunden, aber auch Arbeit zu Zeiten, die nicht vertraglich abgedeckt sind (z.B. am Wochenende, an Feiertagen, am Abend).

Inwieweit sind die folgenden Items repräsentativ für diese Definition?

	1 = *nicht repräsentativ*	***2 =*** *gering repräsentativ*	***3 =*** *eher repräsentativ*	***4 =*** *sehr repräsentativ*
1. Ich würde gerne weniger häufig an Tagen arbeiten, an denen ich offiziell frei habe (Wochenende/Feiertage, Urlaub).	☐	☐	☐	☐
2. Ich würde gerne weniger lange, z.B. nicht bis spät abends, arbeiten.	☐	☐	☐	☐
3. Ich empfinde die Stunden, die ich arbeite, insgesamt (inkl. Überstunden) als zu viel.	☐	☐	☐	☐
4. Die Zeit, die ich insgesamt in die Arbeit investiere (inklusive Fahrtwegen zur Arbeit), ist zu lang.	☐	☐	☐	☐
5. Ich würde meine Arbeitszeit gerne reduzieren.	☐	☐	☐	☐
6. Ich kann meine Überstunden zeitlich nicht gut wieder ausgleichen (z.B. durch freie Tage oder kürzere Arbeitstage).	☐	☐	☐	☐
7. Ich kann mir nicht ausreichend lange Urlaub nehmen.	☐	☐	☐	☐

Wenn Sie alle Aussagen mindestens „eher repräsentativ“ fanden, blättern Sie bitte gleich zur nächsten Seite weiter.

Falls Sie bei einer oder mehreren Aussagen „nicht repräsentativ“ oder „gering repräsentativ“ angegeben haben: Ordnen Sie diese Aussage bitte der Dimension zu, zu der sie Ihrer Meinung nach besser passt und tragen das in die Leerzeilen unten ein.

Die anderen Dimensionen sind wie folgt:

B = Zeit haben für Anderes außerhalb der Arbeit im Hauptjob

C = Dichte der Arbeitszeit

D = Verteilung der Arbeitszeit auf unterschiedliche Arbeitsinhalte

E = passt zu gar keiner Dimension

Beispiel: Wenn Sie finden, dass Aussage Nr. 2 („Ich würde gerne weniger lange, z.B. nicht bis spät abends, arbeiten.“) eher zur Dimension C (Dichte der Arbeitszeit) passt, schreiben Sie: Aussage 2 -> Dimension C

_____

_____

_____

Page 4:

B. Zeit für Anderes außerhalb der Arbeit

Die Dimension "Zeit haben für Anderes außerhalb der Arbeit“ bezieht sich auf den Wunsch einer Person, ausreichend Zeit für andere Dinge im Leben neben der Arbeit (im Hauptberuf) zu haben.

Inwieweit sind die folgenden Items repräsentativ für diese Definition?

	1 = nicht repräsentativ	*2 = gering repräsentativ*	*3 = eher repräsentativ*	*4 = sehr repräsentativ*
8. Neben der Arbeit hätte ich gerne mehr Zeit für Freizeitaktivitäten übrig (z.B. für Hobbies, Sport).	☐	☐	☐	☐
9. Aufgrund meiner Arbeitszeit habe ich zu wenig Zeit für mich selbst.	☐	☐	☐	☐
10. Durch meine Arbeitszeit bin ich oft zu müde, um meine Freizeit aktiv zu gestalten.	☐	☐	☐	☐
11. Neben meiner Arbeit habe ich zu wenig Zeit für meine Familie und Freunde.	☐	☐	☐	☐
12. Es bleibt mir neben der Arbeit zu wenig Zeit für erholsame Aktivitäten.	☐	☐	☐	☐
13. Ich wünschte mir mehr Zeit, um neben der Arbeit private Projekte (z.B. Weiterbildung, Ehrenamt, sonstiges) zu verfolgen.	☐	☐	☐	☐
14. Durch meine Arbeitszeit habe ich zu wenig Zeit für private Erledigungen und Verpflichtungen (z.B. Arzttermine, Einkaufen, Haushalt, etc.).	☐	☐	☐	☐

Wenn Sie alle Aussagen mindestens „eher repräsentativ“ fanden, blättern Sie bitte gleich zur nächsten Seite weiter.

Falls Sie bei einer oder mehreren Aussagen „nicht repräsentativ“ oder „gering repräsentativ“ angegeben haben: Ordnen Sie diese Aussage bitte der Dimension zu, zu der sie Ihrer Meinung nach besser passt und tragen das in die Leerzeilen unten ein.

Die anderen Dimensionen sind wie folgt:

A = Länge der Arbeitszeit

C = Dichte der Arbeitszeit

D = Verteilung der Arbeitszeit auf unterschiedliche Arbeitsinhalte

E = passt zu gar keiner Dimension

Beispiel: Wenn Sie finden, dass Aussage Nr. 9 („Aufgrund meiner Arbeitszeit habe ich zu wenig Zeit für mich selbst.“) eher zur Dimension A (Länge der Arbeitszeit) passt, schreiben Sie: Aussage 9 -> Dimension A

_____

_____

Page 5:

C. Dichte der Arbeitszeit

Die Dimension "Dichte der Arbeitszeit" bezieht sich auf den Wunsch einer Person, bei der Arbeit nicht zu viele Dinge in einer bestimmten Zeit erledigen zu müssen, bzw. keine zu arbeitsintensiven Hochphasen zu haben.

Inwieweit sind die folgenden Items repräsentativ für diese Definition?

	1 = nicht repräsentativ	*2 = gering repräsentativ*	*3 = eher repräsentativ*	*4 = sehr repräsentativ*
15. Ich stehe häufig unter Termindruck.	☐	☐	☐	☐
16. Es gibt Phasen in meiner Arbeit, in denen ich zu viele Themen auf einmal im Kopf haben muss.	☐	☐	☐	☐
17. Ich habe in meiner Arbeit nicht ausreichend Zeit, Pausen zu machen und auch mal durchzuatmen.	☐	☐	☐	☐
18. In meiner Arbeit sind zu viele Aufgaben in kurzer Zeit zu erledigen.	☐	☐	☐	☐
19. Ich wünsche mir weniger arbeitsintensive Hochphasen in meiner Arbeit.	☐	☐	☐	☐
20. Bei meiner Arbeit muss ich oft zu viele Dinge beinahe gleichzeitig machen.	☐	☐	☐	☐
21. Ich würde mir wünschen, in der Arbeit öfter längere Zeit an einem Thema arbeiten zu können, ohne durch andere dringende Dinge unterbrochen zu werden.	☐	☐	☐	☐

Wenn Sie alle Aussagen mindestens „eher repräsentativ“ fanden, blättern Sie bitte gleich zur nächsten Seite weiter.

Falls Sie bei einer oder mehreren Aussagen „nicht repräsentativ“ oder „gering repräsentativ“ angegeben haben: Ordnen Sie diese Aussage bitte der Dimension zu, zu der sie Ihrer Meinung nach besser passt und tragen das in die Leerzeilen unten ein.

Die anderen Dimensionen sind wie folgt:

A = Länge der Arbeitszeit

B = Zeit haben für Anderes außerhalb der Arbeit im Hauptjob

D = Verteilung der Arbeitszeit auf unterschiedliche Arbeitsinhalte

E = passt zu gar keiner Dimension

Beispiel: Wenn Sie finden, dass Aussage Nr. 15 („Ich stehe häufig unter Termindruck.“) eher zur Dimension D (Verteilung der Arbeitszeit auf unterschiedliche Inhalte) passt, schreiben Sie: Aussage 15 -> Dimension D

_____

_____

Page 6:

D. Verteilung der Arbeitszeit auf unterschiedliche Arbeitsinhalte

Die Dimension "Verteilung der Arbeitszeit" auf unterschiedliche Arbeitsinhalte bezieht sich auf den Wunsch einer Person nach einer unterschiedlichen Verteilung ihrer Arbeitszeit auf ihre Arbeitsaufgaben. Das bedeutet, eine Person wünscht sich mehr Zeit für bestimmte Aufgaben, würde dafür aber anderen Aufgaben lieber weniger Zeit widmen.

Inwieweit sind die folgenden Items repräsentativ für diese Definition?

	1 = *nicht repräsentativ*	***2 =*** *gering repräsentativ*	***3 =*** *eher repräsentativ*	***4 =*** *sehr repräsentativ*
22. Ich würde gerne bestimmten Arbeitsaufgaben mehr Zeit und anderen weniger Zeit widmen.	☐	☐	☐	☐
23. Ich habe in meiner Arbeit zu wenig Zeit für die Themen, die mich interessieren.	☐	☐	☐	☐
24. Arbeitsaufgaben, die mir keinen Spaß machen, lassen mir zu wenig Zeit für Arbeitsaufgaben, die mir mehr Spaß machen.	☐	☐	☐	☐
25. Ich würde gerne den Arbeitsaufgaben mehr Zeit widmen, bei denen ich wirklich etwas bewegen kann.	☐	☐	☐	☐
26. Ich würde gerne mehr Arbeitszeit in Aufgaben investieren, bei denen ich mich selbst verwirklichen kann.	☐	☐	☐	☐
27. Ich verbringe zu viel Zeit in meiner Arbeit mit Aufgaben, die ich wenig sinnvoll finde.	☐	☐	☐	☐
28. Ich verbringe einen zu großen Teil meiner Arbeitszeit mit einfachen Aufgaben oder Routinetätigkeiten.	☐	☐	☐	☐

Wenn Sie alle Aussagen mindestens „eher repräsentativ“ fanden, blättern Sie gleich weiter.

Falls Sie bei einem oder mehreren Aussagen „nicht repräsentativ“ oder „gering repräsentativ angegeben haben: Ordnen Sie diese Aussage bitte der Dimension zu, zu der sie Ihrer Meinung nach besser passt und tragen das in die Leerzeilen unten ein.

Die anderen Dimensionen sind wie folgt:

A = Länge der Arbeitszeit

B = Zeit haben für Anderes außerhalb der Arbeit im Hauptjob

C = Dichte der Arbeitszeit

E = passt zu gar keiner Dimension

Beispiel: Wenn Sie finden, dass Aussage Nr. 22 zu keiner Dimension (E) passt, schreiben Sie: Aussage 22 -> Dimension E

_____

_____

_____

Page 7:

Abschließend möchte ich Sie bitten noch einmal einen Blick auf alle Aussagen zu werfen. Gab es eine Aussage, über die Sie gestolpert sind, bzw. die Sie nicht genau verstanden haben?

Falls ja, nennen Sie hier einfach die Nummer der Aussage und, wenn Sie möchten, eine kurze Begründung.

_____
_____
_____
_____
_____
_____

Vielen Dank für Ihre Unterstützung!

Appendix 3.5: Item changes during the content validation process

Item wording in the content validity questionnaire	**Item after content validation (and as used in study 1)**
Ich würde gerne weniger häufig an Tagen arbeiten, an denen ich offiziell frei habe (Wochenende/Feiertage/Urlaub).	Ich arbeite zu häufig an Tagen, an denen ich offiziell frei habe (Wochenende/Feiertage/Urlaub).
Ich kann meine Überstunden zeitlich nicht gut wieder ausgleichen (z.B. durch freie Tage oder kürzere Arbeitstage).	Wenn ich lange arbeite, kann ich das zeitlich wieder ausgleichen. *(reverse coded)*
Ich kann mir nicht ausreichend lange Urlaub nehmen.	*-Item was removed-*
Es bleibt mir neben der Arbeit zu wenig Zeit für erholsame Aktivitäten.	Es bleibt mir neben der Arbeit ausreichend Zeit für erholsame Aktivitäten. *(reverse coded)*
Ich verbringe einen zu großen Teil meiner Arbeitszeit mit einfachen Aufgaben oder Routinetätigkeiten.	Ich verbringe einen zu großen Teil meiner Arbeitszeit mit Aufgaben, die mich langweilen.

Appendix 3.6: Questionnaire used in study 1

Page 1:

0% ausgefüllt

Fragebogen zu Arbeitszeit

Liebe Teilnehmerin, lieber Teilnehmer,

vielen Dank für Ihre Bereitschaft, diesen Fragebogen auszufüllen und mich bei meiner Doktorarbeit zu unterstützen.

Die Beantwortung des Fragebogens dauert **10-15 Minuten**. Bitte beantworten Sie die folgenden Fragen **sorgfältig** und **vollständig**.

Ihre Angaben werden selbstverständlich vertraulich behandelt. Sie werden nur in anonymisierter Form und ausschließlich zu Forschungszwecken verwendet. Sie können am Ende Ihre E-Mail Adresse angeben, wenn Sie eine Rückmeldung über die Studienergebnisse erhalten möchten.

Ich danke Ihnen für die Unterstützung meiner Doktorarbeit!

Dipl.-Psych. Julia Hiemer

Doktorandin am Lehrstuhl für Betriebswirtschaftslehre, insbesondere Personalmanagement der Universität Bamberg (Prof. Dr. Maike Andresen)

E-Mail: julia.hiemer@uni-bamberg.de

Weiter

Page 2:

7% ausgefüllt

Bitte machen Sie zunächst die folgenden Angaben:

Ihr Geschlecht

- ○ männlich
- ○ weiblich

Ihr Alter

_____ Jahre

Was ist Ihr höchster Schulabschluss?

- ○ Hauptschulabschluss
- ○ Realschulabschluss/Mittlere Reife
- ○ Fachhochschulreife oder Abitur
- ○ Sonstiges, und zwar: _____

Was ist Ihr höchster Ausbildungsabschluss?

- ○ Keine Ausbildung
- ○ Berufsbezogene Ausbildung (Lehre, Meisterausbildung)
- ○ Beamtenausbildung
- ○ Abgeschlossenes Studium
- ○ Promotion
- ○ Sonstiges, und zwar: _____

Wie arbeiten Sie im Moment?

- ○ In Vollzeit
- ○ In Teilzeit
- ○ Sonstiges, und zwar: _____

Gehen Sie mehr als einer Erwerbstätigkeit nach (gemeint ist ein Zweitjob, aber keine Ehrenämter o.Ä.)?

- ○ Ja
- ○ Nein

Zurück Weiter

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Page 3:

MOS-length

13% ausgefüllt

Bitte nehmen Sie auf den nachfolgenden Seiten Stellung zu Ihrer gegenwärtigen Arbeitszeit. Äußern Sie dabei bitte Ihre ganz persönliche Meinung. Antworten Sie spontan und lassen Sie keine Zeile aus. Sie sollten also in jeder Zeile eine der fünf Möglichkeiten ankreuzen.

Wenn Sie an Ihre **aktuelle Arbeitszeit** denken, inwieweit stimmen Sie den folgenden Aussagen zu?

	Stimme gar nicht zu	Stimme eher nicht zu	Weder noch	Stimme eher zu	Stimme voll und ganz zu
Ich würde gerne weniger lange, z.B. nicht bis spät abends, arbeiten.	○	○	○	○	○
Ich empfinde die Stunden, die ich arbeite, insgesamt (inkl. Überstunden) als zu viel.	○	○	○	○	○
Ich arbeite zu häufig an Tagen, an denen ich offiziell frei habe (Wochenende/Feiertage/Urlaub).	○	○	○	○	○
Die Zeit, die ich insgesamt in die Arbeit investiere (inklusive Fahrtwegen zur Arbeit und Reisezeiten), ist zu lang.	○	○	○	○	○
Ich würde meine Arbeitszeit gerne reduzieren.	○	○	○	○	○
Wenn ich lange arbeite, kann ich das zeitlich wieder ausgleichen.	○	○	○	○	○

Möchten Sie noch etwas zu den soeben beantworteten Fragen ergänzen? Dann antworten Sie im unten stehenden Textfeld oder gehen Sie direkt auf „weiter“ und springen zu den nächsten Fragen.

Wenn Sie an die **Länge Ihrer Arbeitszeit** denken, was macht für Sie persönlich Zufriedenheit bzw. Unzufriedenheit damit aus?

Zurück Weiter

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Page 4:

MOS-competition

20% ausgefüllt

Wenn Sie an Ihre aktuelle Arbeitszeit denken, inwieweit stimmen Sie diesen Aussagen zu?

	Stimme gar nicht zu	Stimme eher nicht zu	Weder noch	Stimme eher zu	Stimme voll und ganz zu
Neben der Arbeit hätte ich gerne mehr Zeit für Freizeitaktivitäten übrig (z.B. für Hobbies, Sport).	○	○	○	○	○
Aufgrund meiner Arbeitszeit habe ich zu wenig Zeit für mich selbst.	○	○	○	○	○
Durch meine Arbeitszeit bin ich oft zu müde, um meine Freizeit aktiv zu gestalten.	○	○	○	○	○
Neben meiner Arbeit habe ich zu wenig Zeit für meine Familie und Freunde.	○	○	○	○	○
Es bleibt mir neben der Arbeit ausreichend Zeit für erholsame Aktivitäten.	○	○	○	○	○
Ich wünsche mir mehr Freizeit, um private Projekte (z.B. Weiterbildung, Ehrenamt, sonstiges) zu verfolgen.	○	○	○	○	○
Durch meine Arbeitszeit habe ich zu wenig Zeit für private Erledigungen und Verpflichtungen (z.B. Arzttermine, Einkaufen, Haushalt etc.).	○	○	○	○	○

Möchten Sie noch etwas zu den soeben beantworteten Fragen ergänzen? Dann antworten Sie im unten stehenden Textfeld oder gehen Sie direkt auf „weiter" und springen zu den nächsten Fragen.

Wenn Sie an die **Zeit denken, die Sie außerhalb der Arbeit für andere Aktivitäten haben**, was macht für Sie persönlich Zufriedenheit oder Unzufriedenheit damit aus?

Zurück Weiter

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Page 5:

MOS-density

27% ausgefüllt

Und inwieweit stimmen Sie diesen Aussagen zu Ihrer aktuellen Arbeitszeit zu?

	Stimme gar nicht zu	Stimme eher nicht zu	Weder noch	Stimme eher zu	Stimme voll und ganz zu
Ich stehe häufig unter Termindruck.	○	○	○	○	○
Es gibt Phasen in meiner Arbeit, in denen ich zu viele Themen auf einmal im Kopf haben muss.	○	○	○	○	○
Ich habe in meiner Arbeit nicht ausreichend Zeit, Pausen zu machen und auch mal durchzuatmen.	○	○	○	○	○
In meiner Arbeit sind zu viele Aufgaben in kurzer Zeit zu erledigen.	○	○	○	○	○
Ich wünschte mir weniger arbeitsintensive Hochphasen in meiner Arbeit.	○	○	○	○	○
Bei meiner Arbeit muss ich oft zu viele Dinge beinahe gleichzeitig machen.	○	○	○	○	○
Ich würde mir wünschen, in der Arbeit öfter längere Zeit an einem Thema arbeiten zu können ohne durch andere dringende Dinge unterbrochen zu werden.	○	○	○	○	○

Möchten Sie noch etwas zu den soeben beantworteten Fragen ergänzen? Dann antworten Sie im unten stehenden Textfeld oder gehen Sie direkt auf „weiter“ und springen zu den nächsten Fragen.

Wenn Sie an die **Menge an Aufgaben denken, die Sie während der Arbeit in einer gewissen Zeit erledigen**, was macht für Sie persönlich Zufriedenheit oder Unzufriedenheit damit aus?

Zurück Weiter

Page 6:

MOS-distribution

33% ausgefüllt

Und wie sehr stimmen Sie diesen Aussagen zu Ihrer momentanen Arbeitszeit zu?

	Stimme gar nicht zu	Stimme eher nicht zu	Weder noch	Stimme eher zu	Stimme voll und ganz zu
Ich würde gerne bestimmten Arbeitsaufgaben mehr Zeit und anderen weniger Zeit widmen.	○	○	○	○	○
Ich habe in meiner Arbeit zu wenig Zeit für die Themen, die mich interessieren.	○	○	○	○	○
Arbeitsaufgaben, die mir keinen Spaß machen, lassen mir zu wenig Zeit für Arbeitsaufgaben, die mir mehr Spaß machen.	○	○	○	○	○
Ich würde gerne den Arbeitsaufgaben mehr Zeit widmen, bei denen ich wirklich etwas bewegen kann.	○	○	○	○	○
Ich würde gerne mehr Arbeitszeit in Aufgaben investieren, bei denen ich mich selbst verwirklichen kann.	○	○	○	○	○
Ich verbringe zu viel Zeit in meiner Arbeit mit Aufgaben, die ich wenig sinnvoll finde.	○	○	○	○	○
Ich verbringe einen zu großen Teil meiner Arbeitszeit mit Aufgaben, die mich langweilen.	○	○	○	○	○

Möchten Sie noch etwas zu den soeben beantworteten Fragen ergänzen? Dann antworten Sie im unten stehenden Textfeld oder gehen Sie direkt auf „weiter" und springen zu den nächsten Fragen.

Wenn Sie daran denken, wie Ihre **Zeit auf unterschiedliche Aufgaben bei der Arbeit verteilt ist** , was macht für Sie persönlich Zufriedenheit oder Unzufriedenheit damit aus?

Zurück Weiter

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Page 7:

Work time sovereignty and perceived fairness (fairness was not used for analysis here)

40% ausgefüllt

Und inwiefern treffen die folgenden Aussagen zu Ihrer aktuellen Arbeitszeit zu?

	Stimme gar nicht zu	Stimme eher nicht zu	Weder noch	Stimme eher zu	Stimme voll und ganz zu
Ich kann meine Arbeitszeit flexibel legen (in Bezug auf Beginn, Ende und Pausenzeiten).	○	○	○	○	○
Ich kann selbst entscheiden, wann ich arbeite.	○	○	○	○	○
Meine Arbeitszeitregelung ist relativ starr.	○	○	○	○	○
Ich kann mir meine Arbeitszeit frei einteilen.	○	○	○	○	○
Ich kann meine Arbeitszeit im Vorfeld gut planen.	○	○	○	○	○
Wenn ich mich mit anderen Personen in meinem privaten Umfeld vergleiche, habe ich das Gefühl, ich arbeite zu lange.	○	○	○	○	○
Im Vergleich zu meinen Kollegen empfinde ich meine Arbeitszeit als gerecht.	○	○	○	○	○
Wenn ich an mein Gehalt denke, ist meine Arbeitszeit angemessen.	○	○	○	○	○
Wenn ich an meine beruflichen Weiterentwicklungsmöglichkeiten denke, ist meine Arbeitszeit angemessen.	○	○	○	○	○
Wenn ich daran denke, was in meinem Arbeitsvertrag vereinbart ist, empfinde ich meine tatsächliche Arbeitszeit als gerecht.	○	○	○	○	○

Zurück Weiter

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Page 8:

Amongst others: Overemployment as measured in the SOEP (e.g., Matta, 2015)

47% ausgefüllt

Bitte beantworten Sie nun die folgenden Fragen zu Ihrer Arbeitszeitregelung und zu Ihrer tatsächlichen Arbeitszeit:

Wie viele Wochenstunden beträgt Ihre **vereinbarte Arbeitszeit** ohne Überstunden?

☐ Stunden pro Woche | ☐ Ich habe keine vertraglich festgelegte Arbeitszeit.

Und wie viel beträgt im Durchschnitt Ihre **tatsächliche Arbeitszeit** pro Woche einschließlich eventueller Überstunden? *(Schätzen Sie, wenn Sie sich nicht sicher sind.)*

☐ Stunden pro Woche

Wenn Sie den **Umfang Ihrer Arbeitszeit selbst wählen könnten** und dabei berücksichtigen, dass sich Ihr Verdienst entsprechend der Arbeitszeit ändern würde: Wie viele Stunden in der Woche würden Sie dann am liebsten arbeiten?

☐ Stunden pro Woche

Wenn Sie **Überstunden** machen, werden diese in der Regel abgefeiert, bezahlt oder gar nicht abgegolten?

- ○ Abgefeiert
- ○ Teils abgefeiert / teils bezahlt
- ○ Bezahlt
- ○ Gar nicht abgegolten

Sind Ihre **Urlaubstage** vertraglich geregelt?

- ○ Nein
- ○ Ja, ich habe ☐ Urlaubstage pro Jahr

Zurück | Weiter

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Page 9:

Job satisfaction (scale not used for analysis here)

53% ausgefüllt

Bitte nehmen Sie nun in Folgendem Stellung zu Ihrer gegenwärtigen Arbeit im Allgemeinen (z.B. zu Ihren Kollegen, Arbeitsbedingungen, Bezahlung usw.). Äußern Sie dabei bitte wieder Ihre ganz persönliche Meinung. Es ist klar, dass es bei jeder Arbeit gute und schlechte Seiten gibt. Sie sollten so antworten, wie Sie im Großen und Ganzen darüber denken. Überlegen Sie nicht lange – die erste Reaktion ist meist die zutreffendste.

Wie **zufrieden** sind Sie bezüglich der nachfolgenden Aspekte in Bezug auf Ihre Beschäftigung?

	Überhaupt nicht zufrieden	Eher nicht zufrieden	Weder zufrieden noch unzufrieden	Eher zufrieden	Völlig zufrieden
Mit meinen derzeitigen Arbeitskollegen (,mit denen ich unmittelbar zusammenarbeite,) bin ich....	○	○	○	○	○
Mit meinem unmittelbaren Vorgesetzten bin ich...	○	○	○	○	○
Mit dem Inhalt meiner derzeitigen Tätigkeit, bzw. meinen Arbeitsaufgaben, bin ich...	○	○	○	○	○
Mit den äußeren Bedingungen, unter denen ich arbeite, bin ich...	○	○	○	○	○
Mit meinen beruflichen Entwicklungsmöglichkeiten (d.h. meinen bisherigen und zukünftigen Möglichkeiten zum Aufstieg und zur Weiterentwicklung) bin ich...	○	○	○	○	○
Mit der Höhe meiner Bezahlung (einschließlich evtl. Zulagen oder Boni) bin ich...	○	○	○	○	○
Mit der Organisation und obersten Leitung des Unternehmens, in dem ich arbeite, bin ich...	○	○	○	○	○
Mit dem bisherigen Verlauf meines Berufslebens bin ich...	○	○	○	○	○

Alles in allem, wie zufrieden sind Sie mit Ihrer derzeitigen beruflichen Tätigkeit?

○ ○ ○ ○ ○ ○ ○

Absolut unzufrieden — Absolut zufrieden

Zurück Weiter

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Page 10:

60% ausgefüllt

Abschließend machen Sie bitte noch ein paar allgemeine Angaben zu Ihrer Berufstätigkeit und Ihrem privaten Hintergrund. Diese Angaben sind wichtig für die bessere Vergleichbarkeit der Ergebnisse.

Wie lange sind Sie bereits berufstätig? Jahre

Wie lautet Ihre aktuelle Berufsbezeichnung?

Seit wann sind Sie bei Ihrem jetzigen Arbeitgeber beschäftigt?

Seit Monat; Jahr

In welchem Sektor sind Sie tätig?

- ○ Privatwirtschaft
- ○ Öffentlicher Dienst
- ○ Selbständig/ freiberuflich tätig
- ○ Sonstiges, bitte nennen:

In welcher Branche/ welchem (Wirtschafts-)Zweig sind Sie tätig?

Bitte geben Sie die genaue Bezeichnung an, also z.B. nicht „Industrie", sondern „Elektroindustrie"; nicht „Handel", sondern „Einzelhandel"; nicht „öffentlicher Dienst", sondern „Krankenhaus"

Sind Sie offizieller Vorgesetzter für andere Personen (Personalverantwortung)?

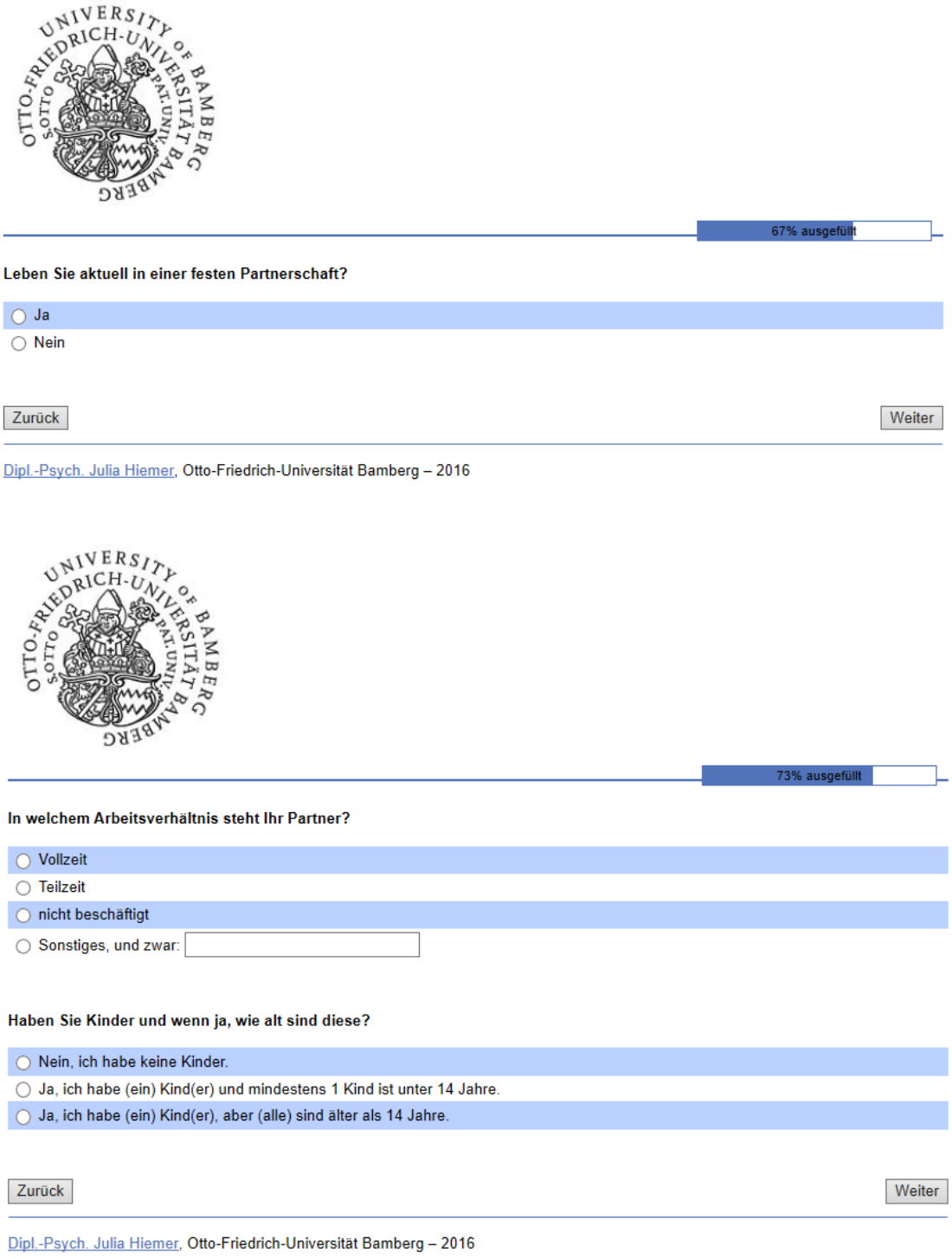
- ○ Ja, ich bin Vorgesetzter von (Anzahl) Personen
- ○ Nein

Arbeiten Sie im Schichtdienst?

- ○ Ja
- ○ Nein

Zurück Weiter

Pages 11 and 12: Only people having a partner were asked about work time of partners.



67% ausgefüllt

Leben Sie aktuell in einer festen Partnerschaft?

- ○ Ja
- ○ Nein

Zurück Weiter

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73% ausgefüllt

In welchem Arbeitsverhältnis steht Ihr Partner?

- ○ Vollzeit
- ○ Teilzeit
- ○ nicht beschäftigt
- ○ Sonstiges, und zwar:

Haben Sie Kinder und wenn ja, wie alt sind diese?

- ○ Nein, ich habe keine Kinder.
- ○ Ja, ich habe (ein) Kind(er) und mindestens 1 Kind ist unter 14 Jahre.
- ○ Ja, ich habe (ein) Kind(er), aber (alle) sind älter als 14 Jahre.

Zurück Weiter

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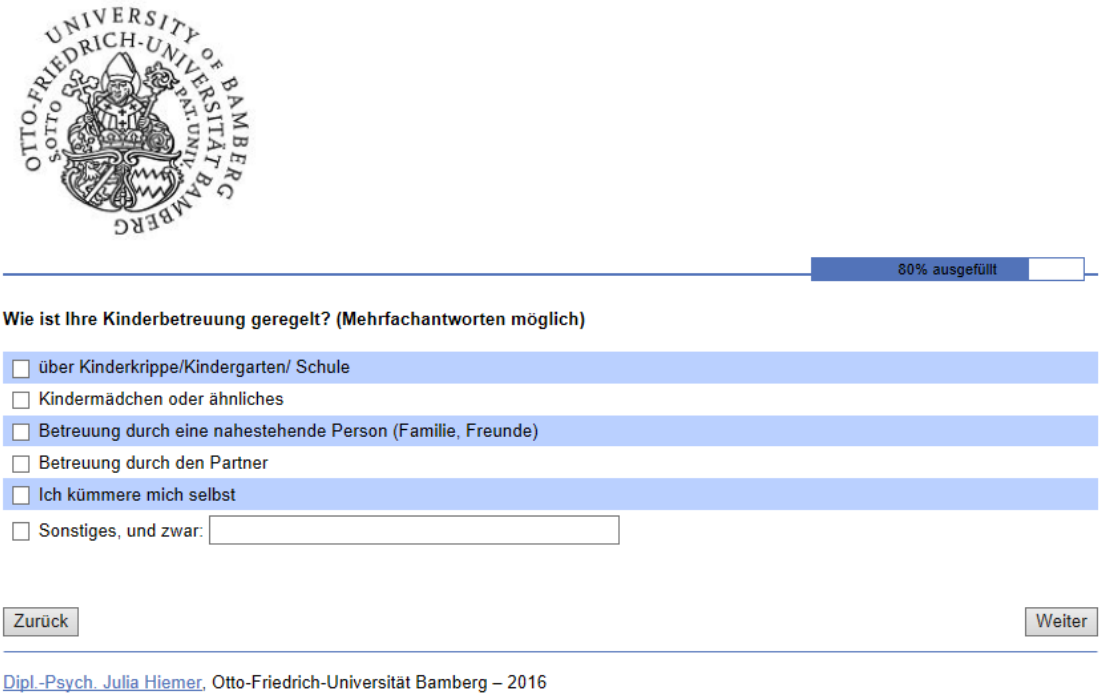
Page 13: Only people having children under 14 years were asked about childcare.



Page 14:

87% ausgefüllt

Wie hoch ist ungefähr Ihr derzeitiges monatliches Bruttoeinkommen (d.h. das Einkommen vor dem Abzug vor Steuern, ohne Vermögenseinkünfte)?

ca. _____ Euro

Nach welchem Modell werden Sie bezahlt?

- ○ Stundenlohn
- ○ Festes Gehalt
- ○ Festes Gehalt + leistungsabhängiger Bonus
- ○ Sonstiges, und zwar: _____

Zurück Weiter

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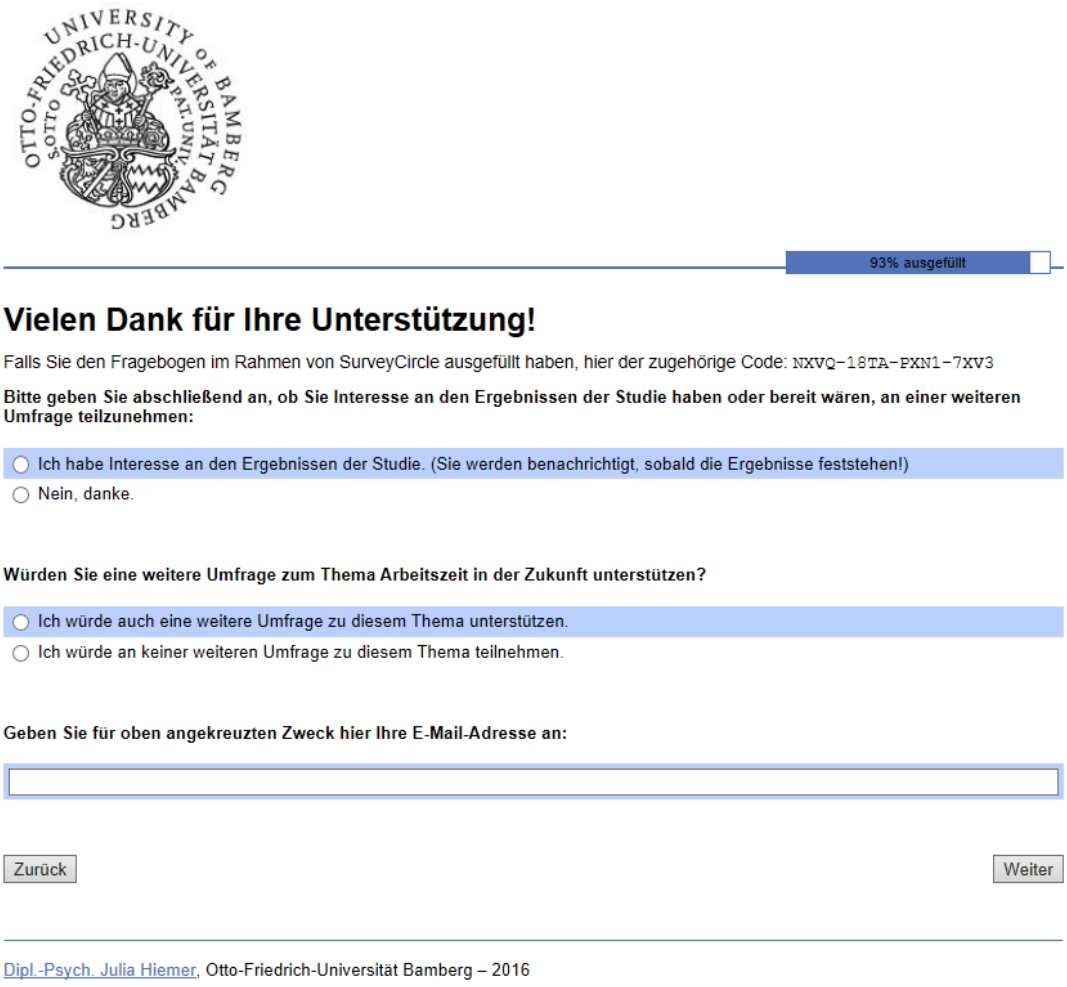
Page 15:



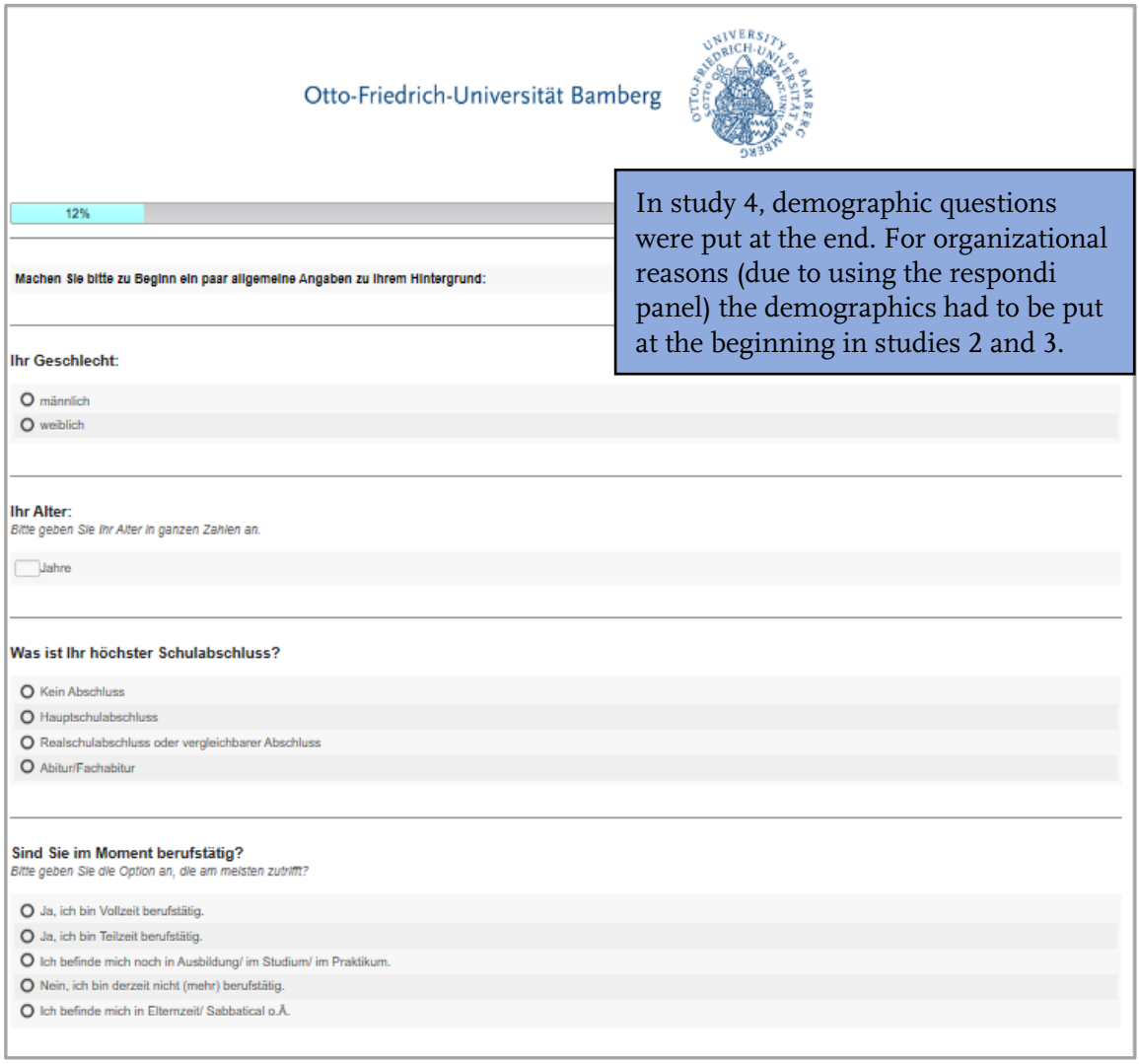
Note. Scale names (in boxes) were not visible in the questionnaire but were added here for explanation.

Appendix 3.7: Questionnaire used in studies 2 to 4

Page 1:

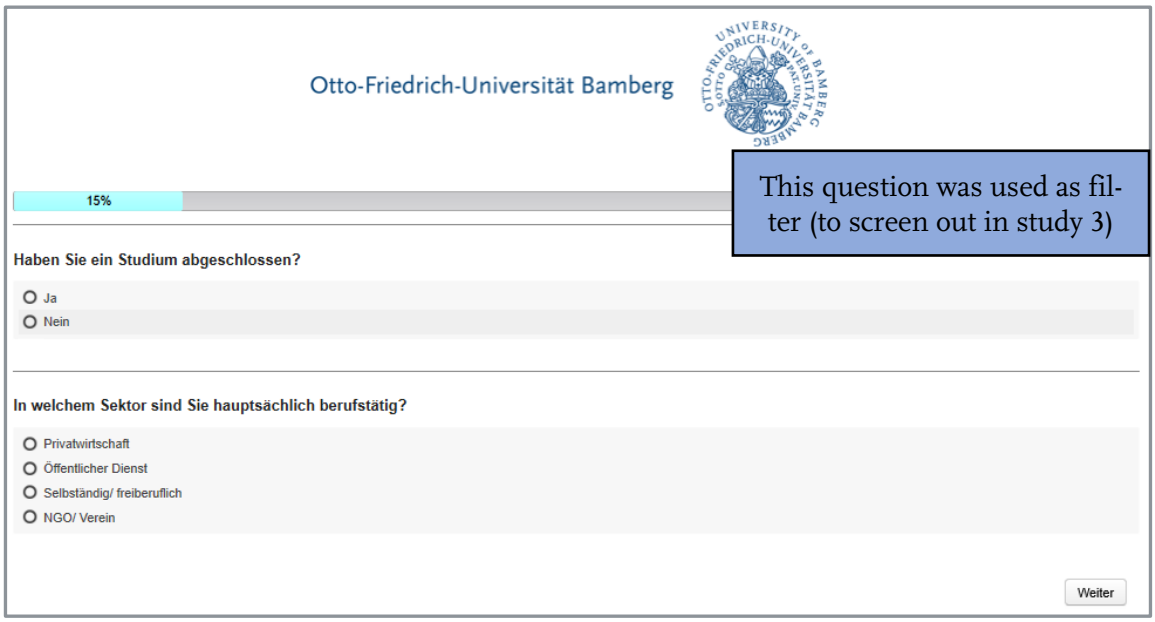
Page 1a: This was used only in study 3, as people working "Kurzarbeit" were screened-out.

Page 2:



In study 4, demographic questions were put at the end. For organizational reasons (due to using the respondi panel) the demographics had to be put at the beginning in studies 2 and 3.

Page 3: These questions were only asked in studies 2 and 3.



Page 4:

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20%

Multidimensional overemployment scale

Bitte nehmen Sie auf den nachfolgenden Seiten Stellung zu Ihrer gegenwärtigen Arbeitszeit und Ihrer Arbeitstätigkeit im Allgemeinen. Äußern Sie dabei bitte Ihre ganz persönliche Meinung. Antworten Sie spontan und lassen Sie keine Zeile aus.

Wenn Sie an Ihre aktuelle Arbeitszeit denken, inwieweit stimmen Sie den folgenden Aussagen zu?

	Stimme gar nicht zu	Stimme eher nicht zu	Weder noch	Stimme eher zu	Stimme voll und ganz zu
Ich würde gerne weniger lange, z.B. nicht bis spät abends, arbeiten.	O	O	O	O	O
Ich empfinde die Stunden, die ich arbeite, insgesamt (inkl. Überstunden) als zu viel.	O	O	O	O	O
Die Zeit, die ich insgesamt in die Arbeit investiere (inklusive Fahrtwegen zur Arbeit und Reisezeiten), ist zu lang.	O	O	O	O	O
Ich würde meine Arbeitszeit gerne reduzieren.	O	O	O	O	O
Ich stehe häufig unter Termindruck.	O	O	O	O	O
Ich habe in meiner Arbeit nicht ausreichend Zeit, Pausen zu machen und auch mal durchzuatmen.	O	O	O	O	O
In meiner Arbeit sind zu viele Aufgaben in kurzer Zeit zu erledigen.	O	O	O	O	O
Ich wünsche mir weniger arbeitsintensive Hochphasen in meiner Arbeit.	O	O	O	O	O
Bei meiner Arbeit muss ich oft zu viele Dinge beinahe gleichzeitig machen.	O	O	O	O	O
Ich habe in meiner Arbeit zu wenig Zeit für die Themen, die mich interessieren.	O	O	O	O	O
Arbeitsaufgaben, die mir keinen Spaß machen, lassen mir zu wenig Zeit für Arbeitsaufgaben, die mir mehr Spaß machen.	O	O	O	O	O
Ich würde gerne den Arbeitsaufgaben mehr Zeit widmen, bei denen ich wirklich etwas bewegen kann.	O	O	O	O	O
Ich würde gerne mehr Arbeitszeit in Aufgaben investieren, bei denen ich mich selbst verwirklichen kann.	O	O	O	O	O

Weiter

Page 5:

Otto-Friedrich-Universität Bamberg

25%

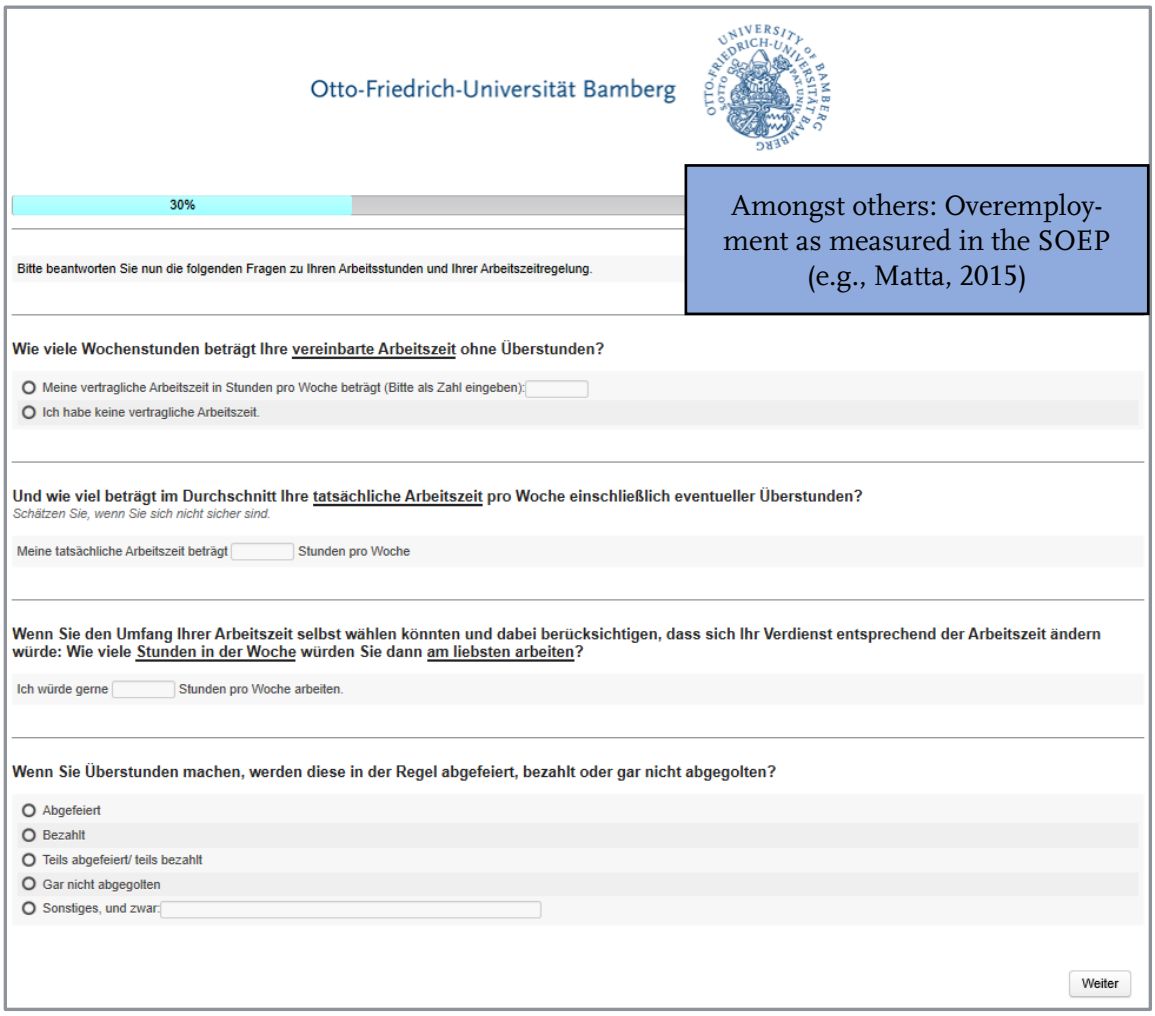
Work time sovereignty and perceived fairness (fairness was not used for analysis here)

Und inwiefern stimmen Sie folgenden Aussagen zu Ihrer aktuellen Arbeitszeit zu?

	Stimme gar nicht zu	Stimme eher nicht zu	Weder noch	Stimme eher zu	Stimme voll und ganz zu
Ich kann meine Arbeitszeit flexibel legen (in Bezug auf Beginn, Start und Pausenzeiten).	O	O	O	O	O
Ich kann selbst entscheiden, wann ich arbeite.	O	O	O	O	O
Meine Arbeitszeitregelung ist relativ starr.	O	O	O	O	O
Ich kann mir meine Arbeitszeit frei einteilen.	O	O	O	O	O
Ich kann meine Arbeitszeit im Vorfeld gut planen.	O	O	O	O	O
Wenn ich mich mit anderen Personen in meinem privaten Umfeld vergleiche, habe ich das Gefühl, ich arbeite zu lange.	O	O	O	O	O
Im Vergleich zu meinen Kollegen empfinde ich meine Arbeitszeit als gerecht.	O	O	O	O	O
Wenn ich an mein Gehalt denke, ist meine Arbeitszeit angemessen.	O	O	O	O	O
Wenn ich an meine beruflichen Weiterentwicklungsmöglichkeiten denke, ist meine Arbeitszeit angemessen.	O	O	O	O	O
Wenn ich daran denke, welche Arbeitszeit in meinem Arbeitsvertrag vereinbart ist, empfinde ich meine tatsächliche Arbeitszeit als gerecht.	O	O	O	O	O

Weiter

Page 6: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30%
Amongst others: Overemployment as measured in the SOEP (e.g., Matta, 2015)
Bitte beantworten Sie nun die folgenden Fragen zu Ihren Arbeitsstunden und Ihrer Arbeitszeitregelung.
Wie viele Wochenstunden beträgt Ihre vereinbarte Arbeitszeit ohne Überstunden?
Meine vertragliche Arbeitszeit in Stunden pro Woche beträgt (Bitte als Zahl eingeben):
Ich habe keine vertragliche Arbeitszeit.
Und wie viel beträgt im Durchschnitt Ihre tatsächliche Arbeitszeit pro Woche einschließlich eventueller Überstunden?
Schätzen Sie, wenn Sie sich nicht sicher sind.
Meine tatsächliche Arbeitszeit beträgt Stunden pro Woche
Wenn Sie den Umfang Ihrer Arbeitszeit selbst wählen könnten und dabei berücksichtigen, dass sich Ihr Verdienst entsprechend der Arbeitszeit ändern würde: Wie viele Stunden in der Woche würden Sie dann am liebsten arbeiten?
Ich würde gerne Stunden pro Woche arbeiten.
Wenn Sie Überstunden machen, werden diese in der Regel abgefeiert, bezahlt oder gar nicht abgegolten?
Abgefeiert
Bezahlt
Teils abgefeiert/ teils bezahlt
Gar nicht abgegolten
Sonstiges, und zwar:
Weiter

Page 7:

Otto-Friedrich-Universität Bamberg

35%

Organizational citizen-ship behavior

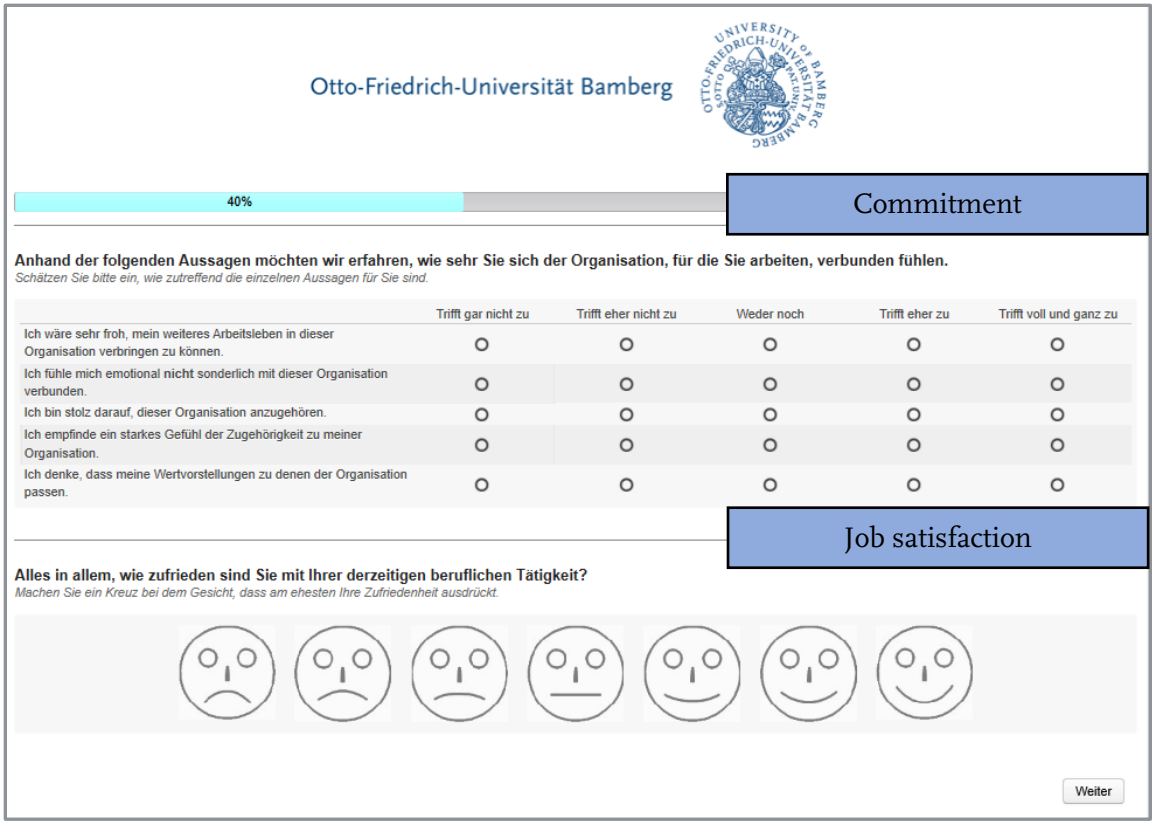
In Folgendem geht es um die Tätigkeit in Ihrer aktuellen Organisation, bzw. Ihrem aktuellen Unternehmen.

Bitte kreuzen Sie wieder die Antwortmöglichkeit an, die Ihre Einschätzung am besten wiedergibt!

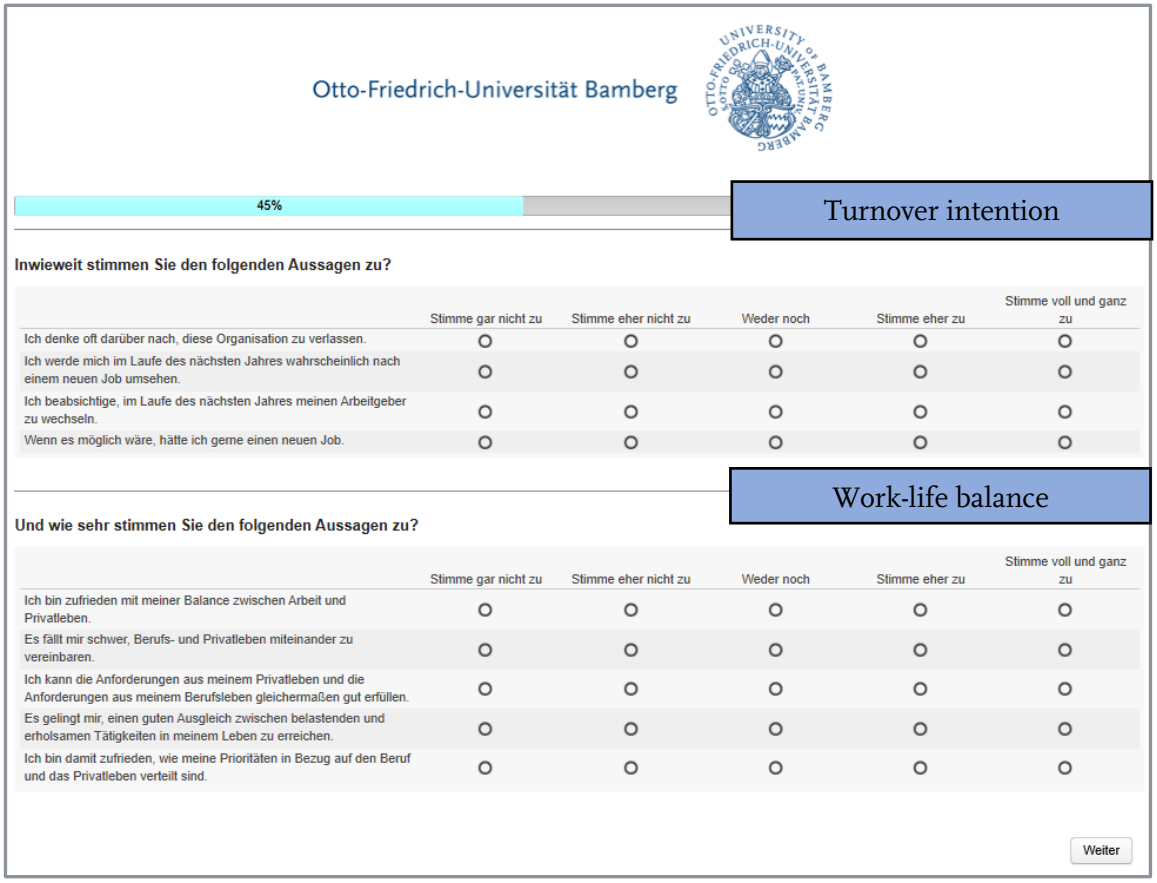
	Stimme gar nicht zu	Stimme eher nicht zu	Weder noch	Stimme eher zu	Stimme voll und ganz zu
Ich helfe anderen, wenn diese mit Arbeit überlastet sind.	O	O	O	O	O
Ich kritisiere häufig meine Kollegen/ Kolleginnen.	O	O	O	O	O
Ich beteilige mich regelmäßig und aktiv an Besprechungen und Versammlungen in der Organisation.	O	O	O	O	O
Ich wirke bei auftretenden Meinungsverschiedenheiten ausgleichend auf Kollegen/Kolleginnen ein.	O	O	O	O	O
Ich neige dazu, aus einer Mücke einen Elefanten zu machen.	O	O	O	O	O
Ich informiere mich selbständig über neue Entwicklungen in der Organisation.	O	O	O	O	O
Ich ergreife freiwillig die Initiative, neuen Kollegen/Kolleginnen bei der Einarbeitung zu helfen.	O	O	O	O	O
Ich sehe vieles, was die Organisation macht, als falsch an.	O	O	O	O	O
Ich mache innovative Vorschläge zur Verbesserung der Qualität in meinem Arbeitsbereich.	O	O	O	O	O
Ich bemühe mich aktiv darum, Schwierigkeiten mit Kollegen/Kolleginnen vorzubeugen.	O	O	O	O	O
Ich verbringe viel Zeit damit, mich über Belanglosigkeiten zu beklagen.	O	O	O	O	O
Ich bilde mich laufend fort, um meine Arbeit besser machen zu können.	O	O	O	O	O
Ich ermuntere Kollegen/ Kolleginnen, wenn diese niedergeschlagen sind.	O	O	O	O	O
Ich äußere Vorbehalte gegenüber jeglichen Veränderungen in der Organisation.	O	O	O	O	O
Ich ergreife die Initiative, um die Organisation vor möglichen Problemen zu bewahren.	O	O	O	O	O

Weiter

Page 8:


Otto-Friedrich-Universität Bamberg
40%
Commitment
Anhand der folgenden Aussagen möchten wir erfahren, wie sehr Sie sich der Organisation, für die Sie arbeiten, verbunden fühlen.
Schätzen Sie bitte ein, wie zutreffend die einzelnen Aussagen für Sie sind.
Trifft gar nicht zu
Trifft eher nicht zu
Weder noch
Trifft eher zu
Trifft voll und ganz zu
Ich wäre sehr froh, mein weiteres Arbeitsleben in dieser Organisation verbringen zu können.
Ich fühle mich emotional nicht sonderlich mit dieser Organisation verbunden.
Ich bin stolz darauf, dieser Organisation anzugehören.
Ich empfinde ein starkes Gefühl der Zugehörigkeit zu meiner Organisation.
Ich denke, dass meine Wertvorstellungen zu denen der Organisation passen.
Job satisfaction
Alles in allem, wie zufrieden sind Sie mit Ihrer derzeitigen beruflichen Tätigkeit?
Machen Sie ein Kreuz bei dem Gesicht, dass am ehesten Ihre Zufriedenheit ausdrückt.
Weiter

Page 9:



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45%

Turnover intention

Inwieweit stimmen Sie den folgenden Aussagen zu?

	Stimme gar nicht zu	Stimme eher nicht zu	Weder noch	Stimme eher zu	Stimme voll und ganz zu
Ich denke oft darüber nach, diese Organisation zu verlassen.	O	O	O	O	O
Ich werde mich im Laufe des nächsten Jahres wahrscheinlich nach einem neuen Job umsehen.	O	O	O	O	O
Ich beabsichtige, im Laufe des nächsten Jahres meinen Arbeitgeber zu wechseln.	O	O	O	O	O
Wenn es möglich wäre, hätte ich gerne einen neuen Job.	O	O	O	O	O

Work-life balance

Und wie sehr stimmen Sie den folgenden Aussagen zu?

	Stimme gar nicht zu	Stimme eher nicht zu	Weder noch	Stimme eher zu	Stimme voll und ganz zu
Ich bin zufrieden mit meiner Balance zwischen Arbeit und Privatleben.	O	O	O	O	O
Es fällt mir schwer, Berufs- und Privatleben miteinander zu vereinbaren.	O	O	O	O	O
Ich kann die Anforderungen aus meinem Privatleben und die Anforderungen aus meinem Berufsleben gleichermaßen gut erfüllen.	O	O	O	O	O
Es gelingt mir, einen guten Ausgleich zwischen belastenden und erholsamen Tätigkeiten in meinem Leben zu erreichen.	O	O	O	O	O
Ich bin damit zufrieden, wie meine Prioritäten in Bezug auf den Beruf und das Privatleben verteilt sind.	O	O	O	O	O

Weiter

Page 10:

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50%

Motivational orientation (not used for analysis here)

Was motiviert Sie zu Ihrer gegenwärtigen Arbeit?

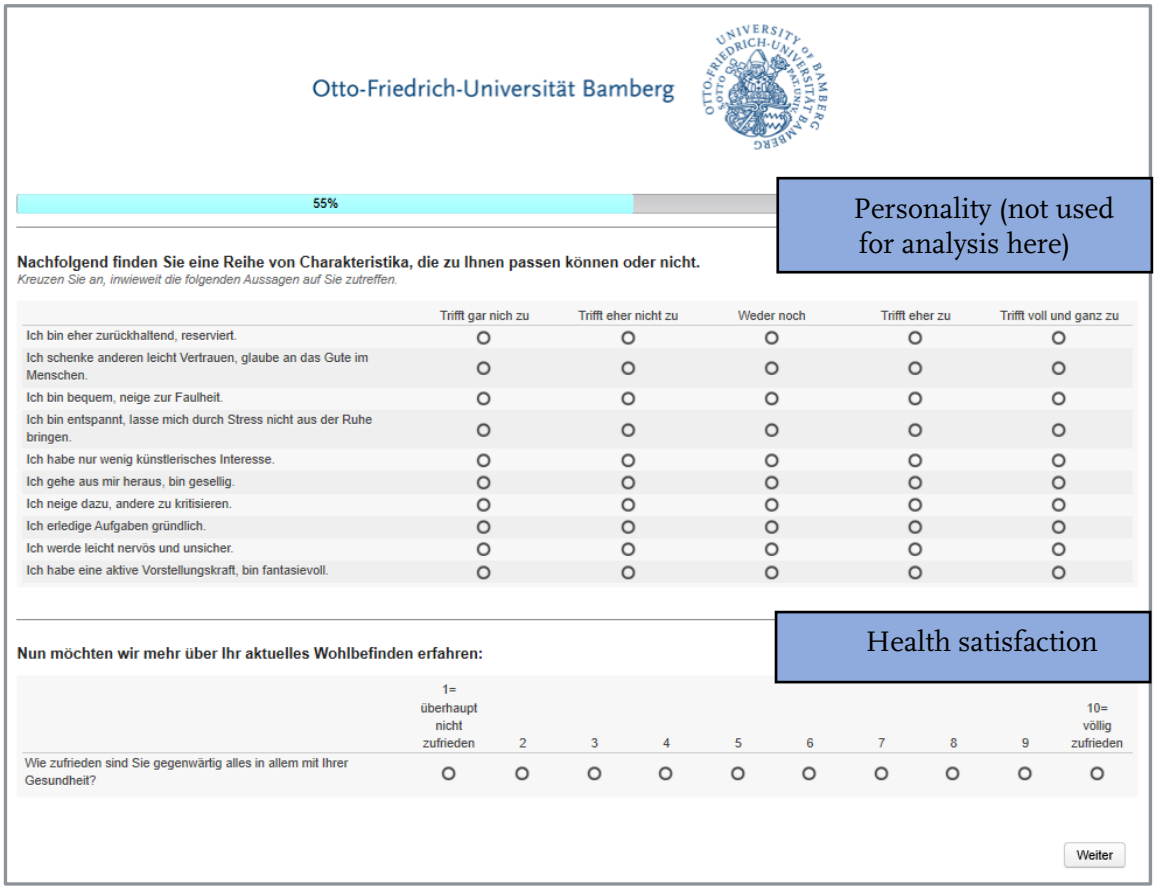
Geben Sie bitte nun an, in welchem Ausmaß die folgenden Aussagen die Gründe widerspiegeln, weshalb Sie Ihrer derzeitigen Arbeit nachgehen.

Ich gehe meiner derzeitigen Arbeit nach, ...

	Stimme gar nicht zu	Stimme eher nicht zu	Weder noch	Stimme eher zu	Stimme voll und ganz zu
weil sie mir einen bestimmten Lebensstil ermöglicht.	O	O	O	O	O
aufgrund des Einkommens, welches sie mir ermöglicht.	O	O	O	O	O
weil es mir große Freude bereitet, neue Dinge zu lernen.	O	O	O	O	O
weil meine Arbeit ein wesentlicher Teil meiner Person geworden ist.	O	O	O	O	O
weil ich in diesem Job Erfolg haben möchte, sonst wäre ich von mir selbst sehr enttäuscht.	O	O	O	O	O
weil ich meine Karriereziele erreichen möchte.	O	O	O	O	O
weil ich Zufriedenheit empfinde, wenn ich interessanten Herausforderungen begegne.	O	O	O	O	O
weil ich durch diese Arbeit Geld verdiene.	O	O	O	O	O
weil ich mich für diese Art des Lebens entschieden habe, und meine Arbeit ein Teil davon ist.	O	O	O	O	O
weil ich sehr gut bei meiner Arbeit sein möchte.	O	O	O	O	O
weil ich im Leben ein „Gewinner" sein will.	O	O	O	O	O
weil mir meine Arbeit erlaubt, Ziele zu erreichen, die mir wichtig sind.	O	O	O	O	O
aufgrund der Freude, die ich erlebe, wenn ich bei schwierigen Aufgaben erfolgreich bin.	O	O	O	O	O
weil meine Arbeit mir Sicherheit bietet.	O	O	O	O	O
weil diese Arbeit Teil meines Lebens ist.	O	O	O	O	O

Weiter

Page 11:



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55%

Personality (not used for analysis here)

Nachfolgend finden Sie eine Reihe von Charakteristika, die zu Ihnen passen können oder nicht.

Kreuzen Sie an, inwieweit die folgenden Aussagen auf Sie zutreffen.

	Trifft gar nich zu	Trifft eher nicht zu	Weder noch	Trifft eher zu	Trifft voll und ganz zu
Ich bin eher zurückhaltend, reserviert.	O	O	O	O	O
Ich schenke anderen leicht Vertrauen, glaube an das Gute im Menschen.	O	O	O	O	O
Ich bin bequem, neige zur Faulheit.	O	O	O	O	O
Ich bin entspannt, lasse mich durch Stress nicht aus der Ruhe bringen.	O	O	O	O	O
Ich habe nur wenig künstlerisches Interesse.	O	O	O	O	O
Ich gehe aus mir heraus, bin gesellig.	O	O	O	O	O
Ich neige dazu, andere zu kritisieren.	O	O	O	O	O
Ich erledige Aufgaben gründlich.	O	O	O	O	O
Ich werde leicht nervös und unsicher.	O	O	O	O	O
Ich habe eine aktive Vorstellungskraft, bin fantasievoll.	O	O	O	O	O

Health satisfaction

Nun möchten wir mehr über Ihr aktuelles Wohlbefinden erfahren:

	1= überhaupt nicht zufrieden	2	3	4	5	6	7	8	9	10= völlig zufrieden
Wie zufrieden sind Sie gegenwärtig alles in allem mit Ihrer Gesundheit?	O	O	O	O	O	O	O	O	O	O

Weiter

Page 12:

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60%

Burnout (exhaustion and dis-engagement)

Unten stehend finden Sie eine Reihe von Aussagen, die auf Ihre derzeitige Arbeit zutreffen können oder nicht.

Geben Sie wieder an, inwieweit Sie zustimmen, indem Sie das entsprechende Kästchen ankreuzen.

	Stimme gar nicht zu	Stimme eher nicht zu	Weder noch	Stimme eher zu	Stimme voll und ganz zu
Ich finde immer neue und interessante Aspekte bei meiner Arbeit.	O	O	O	O	O
Es gibt Tage, da bin ich müde, bevor ich in der Arbeit ankomme.	O	O	O	O	O
Es passiert immer häufiger, dass ich über meine Arbeit schlecht rede.	O	O	O	O	O
Nach der Arbeit brauche ich mehr Zeit als früher, um zu entspannen und mich besser zu fühlen.	O	O	O	O	O
Ich kann mit Druck bei meiner Arbeit sehr gut umgehen.	O	O	O	O	O
In letzter Zeit denke ich wenig über meine Arbeit nach und mache meinen Job mehr oder weniger automatisch.	O	O	O	O	O
Ich sehe meine Arbeit als eine positive Herausforderung.	O	O	O	O	O
Bei meiner Arbeit fühle ich mich oft emotional ausgelaugt.	O	O	O	O	O
Mit der Zeit kann man sich von dieser Arbeit „abgespalten" fühlen.	O	O	O	O	O
Nach der Arbeit habe ich genug Zeit für meine Freizeitaktivitäten.	O	O	O	O	O
Manchmal bin ich meiner Arbeitsaufgaben überdrüssig.	O	O	O	O	O
Nach der Arbeit fühle ich mich meistens ganz erschöpft und müde.	O	O	O	O	O
Meine jetzige Arbeit ist die einzige, die ich mir vorstellen kann zu tun.	O	O	O	O	O
Üblicherweise komme ich gut mit meinem Arbeitspensum zurecht.	O	O	O	O	O
Ich fühle mich zunehmend engagiert bei meiner Arbeit.	O	O	O	O	O
Wenn ich arbeite, fühle ich mich normalerweise voll Energie.	O	O	O	O	O

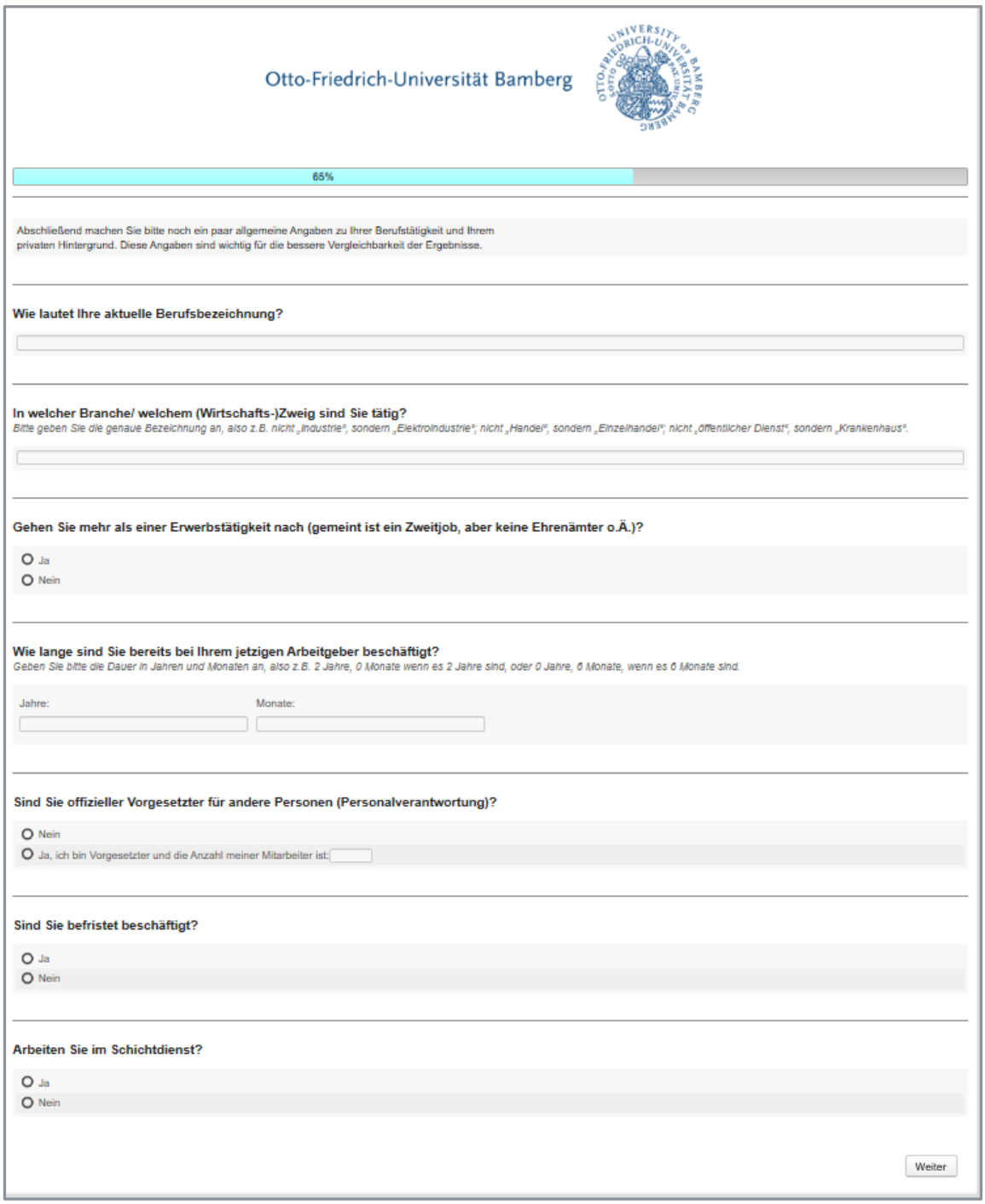
Beantworten Sie folgende Frage zu Ihrem allgemeinen Wohlbefinden:

Life satisfaction

	1= überhaupt nicht zufrieden	2	3	4	5	6	7	8	9	10= völlig zufrieden
Wie zufrieden sind Sie gegenwärtig alles in allem mit Ihrem Leben?	O	O	O	O	O	O	O	O	O	O

Weiter

Page 13: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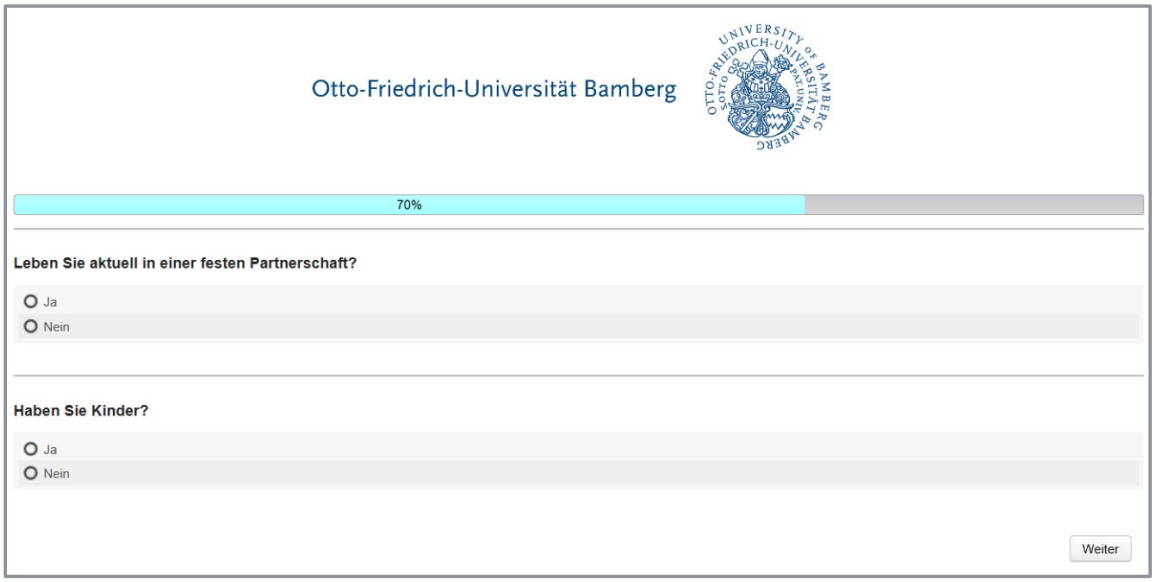
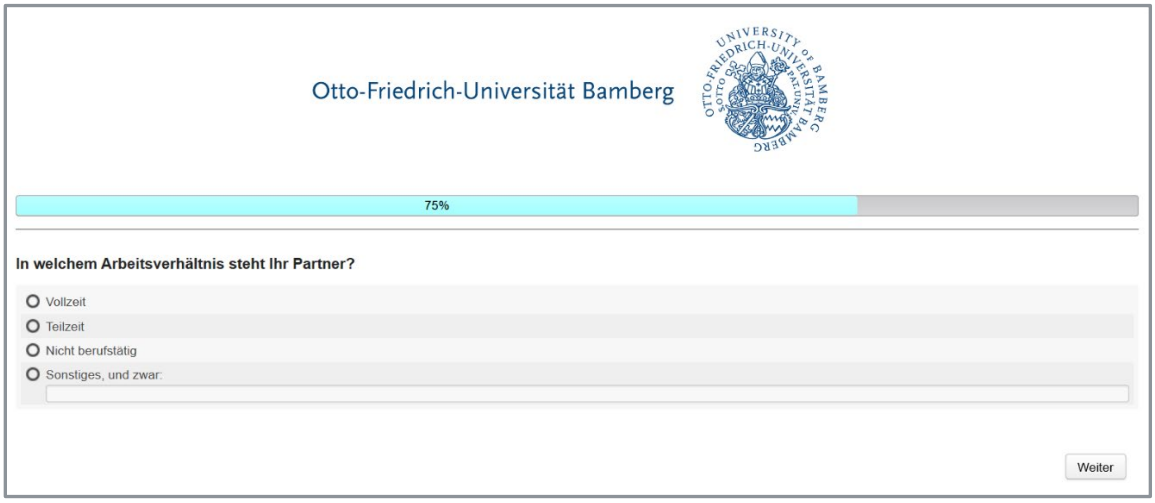
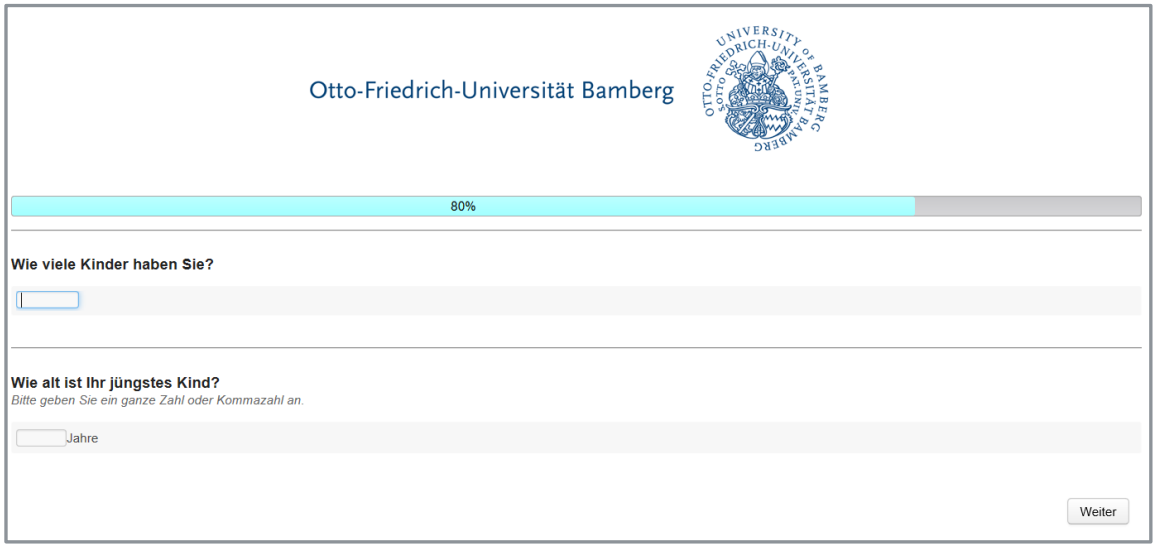
65%
Abschließend machen Sie bitte noch ein paar allgemeine Angaben zu Ihrer Berufstätigkeit und Ihrem privaten Hintergrund. Diese Angaben sind wichtig für die bessere Vergleichbarkeit der Ergebnisse.
Wie lautet Ihre aktuelle Berufsbezeichnung?
In welcher Branche/ welchem (Wirtschafts-)Zweig sind Sie tätig?
Bitte geben Sie die genaue Bezeichnung an, also z.B. nicht „Industrie", sondern „Elektroindustrie"; nicht „Handel", sondern „Einzelhandel"; nicht „öffentlicher Dienst", sondern „Krankenhaus".
Gehen Sie mehr als einer Erwerbstätigkeit nach (gemeint ist ein Zweitjob, aber keine Ehrenämter o.Ä.)?
Ja
Nein
Wie lange sind Sie bereits bei Ihrem jetzigen Arbeitgeber beschäftigt?
Geben Sie bitte die Dauer in Jahren und Monaten an, also z.B. 2 Jahre, 0 Monate wenn es 2 Jahre sind, oder 0 Jahre, 6 Monate, wenn es 6 Monate sind.
Jahre:
Monate:
Sind Sie offizieller Vorgesetzter für andere Personen (Personalverantwortung)?
Nein
Ja, ich bin Vorgesetzter und die Anzahl meiner Mitarbeiter ist:
Sind Sie befristet beschäftigt?
Ja
Nein
Arbeiten Sie im Schichtdienst?
Ja
Nein
Weiter

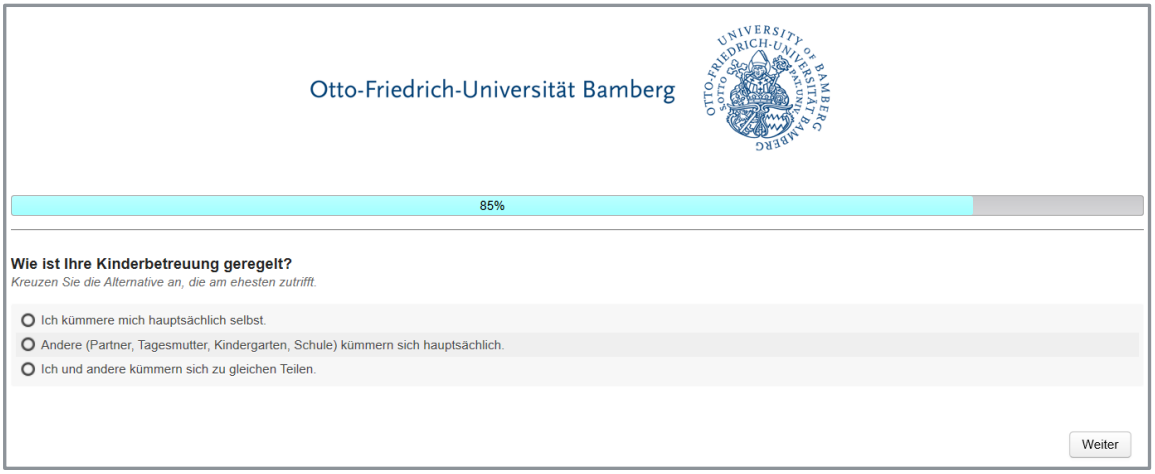
Pages 14 and 15: Only people having a partner were asked about work of partners.





Pages 16 and 17: Only people having children were asked about age of children and only people having children under 14 years were asked about childcare.

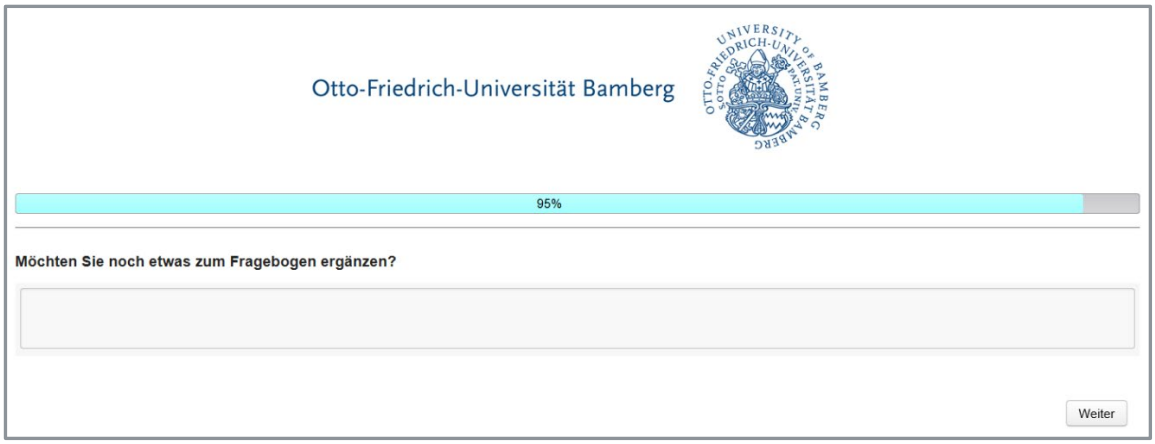




Page 18:


Otto-Friedrich-Universität Bamberg
90%
Wie hoch ist ungefähr Ihr derzeitiges monatliches Bruttoeinkommen (d.h. das Einkommen vor dem Abzug vor Steuern, ohne Vermögenseinkünfte)?
Bitte geben Sie eine ganze Zahl ein.
Euro im Monat
Nach welchem Modell werden Sie bezahlt?
Stundenlohn
Festes Gehalt
Festes Gehalt + Bonus
Sonstiges, und zwar:
Weiter

Page 19:


Otto-Friedrich-Universität Bamberg
95%
Möchten Sie noch etwas zum Fragebogen ergänzen?
Weiter

Page 20:

Note. Scale names (in boxes) were not visible in the questionnaire but were added here for explanation. Boxes on the first pages describe minor differences between the questionnaires used from studies 2 to 4.

Appendix 3.8: Original items for studies 1 to 4

Dimensions	Item wording
MOS-length	
Length 1	**Ich würde gerne weniger lange, z.B. nicht bis spät abends, arbeiten.**
Length 2	**Ich empfinde die Stunden, die ich arbeite, insgesamt (inkl. Überstunden) als zu viel.**
Length 3	Ich arbeite zu häufig an Tagen, an denen ich offiziell frei habe (Wochenende/Feiertage/Urlaub).
Length 4	**Die Zeit, die ich insgesamt in die Arbeit investiere (inklusive Fahrtwegen zur Arbeit und Reisezeiten), ist zu lang.**
Length 5	**Ich würde meine Arbeitszeit gerne reduzieren.**
Length 6	Wenn ich lange arbeite, kann ich das zeitlich wieder ausgleichen. *(reverse coded)*
MOS-competition	
Competition 1	Neben der Arbeit hätte ich gerne mehr Zeit für Freizeitaktivitäten übrig (z.B. für Hobbies, Sport).
Competition 2	Aufgrund meiner Arbeitszeit habe ich zu wenig Zeit für mich selbst.
Competition 3	Durch meine Arbeitszeit bin ich oft zu müde, um meine Freizeit aktiv zu gestalten.
Competition 4	Neben meiner Arbeit habe ich zu wenig Zeit für meine Familie und Freunde.
Competition 5	Es bleibt mir neben der Arbeit ausreichend Zeit für erholsame Aktivitäten. *(reverse coded)*
Competition 6	Ich wünsche mir mehr Freizeit, um private Projekte (z.B. Weiterbildung, Ehrenamt, sonstiges) zu verfolgen.
Competition 7	Durch meine Arbeitszeit habe ich zu wenig Zeit für private Erledigungen und Verpflichtungen (z.B. Arzttermine, Einkaufen, Haushalt, etc.).
MOS-density	
Density 1	**Ich stehe häufig unter Termindruck.**
Density 2	Es gibt Phasen in meiner Arbeit, in denen ich zu viele Themen auf einmal im Kopf haben muss.
Density 3	**Ich habe in meiner Arbeit nicht ausreichend Zeit, Pausen zu machen und auch mal durchzuatmen.**
Density 4	**In meiner Arbeit sind zu viele Aufgaben in kurzer Zeit zu erledigen.**

(Appendix 3.8 continued)

Density 5	**Ich wünsche mir weniger arbeitsintensive Hochphasen in meiner Arbeit.**
Density 6	**Bei meiner Arbeit muss ich oft zu viele Dinge beinahe gleichzeitig machen.**
Density 7	Ich würde mir wünschen, in der Arbeit öfter längere Zeit an einem Thema arbeiten zu können, ohne durch andere dringende Dinge unterbrochen zu werden.
MOS-distribution	
Distribution 1	Ich würde gerne bestimmten Arbeitsaufgaben mehr Zeit und anderen weniger Zeit widmen.
Distribution 2	**Ich habe in meiner Arbeit zu wenig Zeit für die Themen, die mich interessieren.**
Distribution 3	**Arbeitsaufgaben, die mir keinen Spaß machen, lassen mir zu wenig Zeit für Arbeitsaufgaben, die mir mehr Spaß machen.**
Distribution 4	**Ich würde gerne den Arbeitsaufgaben mehr Zeit widmen, bei denen ich wirklich etwas bewegen kann.**
Distribution 5	**Ich würde gerne mehr Arbeitszeit in Aufgaben investieren, bei denen ich mich selbst verwirklichen kann.**
Distribution 6	Ich verbringe zu viel Zeit in meiner Arbeit mit Aufgaben, die ich wenig sinnvoll finde.
Distribution 7	Ich verbringe einen zu großen Teil meiner Arbeitszeit mit Aufgaben, die mich langweilen.

Note. Bold items represent the final 13 items (from study 2 onward). Only study 1 included the initial 27 items.

Appendix 3.9: English translation of items and scale reliabilities (studies 1 to 4)

Dimensions	Item wording	Cronbach's α in studies 1	2	3	4
MOS-length		.90	.90	.87	.90
Length 1	**I would prefer not to work such long hours, for example, in the evenings.**				
Length 2	**I think the hours I work (including overtime) are too much.**				
Length 3	All too often I work on days which are officially days off (weekends, holiday).				
Length 4	**Overall, I am investing too much time in work (including time driving to work and travel times).**				
Length 5	**I would like to reduce my work time.**				
Length 6	If I work overtime, I can compensate that fairly well by taking time off in lieu. *(reverse coded)*				
MOS-competition					
Competition 1	In addition to my work, I would like to have more time for leisure activities (e.g., hobbies, sports).				
Competition 2	I have too little time for myself because of my work hours.				
Competition 3	Due to my work time, I am often too tired to actively use my leisure time.				
Competition 4	Due to my work, I have too little time for family and friends.				
Competition 5	I have enough time for relaxing activities in addition to my work. *(reverse coded)*				
Competition 6	I wish I had more leisure time to pursue private projects (e.g., further training, voluntary work, etc.).				
Competition 7	Due to my work, I have too little time for private obligations (e.g., medical appointments, going shopping, doing housework, etc.).				

(Appendix 3.9 continued)

MOS-density		.84 .87 .88 .83
Density 1	**I am often under time pressure.**	
Density 2	There are times at work when I need to think about too many things at once.	
Density 3	**At work I don't have time to take breaks or to catch my breath.**	
Density 4	**In my job I have to do too many tasks within a short time frame.**	
Density 5	**I wish I had fewer work-intensive peak phases in my job.**	
Density 6	**In my job I often have to do too many things almost at once.**	
Density 7	At work I wish I could more often work longer on one task without being interrupted by other urgent matters.	
MOS-distribution		.82 .84 .84 .85
Distribution 1	I would like to dedicate more time to certain work tasks and less time to others.	
Distribution 2	**At work I have too little time for things that I'm really interested in.**	
Distribution 3	**Work tasks that I don't like mean I don't have enough time left for the work tasks I like better.**	
Distribution 4	**I would like to dedicate more time to work tasks where I can really make a difference.**	
Distribution 5	**I would like to invest more time in work tasks that allow me to realize myself.**	
Distribution 6	I spend too much time at my work on tasks I find less meaningful.	
Distribution 7	I spend too much of my work time on tasks I get bored with.	

Note. Bold items represent the final 13 items (from study 2 onward). Only study 1 included the initial 27 items. For study 1, Cronbach's α of split sample 2 is shown.

Appendix 3.10: Results of the parallel analysis in study 1 (split sample 1)

Factor number	Actual eigenvalue	Mean eigenvalue	95th percentile eigenvalue
1	8.16	0.92	1.06
2	1.89	0.98	0.89
3	1.47	0.67	0.76
4	0.74	0.58	0.66
5	0.49	0.50	0.58

Note. A factor is retained if the associated eigenvalue (column "Actual eigenvalue") is bigger than the 95th percentile of the distribution of eigenvalues derived from random data (column "95th percentile eigenvalue"), which is the case for four factors (Horn, 1965). However, since the fourth factor shows an eigenvalue smaller than 1, the three-factorial solution fits the data best (see Kaiser, 1970).

Appendix 3.11: Correlations of the MOS subscales with control variables

Table 3.11.1: Correlations of the MOS with control variables and work time variables in study 1 (both split samples)

	M	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. MOS-length	3.02	1.15														
2. MOS-density	3.28	0.88	.45**													
3. MOS-distribution	3.47	0.89	.31**	.40**												
4. Gender			.04	.14*	.02											
5. Age	33.59	10.84	-.06	.16**	.00	-.15**										
6. Education			.20**	-.01	.10	-.01	-.05									
7. Leadership			.05	.14*	-.04	-.06	.15**	.07								
8. Tenure	73	101	-.08	.12*	-.12*	-.06	.64**	-.25**	.20**							
9. Second job			-.10	.04	.03	-.02	-.01	-.04	.06	-.01						
10. Shift work			-.02	.01	.03	-.10	-.17**	-.28**	.03	-.03	-.01					
11. Income	3,508	2,031	.21**	.00	-.04	-.27**	.30**	.24**	.25**	.16**	-.11	-.13*				
12. Partner			.04	.11	.03	-.01	.18**	.13*	.12*	.14*	-.10	-.03	.13*			
13. Children<14			-.04	.08	.06	-.09	.12*	.08	.14*	.04	.02	.01	.15*	.16**		
14. Actual work hours	41.67	10.30	.43**	.24**	.05	-.21**	-.06	.22**	.19**	-.02	-.14*	-.03	.38**	-.04	-.08	
15. Preferred work hours	35.04	8.44	-.02	-.07	-.03	-.28**	-.06	.16**	.16**	-.04	-.13*	.00	.23**	-.15**	-.18**	.65**

Note. Split samples 1 and 2 were analyzed together for this analysis. MOS subscales were built with the 13 items also used in all other studies. *N*=285 to 303 (due to missing values, especially on income). *p<.05, **p<.01. gender: 1=male, 2=female; education: 1=no degree, 2=with university degree; leadership: 1=no, 2=yes; second job: 1=no, 2=yes; shift work: 1=no, 2=yes; partner: 1=no, 2=yes; children<14 (having children younger than 14 years): 1=no children under 14 years, 2=has children under 14 years; tenure measured in months at the current employer; income measured in monthly gross income in euros.

Table 3.11.2: Correlations of the MOS with control variables in study 2

	M	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13
1. MOS-length	3.23	1.14													
2. MOS-density	3.27	0.96	.54**												
3. MOS-distribution	3.31	0.93	.49**	.52**											
4. Gender			.04	.17**	.07										
5. Age	41.11	10.63	-.09*	.00	-.14**	-.12**									
6. Education			.07	.10*	.09*	-.03	-.15**								
7. Leadership			.08	.21**	-.01	-.05	.17**	.15**							
8. Tenure	106	105	-.06	.00	-.04	-.13**	.65**	-.13**	.15**						
9. Second job			.01	-.02	-.04	.01	.05	-.01	-.01	-.03					
10. Temporary job			.01	.02	.08	.08	-.19**	.09	-.14**	-.26**	.11*				
11. Shift work			.02	.02	-.04	-.11*	.02	-.01	-.01	-.07	-.01	.02			
12. Income	4,648	2,610	.08	.09	-.05	-.18**	.20**	.11*	.27**	.19**	.02	-.16**	.06		
13. Partner			.09*	.06	-.02	.02	-.07	.07	.09*	-.05	-.01	-.01	-.03	.12*	
14. Children<14			-.09*	-.06	-.10*	-.32**	-.07	.03	.03	-.05	-.08	-.02	.04	-.04	.02

Note. *N*=426 to 500 (due to missing values, especially on income). *p<.05, **p<.01. gender: 1=male, 2=female; education: 1=no degree, 2=with university degree; leadership: 1=no, 2=yes; second job: 1=no, 2=yes; temporary job: 1=no, 2=yes; shift work: 1=no, 2=yes; partner: 1=no, 2=yes; children<14 (having children younger than 14 years): 1=no children under 14 years, 2=has children under 14 years; tenure measured in months at the current employer; income measured in monthly gross income in euros.

Table 3.11.3: Correlations of the MOS with control variables in study 3

	M	*SD*	1	2	3	4	5	6	7	8	9	10	11	12
1. MOS-length	3.11	1.14												
2. MOS-density	2.97	1.03	.53**											
3. MOS-distribution	3.13	0.92	.43**	.64**										
4. Gender			.02	.10	-.02									
5. Age	42.69	12.46	-.05	-.06	-.13*	.03								
6. Leadership			.04	.09	.04	-.05	.02							
7. Tenure	139	129	.00	-.04	-.10	.04	.53**	.06						
8. Second job			.02	-.02	.03	.02	.01	.04	-.00					
9. Temporary job			.04	.05	.06	-.03	-.09	-.02	-.24**	.03				
10. Shift work			-.00	.03	-.06	-.02	-.04	-.11*	-.07	-.04	-.01			
11. Income	2,888	1,241	.07	.03	.02	-.16**	.00	.21**	.27**	.10	-.16**	-.15**		
12. Partner			.00	-.01	-.10	.07	.08	.12*	.13*	-.04	-.18**	.01	.12*	
13. Children<14			-.09	-.15**	-.12*	-.02	-.21**	.01	-.11*	-.01	-.04	.01	.09	.23**

Note. *N*=347 to 350 (due to missing values on income). *p<.05, **p<.01. gender: 1=male, 2=female; leadership: 1=no, 2=yes; second job: 1=no, 2=yes; temporary job: 1=no, 2=yes; shift work: 1=no, 2=yes; partner: 1=no, 2=yes; children<14 (having children younger than 14 years): 1=no children under 14 years, 2=has children under 14 years; tenure measured in months at the current employer; income measured in monthly gross income in euros.

Table 3.11.4: Correlations of the MOS with control variables in study 4

	M	*SD*	1	2	3	4	5	6	7	8	9	10	11	12	13
1. MOS-length	3.03	1.14													
2. MOS-density	3.23	0.89	.53**												
3. MOS-distribution	3.32	1.00	.34**	.41**											
4. Gender			-.01	.01	-.07										
5. Age	35.63	9.27	-.08	.10	-.02	-.04									
6. Leadership			-.01	.15*	.07	-.12	.51**								
7. Professor			-.03	.06	-.05	-.06	.46**	.57**							
8. Tenure	63	62	-.03	.10	.01	-.07	.72**	.29**	.23**						
9. Second job			-.08	.05	-.01	.01	.00	-.07	-.01	-.01					
10. Temporary job			.05	-.07	.01	.11	-.75**	-.47**	-.51**	-.59**	.10				
11. Income	3,754	1,844	.01	.14*	.02	-.20**	.59**	.51**	.61**	.48**	.05	-.61**			
12. Partner			-.01	.01	-.03	.02	.13*	.08	.11	.09	.08	-.11	.18**		
13. Children<14			-.16*	.01	-.07	-.04	.32**	.26**	.23**	.20**	.02	-.23**	.28**	.23**	
14. University			.19**	.08	.07	-.09	-.05	-.08	-.15*	.08	-.02	.03	-.03	-.08	.02

Note. *N*=248 to 272 (due to missing values on income). *p<.05, **p<.01. gender: 1=male, 2=female; leadership: 1=no, 2=yes; professor: 1=no professor, 2= professor, university: 1=University of Bamberg, 2=University of Erlangen, second job: 1=no, 2=yes; temporary job: 1=no, 2=yes; partner: 1=no, 2=yes, children<14 (having children younger than 14 years): 1=no children under 14 years, 2=has children under 14 years; tenure measured in months at the current employer; income measured in monthly gross income in euros.

Appendix 3.12: Exploring the impact of sector and occupation on the MOS subscales

As occupation and sector were measured with variables having more than two answering options, we explored their relation to the MOS dimensions by using ANOVAs in studies 1 to 3. In study 4 sector and occupation were homogenous.

For all studies, a two-way ANOVA was conducted for each of the MOS dimensions to explore effects of occupation and sector. For study 1 there was only a very small significant effect of sector regarding MOS-density (Table 3.12.1). However, a post-hoc test using Hochberg's GT2 (according to Field, 2014 this test was used, as the group sizes were very different) revealed no significant group differences between the three sectors regarding MOS-density. Study 2 showed significant effects of sector for all three MOS subscales (Table 3.12.2). However, a post-hoc test using Hochberg's GT2 (Field, 2014) again revealed no significant group differences between the three sectors. Upon eyesight however people working in the private sector showed higher values on the MOS dimensions than those working in the public sector. The self-employed showed the lowest values. In study 3 (Table 3.12.3) there were no significant effects of occupation or sector or any interaction of both.

Table 3.12.1: ANOVA for occupation & sector on the MOS subscales in study 1

		F-value	*p*-value	Effect size (partial eta^2)
MOS-length				
	occupation	$F(4,285)=0.76$	$p=.55$	.01
	sector	$F(2,285)=1.68$	$p=.19$	.01
	occupation×sector	$F(7,285)=0.53$	$p=.81$	.01
MOS-density				
	occupation	$F(4,285)=0.73$	$p=.57$	.01
	sector	$F(2,285)=3.76$	$p=.02$	.03
	occupation×sector	$F(7,285)=1.27$	$p=.27$	.03
MOS-distribution				
	occupation	$F(4,285)=1.50$	$p=.20$	.02
	sector	$F(2,285)=1.49$	$p=.23$	.01
	occupation×sector	$F(7,285)=1.43$	$p=.19$	.03

Note. Split samples 1 and 2 were analyzed together here. Occupation was measured in five groups: 1. business, 2. education/health/social, 3. technology/engineering and IT, 4. arts/creative and sports, 5. other services. Sector was measured in three groups: private, public, self-employed.

Table 3.12.2: ANOVA for occupation & sector on the MOS subscales in study 2

		F-value	*p*-value	Effect size (partial eta^2)
MOS-length				
	occupation	$F(2,489)=0.63$	$p=.54$	.00
	sector	$F(2,489)=7.66$	$p<.01$	.03
	occupation×sector	$F(4,489)=1.18$	$p=.32$	.01
MOS-density				
	occupation	$F(2,489)=1.04$	$p=.36$	.00
	sector	$F(2,489)=3.47$	$p=.03$	.01
	occupation×sector	$F(4,489)=0.36$	$p=.84$	.00
MOS-distribution				
	occupation	$F(2,489)=0.86$	$p=.43$	.00
	sector	$F(2,489)=4.43$	$p=.01$	.02
	occupation×sector	$F(4,489)=0.55$	$p=.70$	.00

Note. Occupation was measured in three groups: 1. business and the economy, 2. education/health/social, 3. engineering/science and IT. Sector was measured in three groups: private, public, self-employed.

Table 3.12.3: ANOVA for occupation & sector on the MOS subscales in study 3

		F-value	*p*-value	Effect size (partial eta^2)
MOS-length				
	occupation	$F(3,339)=1.25$	$p=.29$	.01
	sector	$F(2,339)=1.33$	$p=.27$	.01
	occupation×sector	$F(5,339)=1.74$	$p=.13$	.03
MOS-density				
	occupation	$F(3,339)=0.30$	$p=.83$	.00
	sector	$F(2,339)=1.10$	$p=.34$	.01
	occupation×sector	$F(5,339)=1.67$	$p=.14$	.02
MOS-distribution				
	occupation	$F(3,339)=1.39$	$p=.25$	.01
	sector	$F(2,339)=0.59$	$p=.56$	.00
	occupation×sector	$F(5,339)=0.98$	$p=.43$	.01

Note. Occupation was measured in four groups: 1. business/administration, 2. education/health/social, 3. crafts/production/technology, 4. other services. Sector was measured in three groups: private, public, self-employed.

Appendix 3.13: Analysis of higher-order factor structures

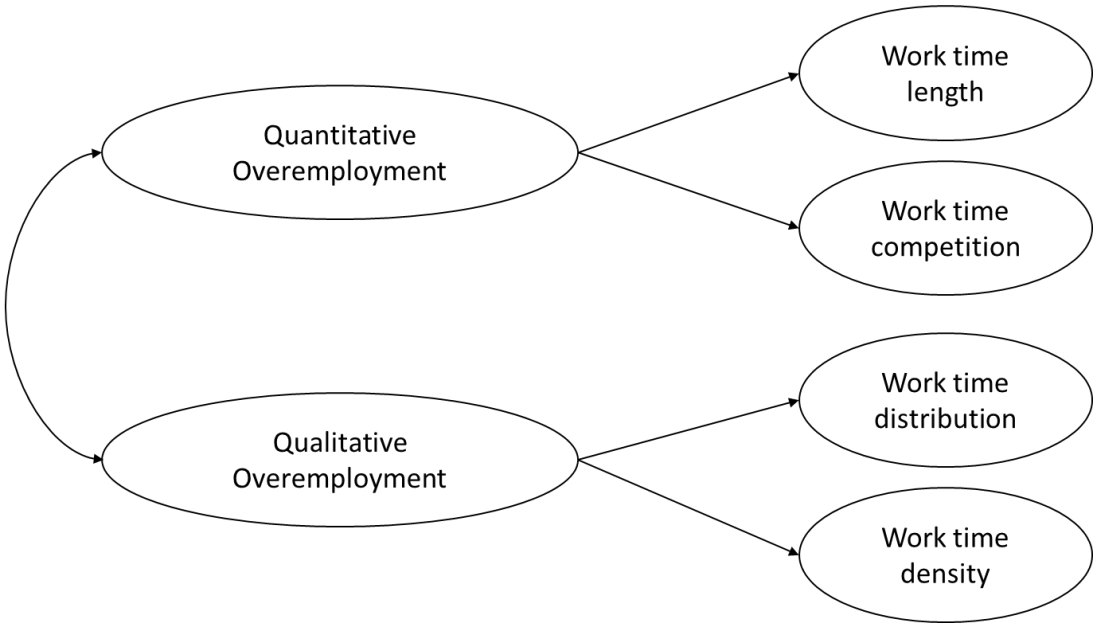
3.13.1: Testing a higher-order factor structure (two higher-order, four lower-order factors corresponding to the Grounded Theory in Chapter 6)

As reported, a three-factorial solution fit the data best. It was achieved through using EFA (as suggested for example by DeVellis, 2012 for scale development) and it was confirmed across studies 1 to 4. Theoretically however, four factors were proposed in the Grounded Theory (see Figure 6 in Chapter 6), two of them relating to the quantity and two relating to the quality of work. This structure would be mapped by a higher-order structure with four lower- and two higher-order factors (see Figure 3.13.1). Therefore, we want to report the results of this higher-order solution here as well.

After having reduced our initial item set to 17 items, the EFA clearly showed a three-factorial solution. The items meant to measure the fourth factor (competition factor) loaded on factor 1 together with items for length (and partially with cross-loadings on the second factor where the distribution items belonged to). However, if we had taken the 17 items as a base for conducting the CFA in split sample 2, modelling the initially proposed four-factorial construct (see Grounded Theory in Figure 6) would have been possible.

For split sample 2 in study 1 the fit indices for this structure are χ^2=106,39, *df*=114, CFI=1.00, TLI=1.01, RMSEA=.00, SRMR=.04. The higher-order model including the competition factor thus seemed to also fit the data well, however it could not have been derived by using the EFA-procedure in the construction sample (i.e., in study 1 with split sample 1), as the EFA clearly showed a three-factorial solution. Also, model parsimony is a criterion when deciding for a model (Weiber & Mühlhaus, 2014). The three-factorial solution excluding work time competition clearly represents the more parsimonious solution fitting the data well: a higher-order model needs six versus only three factors explaining the data. In retrospect, excluding the fourth factor work time competition, also makes sense from a conceptual point of view. The work time competition factor is the only one not relating to work time only, but to time outside of work, and presumably has the largest overlap to work-life balance. In a four-factorial solution, this potential overlap may have caused discriminant validity issues in the following studies.

Figure 3.13.1: Potential higher-order structure of overemployment



3.13.2: Testing a higher-order factor structure (one higher-order, three lower-order factors)

We also tested the possibility of another higher-order structure, i.e., if there is one general second-order overemployment factor. This was tested with the 13 overemployment items with split sample 2 in study 1. As the structural model was just-identified (one higher-order factor, three lower-order factors) a higher-order model naturally shows the same model fit as the simple three-factorial model (Brown, 2015). Therefore, a Schmid-Leiman transformation was conducted to obtain and analyze higher-order loadings and residualized primary loadings (Brown, 2015; see also Brown et al. 2004; Campbell-Sills et al., 2004; Schmid & Leiman, 1957)

In study 1 (split sample 2) the intercorrelations between the scales were of similar size despite not too high (between .49 to .54) which could speak for a single second-order factor (Brown, 2015). In the second-order solution the three subscales loaded significantly, but not equally high on the second-order factor, i.e., loadings were .61 for length, .79 for distribution and .97 for density. A Schmid-Leiman transformation (Schmid & Leiman, 1957) was conducted to obtain the loadings of the 13 MOS items on the higher-order overemployment factor, and the residualized loadings of the MOS items on the three lower-order factors. As shown in Table 3.13.2, the items loaded significantly on the higher-order factor (.40 to .62). The residualized primary loadings were all above .30, showing that the three factors account for unique salient variance in the indicators above the variance explained by a higher-order factor (Brown et al., 2004). Based on the

Schmid-Leiman transformation no exact cut-off for choosing between a higher-order and simple model can be identified (Brown, 2015). Also, as noted in Brown (2015), the Schmid-Leiman transformation favors the higher-order solution by letting the higher-order factor explain as much variance as possible and lessening the explanatory power of the first-order factors (see also Loehlin, 2004). This can be seen here when looking at the variance in the items explained by the second-order vs. the first-order factor (variance is obtained by squaring higher-order factor loadings and residualized primary loadings). The variance explained in the items for the first-order factor ranged from 15% to 53%, whereas for the second-order factor it ranged from 38% to 62%. Thus, a second-order structure could have been empirically accepted at cost of explanatory power of the first-order structure. As there mathematically cannot be a difference in total variance explained between the simple three-factorial model and the higher-order model, the higher-order factor will naturally take variance explained from the first-order factors (Brown, 2015).

As noted in MacKenzie et al. (2011) the decision for any structure of a construct needs to be primarily a *conceptual* one. Brown (2015) also highlights that a sound theoretical background is crucial when deciding for a higher-order model. This seems even more important when there is—as here—no clear empirical cut-off point (e.g., in terms of model fit) that could be a basis for deciding between two solutions.

We think, a sufficient theoretical background for a higher-order solution with one higher-order factor cannot be provided here, as the three dimensions of overemployment have been defined by the interview study in Chapter 6, but no general factor has been proposed here. In addition, a second-order solution would probably blur the overemployment construct again, instead of conceptually sharpening it—similar to the criticized single-item measures of overemployment. Therefore, we will continue with the simple three-factorial solution and this decision is also a theoretical one. In addition, as we will see later in the process (in studies 2 to 4 in Chapter 7), the three dimensions show different correlation patterns to other variables, which also speaks in favor of separating them and letting the three dimensions explain comparably more variance than a potential higher-order factor. Consequently, the Schmid-Leiman transformation is only reported for study 1, as from here on it was decided to continue with a simple three-factorial solution based on theoretical considerations. Results for studies 2 to 4 would have been similar, however with lower residualized primary loadings regarding the density factor in study 3.

Table 3.13.2: Schmid-Leiman transformation showing item higher-order factor loadings and residualized primary loadings in study 1 (split sample 2)

	Item higher-order factor loading on:	**Residualized primary loadings on:**		
MOS items	General overemployment factor	MOS-length	MOS-density	MOS-distribution
Length 1	.48	.61		
Length 2	.57	.73		
Length 4	.49	.62		
Length 5	.52	.67		
Density 1	.52		.41	
Density 3	.50		.40	
Density 4	.61		.48	
Density 5	.62		.49	
Density 6	.56		.44	
Distribution 2	.58			.59
Distribution 3	.58			.59
Distribution 4	.46			.47
Distribution 5	.40			.41

Appendix 3.14: Multiple regressions without control variables (studies 2 to 4)

When analyzing the effects of overemployment, it is common practice to also control for effects of individual and job characteristics (see for example Bartoll & Ramos, 2020; Golden & Gebreselassie, 2007; Pagan, 2017). The usual practice is also *not* to theoretically explain in detail why these control variables were chosen (see also Allan et al., 2016, Angrave & Charlwood, 2015; Lee et al., 2015; Pagan, 2017; Wunder & Heineck, 2013). Here, based on previous recommendations (Bernerth & Aguinis, 2016), we explained why we are using the control variables. In multiple regression the control variables or covariates are typically entered before other variables in order to determine the explanatory power of the variables of interest exclusive of the control variables (Tabachnick & Fidell, 2001). This is also the approach we used here because we wanted to see whether the effects of the MOS subscales hold even after considering effects of other variables on the dependent variables. The use of control variables however has been criticized (see Becker, 2005 and Spector & Brannick, 2010 for details), which is why we present the regression analyses testing criterion validity in studies 2 to 4 in addition without control variables (as suggested in Spector & Brannick, 2010). This also means without work time sovereignty that also had a control variable function in the regressions. All variables are entered in one step. The results are shown in Tables 3.14.1 to 3.14.3. The results of the analyses with vs. without control variables are similar. Without control variables some β-weights became significant that were previously mainly tendencies or some effects became tendencies, that had been significant, i.e., there were slight differences in the results. For example, in study 2 the relationship of MOS-length to life satisfaction was a tendency when considering control variables and became significant without control variables. However, the general pattern of results with and without considering control variables was the same. In both analyses, OCB and to a lesser extend commitment could be less explained by the MOS dimensions than the other criteria. Also, in both analyses MOS-density had the least predictive power of the three MOS dimensions. One noticeable difference between the analyses with and without control variables is that in study 4 turnover intention was only predicted by MOS-length when not considering control variables. The reason therefore likely is the high percentage of persons working with a temporary contract in study 4. The variable "temporary contract" was strongly related to turnover intention (β-weight for having a temporary contract in study 4 was -.32). Thus, people with a temporary contract here had less intention to quit.

Table 3.14.1: Regressions of possible outcome variables on the MOS subscales without control variables in study 2

	Life satis-faction	Health sat-isfaction	Exhaus-tion	Disen-gage-ment	Commit-ment[1]	Job satis-faction	OCB-helpful-ness[1]	OCB- ini-tiative[1]	OCB-straight-forward-ness[1]	Turnover intention
MOS dimensions	β	β	β	β	β	β	β	β	β	β
- MOS-length	-.13*	-.14**	·34**	.33**	-.18**	-.30**	-.05	-.17**	-.05	.22**
- MOS-density	-.06	-.12*	.22**	-.14**	-.04	-.03	.13*	.27**	-.12*	.02
- MOS-distribution	-.21**	-.15***	.21**	.39**	-.14**	-.34**	.06	-.03	-.22**	.30**
Total R^2	.11**	.12**	.41**	.30**	.09	.32**	.02*	.05**	.11**	.21**

Note. N=500. [1]n=463 excluding self-employed persons. *p<.05, **p<.01, [T]p<.10.

Table 3.14.2: Regressions of possible outcome variables on the MOS subscales without control variables in study 3

	Life satis-faction	Health sat-isfaction	Exhaus-tion	Disen-gagement	Com-mit-ment[1]	Job satis-faction	OCB- help-fulness[1]	OCB- in-itiative[1]	OCB-straight-forwardness[1]	Turnover intention
MOS dimensions	β	β	β	β	β	β	β	β	β	β
- MOS-length	-.34**	-.29**	.46**	.38**	-.34**	-.30**	-.18**	-.13*	-.15*	.28**
- MOS-density	-.04	-.03	.25**	-.06	-.05	-.08	.12^{T}	.19**	-.07	.06
- MOS-distribution	-.11^{T}	-.15*	.11*	.23**	-.03	-.19**	.13^{T}	.13^{T}	-.09	.20**
Total R^2	.19**	.16**	.49**	.24**	14**	.22**	.04**	.06**	.07**	.20**

Note. N=350. [1]n=347 excluding self-employed persons. *p<.05, **p<.01, ^{T}p<.10.

Table 3.14.3: Regressions of possible outcome variables on the MOS subscales without control variables study 4

	Life satis-faction	Health sat-isfaction	Exhaus-tion	Disen-gagement	Commit-ment	Job satis-faction	OCB-helpful-ness	OCB- ini-tiative	OCB-straight-forward-ness	Turnover intention
MOS dimensions	β	β	β	β	β	β	β	β	β	β
- MOS-length	-.25**	-.25**	.45**	.31**	-.11	-.33**	-.13^{T}	-.10	-.07	.22**
- MOS-density	-.03	-.04	.12^{T}	-.16*	.09	.09	.17*	.18*	-.10	-.13^{T}
- MOS-distribution	-.17**	-.18**	.13*	.34**	-.14*	-.34**	-.11^{T}	-.15*	-.21**	.21**
Total R^2	.13**	.14**	.34**	.21**	.03^{T}	.25**	.03	.03*	.09**	.09

Note. N=272. *p<.05, *p<.01, ^{T}p<.10.

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Overemployment, i.e., the preference for fewer work hours, is a widespread phenomenon in western societies, which may have negative consequences for individual well-being and organizational functioning. Previously, overemployment has been defined from an economic perspective mainly as a time-money trade-off problem.

This work is the first to adopt a psychological and subjectivist view on overemployment. Over three research projects a theory of overemployment, its causes and consequences is constructed and tested. In addition, a multidimensional overemployment scale is developed and initially validated. The three research projects include: first, a review on overemployment conceptualizations and measurements; second, a Grounded Theory interview study with the aim to develop a theory on overemployment, its causes, and consequences; and third, a scale development study comprising over 1,400 participants over 4 studies. The importance of overemployment for individual well-being (e.g., burnout, job satisfaction), as well as for organizational variables (e.g., commitment, turnover intention) is shown. Overemployment is found to be a multidimensional construct consisting of three dimensions: length, density, and distribution of work time. The developed theory and scale will allow future researchers to analyze overemployment in more detail. The work offers interesting insights for HR and management practitioners when it comes to creating attractive working conditions.

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