Determinants of Labor Market Supply - Gender, Class and their Intersectionality

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Introduction and Overview

1.1 Motivation and Scope

Gender differences in the labor market are a prevalent topic in sociology. This complex topic is an essential subject of investigation with many aspects of labor market sociology (Achatz, 2018) and family sociology (Pollmann-Schult, 2023). The importance of the topic is also reflected in the public debate. Gender differences in the labor market have great relevance for everyday life. According to a press release from the Federal Statistical Office (2024), women's gross earnings in Germany in 2023 were, on average, 18% lower than those of men. Although there has been a decline over the last few years, it was relatively small (4 percentage points since 2014). In the last decades, there has been an expansion of women's education and an associated increase in female labor participation. However, the gender pay gap remains relatively high, especially in Germany. These persisting gender inequalities are sometimes called the s*talled gender revolution* (England, 2010).

While this pay gap relates to the unadjusted gender wage gap[1], a considerable proportion of this gender-specific inequality remains even when controlling for human capital and the field of work (Blau & Kahn, 2017).[2] Even when men and women possess similar qualifications and work in the same occupations within the same companies, women continue to earn significantly less than their male counterparts (Gartner, 2016). The enduring nature of this gap underscores the intricate nature of gender inequalities in the labor market, a complexity that traditional indicators like human capital or occupational choice cannot fully explain.

In addition to these salary differences to which the gender pay gap relates, gender-specific inequalities also exist in labor market participation and promotion to management positions. Although substantial progress in female labor market participation was made during the latter half of the 20th century, particularly in closing educational attainment gaps, these improvements have not fully translated into workplace equity. Women are significantly more likely to work part-time and are represented in higher positions to a lesser extent. Contrary to general expectations, these inequalities began to increase in the 1990s, but since 2010, more recent findings indicate that inequality between men and women has stagnated (Möller, 2016). While human capital differences (e.g., education, experience, or training) and discrimination have long been identified as the primary causes of gender differences, recent studies suggest that working conditions and labor market structures may also significantly exacerbate inequality. For example, the different acceptance of working conditions plays an important role

[1] The unadjusted gender wage gap compares the average earnings of female and male employees without adjusting for factors such as occupation, industry, or experience level.
[2] The adjusted gender pay was 6% in 2023 (Destatis - Statistisches Bundesamt, 2024).

here (Cha & Weeden, 2014; Goldin, 2014). In some cases, various influences are interrelated. For example, the higher proportion of women in the workforce is characterized by part-time employment. At the same time, part-time employment is accompanied by lower hourly wages, which has even increased in recent years. This combination compensates for increasing hourly wages between men and women (Schmitt & Auspurg, 2022). In this way, even positive political incentives for greater participation of women in the labor market can have an unintended reverse effect (Gangl & Ziefle, 2015). This finding underscores the need for further research into the factors contributing to gender differences in the labor market.

With women's increasing labor force participation and households with both partners working becoming the standard, new challenges have emerged, like a shortage of time as a resource. Changing employment patterns increasingly affect couples as the division of labor and housework becomes more complex than in the traditional male breadwinner model. As a result, career coordination and the associated negotiation process are becoming increasingly essential in partnerships. Coordination problems are, therefore, increasingly arising, which can lead to a stabilization or even a reinforcement of gender differences thanks to inflexible work structures. Previous studies indicate that work-related outcomes are often linked to partnership negotiation processes (Livingston, 2014).

Internationally, there is clear evidence that gender inequalities are primarily determined by household constellation: inequalities increase with partnerships and especially with the birth of children (Hipp & Leuze, 2015). Differences in the division of labor within a partnership and any resulting deviations in the evaluation of job characteristics can lead to a different willingness to accept jobs between the genders. Addressing the emerging timing and coordination issues within partnerships, job characteristics, particularly the existing flexibility, are crucial factors that can help alleviate or mitigate these problems (Fuller & Hirsh, 2019; Kelly et al., 2011).

In most cases, action theory approaches explain differences in willingness to accept jobs. The basic idea is that a job is always accepted if the benefits can be maximized. In many previous studies, the benefit (mainly) relates to income. However, a restriction on maximizing income is not very meaningful, as other aspects, such as the place of work, commuting time, or the number of hours, play an essential role in the decision-making process (Auspurg & Gundert, 2015). Instead, there is a trade-off between various work characteristics and the pay level. For example, wages can be exchanged for preferred working conditions, such as fewer hours (see also Brown, 1980 and the theory of compensating wage differentials). It should be noted that the maximization of mutual benefit in a partnership is not detached from the values and norms of

the people involved. Norms play an essential role in the exchange processes in partnerships, especially when negotiating the division of labor between the household and gainful employment. It is expected that the increasing flexibilization of the world of work and the associated increased combinability of household and gainful employment will mitigate these negotiation processes. More flexible scheduling will make combining household and gainful employment easier for both partners.

Alternatively, however, existing role models and values may be dissolved, and the negotiating positions of both partners may change, making a solution more difficult. It has not yet been clarified how the flexibilization of the labor market changes the negotiating situation in a partnership.

Additionally, previous studies have demonstrated a gender-based imbalance in the willingness to make concessions and the preferred working time (Jacobs & Gerson, 2004; Zimmert & Weber, 2021), which is also linked to income and education levels. This situation contributes to gender inequalities, as flexible working hours are often seen as a privilege for those with higher incomes.

Therefore, the central question of this dissertation is *to what extent gender and social class influence the decision to accept job offers and the negotiation of working conditions within partnerships in Germany*. Linked by a common theoretical framework, the three research articles address distinct but related empirical questions, making a significant independent research contribution.

In order to analyze the decision-making process of negotiation in partnerships, a factorial survey (FS) module is used. FSs are hypothetical object or situation descriptions (vignettes) that the interviewees evaluate (on FS, e.g., Auspurg & Hinz, 2015; Wallander, 2009). The descriptions used consist of different properties (vignette dimensions) of the object or situation, which can be varied experimentally by the researcher. Combining an experimental design with a survey design leads to combining the advantages of both methods. The experimental variation of the stimulus enables the determination of cause and effect, thus allowing causal statements to be made. Another major advantage is the independent variation of the vignette dimensions. For this doctoral project, the data of an FS module on willingness to accept a job is used, which was implemented in the Innovation Sample of the Socio-Economic Panel in 2013. In this FS, respondents were presented with five hypothetical job offers, which they were asked to rate in terms of attractiveness, likelihood of acceptance, and likelihood of relocation (the job offers were always jobs that required a commute of at least one hour). The characteristics of the job offers (such as salary or career prospects) were varied experimentally. This module is

particularly interesting for the research question of this dissertation due to the mirror-image structure of couple vignettes. In partner constellations, one of the two interviewees was randomly presented with a job offer, but the corresponding partner was placed in the situation of the person moving in with them. This person was asked to assess the attractiveness for the partner and the likelihood of moving together. The FS module thus provides a direct insight into the negotiation situation within partnerships. It can be analyzed whether there are differences in the willingness to make concessions between the sexes and whether gender roles differ according to various characteristics of the individuals.

1.2 Dissertation Overview

The present dissertation focuses on various questions regarding gender- and class-specific employment decisions. It is a cumulative dissertation divided into three contributions linked by a common theoretical framework of Rational Choice Theories (Chapter 1.3). Each contribution makes an independent research contribution. The first article contributes to the methods used in the other articles with its methodological examination of factorial surveys. The second and third articles, in particular, are closely linked in content. The individual articles are briefly outlined in the following section.

Chapter 2 addresses the research question: How valid is the external validity of experimental vignette data? Do the factors influencing the willingness to relocate determined by the experimental design correspond to behavior on actual labor market mobility?
The first article of the dissertation deals with a methodological analysis of factorial surveys. It is intended to clarify whether the results obtained from FS can be transferred to actual behavior. Thus, the first article provides a basis for the two further articles in which FS is used to clarify the content-related questions. Determining whether the results obtained also apply to behavior outside of FS is crucial for the validity of the results.
Factorial surveys are a helpful method for clarifying research questions in many areas of application. This is also reflected in current research articles' increasing popularity and use (Treischl & Wolbring, 2022). Meanwhile, vignette studies are very sophisticated, with several methodological analyses of their applicability and design. However, a few methodological aspects still have not yet been answered. The experimentally created situation in FS raises the question of the results' external validity. Since FS refers to hypothetical situations and decisions, it can only measure willingness to act. To date, however, very few studies systematically

analyze the external validity aspect of FS (Forster & Neugebauer, 2024; Hainmueller et al., 2015; Nisic & Auspurg, 2009; Pager & Quillian, 2005; Petzold & Wolbring, 2019) and show different limitations of the results due to the data used and the construction of the comparison groups.

On the basis of the theory of planned behavior (Ajzen, 2012), I expect that intentions are directly converted into actual behavior, provided that external conditions support this process. The situational context described in the vignette must closely resemble the real-life scenario for intentions to lead to actual actions. In order to test the assumption and thus the validity of the results obtained with FS, I use an FS module that was implemented in the Panel for *Labor Market and Social Security* (PASS) in 2011 and is used to analyze occupational mobility decisions (Frodermann et al., 2013). Due to the longitudinal design of the PASS data, this FS module offers the opportunity to observe the respondents during the survey and their actual behavior. In addition, the PASS data makes it possible to add administrative data from the Federal Employment Agency and, thus, another non-reactive data basis. The data basis allows for a within-subject comparison, and by integrating administrative data, an additional non-reactive comparative value is available. Thus, the study goes beyond previous research and can compare effects and mechanisms at the individual level.

Since this FS module also deals with job acceptance preferences and job-based relocation probabilities, it is ideally suited for this first section of the dissertation. Due to the overlap in content between the FS module and the module used for the content-related questions in articles two and three, it offers perfect comparability and transferability. Since the module used was already collected beforehand, it offers the possibility of including the respondents' behavior in the following years as comparative values in the analysis.

Chapter 3 addresses the question: How do job characteristics and coordination processes in partnerships shape the willingness to take on jobs in the labor market?

Following the methodological investigation of the external validity of FSs, the second article examines how decisions in favor of employment arrangements and associated career relocations are negotiated in couple relationships and to what extent gender differences are relevant. The starting point for this article is a study on decisions in the context of chosen employment arrangements in the context of partnership (Auspurg et al., 2014). This is extended to include both partners' direct involvement in the household's decision-making process. In addition to the relevant mechanisms for movers, tied movers are also included.

1. Introduction and Overview

Based on negotiation theories (Ott, 1992), I assume that decisions within a partnership are made through negotiation processes. The outcome of negotiations, such as a job-related move, depends on power relations between the partners. The partner with better external options (e.g., a higher-paying job offer) has a stronger position in partnership negotiations. However, negotiation theory approaches assume a gender-neutral mechanism in which differences between the sexes can be explained by structural inequalities in the labor market but not by differences in preferences or norms within the partnership (Blau & Kahn, 2003).

For this reason, approaches of *Doing Gender* (West & Zimmerman 1987; Brines 1994) supplement the explanatory approach to decision-making within partnerships. These assume that gender is actively produced in social interactions and impacts the distribution of partnership roles. Gender norms shape how partners bring their decisions and their interests into negotiations. In line with this, previous studies have shown that traditional role expectations persist despite increasing equalization in education and employment. These expectations mean that the male partner's career is often prioritized in many households, even if the woman has better career prospects (Bielby & Bielby, 1992; Shauman, 2010). This discrepancy is also illustrated by the concept of the *tied-mover*, where the partner who follows the move usually accepts disadvantages in their career (Mincer, 1978).

Previous studies have shown that relocation decisions within dual-career couples are often asymmetrical. Men tend to experience greater career benefits when relocating, while women often sacrifice their career opportunities in favor of their partners (Cooke, 2008a; Hipp & Leuze, 2015). Even though studies have shown that women are more willing to turn down a move in order not to worsen their current position if they are offered the same job (Auspurg et al., 2014; Auspurg et al., 2013) the influence of gender norms and roles is often only indirectly taken into account in these analyses.

A key challenge in previous research is the lack of data depicting the decision-making process, not just the outcome. Most traditional surveys lack information on rejected job offers or the exact negotiations between partners (Jürges, 2006). For this reason, experimental data from an FS module will be used for these analyses. These offer a solution by creating hypothetical situations in which the decision-making processes within the partnerships can be simulated (Auspurg & Abraham, 2007). The FS module was surveyed in 2013 in the SOEP Innovation Sample (SOEP-IS), a representative long-term survey of private households in Germany.

In the experimental FS, respondents were given hypothetical scenarios (vignettes) in which they were presented with different job offers with varying characteristics. Respondents evaluated five hypothetical job offers that differed in nine dimensions, which, in addition to salary, also

include flexibility and the partner's career opportunities in the new location. In partnerships, the design was such that both partners received identical job offers, but only one received a fictitious job offer directly. The other partner was regarded as a *tied-mover* who was asked to assess their willingness to move to the new location. This experimental approach makes it possible to realistically simulate the negotiations within the partnerships by having one of the partners assess the potential move from the perspective of a *mover* and the other from the perspective of a *tied-mover*.

The advantage of this design is that all respondents receive the same hypothetical job offers, which avoids distortions caused by the actual labor market situation. This makes it possible to analyze the individual preferences of the partners regardless of their current professional situation.

Chapter 4 expands on the previous analyses and examines the question: How are labor demand and wage expectations related to gender, educational and income levels, and partnership and family constellations?

Building on the second article's explanation of gender-specific differences in the willingness to relocate for job-based relocations in the household, article three analyzes differences between social classes in the willingness to accept job offers. The origin raises the question of the influence of social classes on work-related decisions. Does our class influence our preferences for specific job characteristics? To analyze the mechanisms of social class more precisely, two relevant aspects of the class concept are mainly considered. We will investigate whether gender-specific differences are differentiated according to income or education levels. Of particular interest here is the initial financial situation, which can strongly influence the costs of implementing preferences and role models.

A central problem here is the lack of fit between the working conditions offered and the individual preferences of employees. Flexibility in the organization of working time is seen as an important mechanism for defusing conflicts between work and family commitments (Kelly et al., 2011). Many previous studies have focused on the demand side of the labor market, whereas little attention has been paid to the demand for flexible working conditions (Pedulla & Thébaud, 2015). The effects of flexible working time models have been studied frequently, particularly in the USA, but there is a lack of comprehensive analyses for European countries such as Germany.

Research shows that preferences for flexible working hours and their actual use vary according to social class. While members of the upper social classes tend to want to work less than their

current working hours allow, people from the lower classes are more likely to want to increase their working hours (Jacobs & Gerson, 2004). This difference is also referred to as the *time divide*. However, it is unclear whether flexible working conditions could alleviate time conflicts and have the same effect across all social classes. Another important topic is childcare and its importance for women's employment. In Germany, in particular, the supply of formal childcare falls short of demand despite increased capacity.

Gender and social class should not be considered in isolation; in many cases, they are mutually dependent (Fenstermaker & West, 2002; Gerstel & Clawson, 2014). For example, a person's social position influences their position in the labor market and preferred working conditions. Low-income women are more willing to forego flexibility due to economic necessities, while highly qualified women may prefer more flexible working models (Pedulla & Thébaud, 2015). Based on the theory, I suggest that flexible working conditions and childcare services potentially reduce gender and class-specific inequalities in the labor market. However, this requires a differentiated consideration of individual preferences and social situations. Therefore, the third article of the dissertation addresses how gender and class, in interrelation, influence preferences for flexible working conditions and childcare services. As in the second article, the FS module from the SOEP-IS helps to solve this question. By focusing on employees, the module offers the opportunity to analyze preference, regardless of external conditions that exclude the existence of certain opportunities for specific groups.

1.3 Theoretical Background

This section is intended to provide an overview of the theoretical field in which the dissertation is situated. The concepts used here are generally used to investigate processes and developments in the labor market (Hinz & Abraham, 2018) and explain relationships between family/partnership and spatial mobility in the labor market (Nisic & Abraham, 2023). These concepts form the framework for answering the research question of the dissertation. The theories enable a theoretical framing of the influences of gender and class on different willingness to accept jobs and the associated willingness to relocate. It is also possible to include influences from different characteristics of job offers. The theories and models used in my dissertation can all be categorized as rational choice theories (RCT) (see also Hill & Kopp, 2013).

Rational choice theories (RCT) are based on the assumption that actors act rationally and purposefully by choosing between available alternatives. People choose their actions based on

various alternative courses of action, resources, and expectations of the consequences of the corresponding alternative courses of action. "An actor therefore has goals ('desires'; preferences), forms expectations about the consequences of the alternative actions ('belief'), and has limited resources ('opportunities')" (Diekmann, 2022, p. 102). The rational aspect of human actions consists of the alignment of actions with the short-, medium- or long-term goals or needs of the actors. However, the goals do not only include economic aspects.

In principle, actions are selected within the framework of particular structural possibilities. The choice of an action can be broken down into three process steps (Diefenbach, 2009).

First, the action situation is defined. Existing experiences with comparable situations are decisive for perceiving and interpreting an actor's current situation. If similar previous experiences exist, routines are usually available. Alternatively, a conscious decision to act must be made. Existing restrictions limiting the available alternative courses of action are essential. Not all possible alternative courses of action are available to the actor in every situation.

The costs and benefits of possible alternative courses of action are weighed in a second step. In this step, an inventory of the alternative courses of action, including the resulting consequences, is made. For each consequence resulting from the respective alternative action, there is a specific benefit value: costs (negative effects) and benefits (positive effects). The costs include the person's material, immaterial, and time resources. However, it is unclear whether the corresponding consequences will occur. Accordingly, the costs and benefits are weighted with expectations of how likely they will occur. Formalized, the selection of an alternative action can be modeled using SEU theory (subjective expected utility) as follows $SEU_i = \sum u_{ij} * p_{ij}$. The utility value of the corresponding consequences $j(u_{ij})$ is determined for each alternative i. In addition, the subjective probabilities for the occurrence (p_{ij}) are determined (Diekmann, 2022). This corresponds to the overall benefit of an alternative action.

Based on this consideration of the costs and benefits of each alternative action, in the third step, the actor selects the alternative action for which the value SEU_i is the highest and, therefore, brings the greatest net benefit. This step is also referred to as the *maximization rule*. SEU theory (Savage, 1972) describes how actions are selected from a set of alternative actions in a specific situation. It represents the core of RCT and refers to subjective expectations rather than objective probabilities determined externally (see also Esser, 1999).

An important point is that for RCT, rationality lies in choosing an action and the result. It is not decisive whether the action chosen by the actors is better than other possible alternative actions to achieve a particular goal. The decisive factor is whether the person has used the best possible

means among the alternative actions considered, including the expected restrictions. Only subjective (biographically acquired) assessments, opinions, or convictions are relevant here, this is also called *bounded rationality* (Simon & Steiner, 1993). The choice made does not necessarily have to be comprehensible for external persons. No *objective* external view of third parties is applied. The assumed rationality is subjective. The preferences of the persons are also decisive, which can vary depending on the situation.

In addition to focusing on rational actions, RCT assumes that these individual actions can explain social phenomena. Social phenomena are unintended results of individual actions (Diefenbach, 2009). Based on the idea of the Coleman diagram[3] (Coleman, 1990), it is assumed in RCT that the macro-level influences the independent variables at the micro-level, which influence which alternative action is chosen. The actions of several actors (at least two) are then aggregated back to the macro level. Esser (1999) also refers to the three steps in the model as 1) *logic of the situation*, 2) *logic of selection*, and 3) *logic of aggregation*. Individual action (micro level) can be viewed here as a dependent variable determined by social events and processes (macro level). Examples are family structures, socio-economic position, or a person's social class, which influence the costs and benefits of individual action. The bridge hypothesis illustrates this step from the macro to the micro level. In addition, the consequences of individual actions can also be aggregated again to derive societal consequences. However, individuals usually do not consider the effects on the societal level. Examples of these aggregation effects are influences of actions on social developments, as well as consequences for the family.

Societies are viewed here as a collection of individuals, whereby the characteristics of a collective result from the characteristics of these individuals. For example, collective effects at the macro level can also be family structures. With this actor perspective, RCT follows the program of *methodological individualism* in the tradition of Max Weber and Karl J. Popper (Diekmann & Voss, 2016).

Roles and norms often also play an essential role in explanations of partnership and family. However, values can be social, collective ideas about desirable events and, therefore, do not contradict RCT (Hill & Kopp, 2013). "At no point is it required for the utility values to refer to material or monetary values. Axiomatic RC theory neither presupposes nor implies a *homo oeconomicus* (Diekmann, 2022, p. 104). Values and norms can be integrated into the choice of actions as elements of a person's preference system. The influence of existing values and norms is transferred into the person's characteristics and thus affects individual actions. Norms can be

[3] In many cases, the Coleman micro-macro scheme is also referred to as the *Coleman Boat*.

seen here as social expectations of individuals, with the threat of negative sanctions if they deviate from the norm. If social roles or expectations change, this also has the effect of adjusting the resulting costs for actors, which thus leads to changed actions. Values and norms, therefore, only have an impact via individual actions and are thus compatible with the action-based explanatory approach of RCT.

Actions are subject to particular material, temporal, and other restrictions (Hill & Kopp, 2013). In addition to values and norms, these restrictions also include the behavior of co-actors who may cooperate or compete with the actors. Such co-actors can be family members, for example. The "path dependency" of decisions is also essential here (Hill & Kopp, 2013). Upcoming decisions are always dependent on previous decisions and the situation in which they are made. This is often relevant in a family context, where decisions often affect the partners and influence their future decisions. As interactions occur over a more extended period in partnerships and families, mutual support for achieving one's own goals exists. If an actor acts selfishly here and does not include the effects of their actions in their cost-benefit calculation, the interaction will end in the long term. Therefore, a rational actor can be highly interested in others and choose cooperative action alternatives.

Even if it is not made explicit in some of the theories and models used for the three articles in the dissertation, the basic assumptions of RCT are usually assumed.

The RCT is often assumed to be the core hypothesis, and hypotheses generated on this basis can be empirically tested (Hill & Kopp, 2013). Theoretical approaches not primarily based on the assumption of a rational actor can also be integrated into the RCT concept. For example, gender-specific approaches that assume an effect of role expectations and norms can also be integrated into a broader form of RCT. The influence of norms and values can be understood as a shift in the cost structure.

1.4 Data and Methods

In this section, I provide an overview of the difficulties with existing data on the labor market and the data sources used in the articles.

Existing labor market data is an inadequate source for research about the relationship between gender and social class on the willingness to accept jobs and the associated negotiation in partnerships. They are associated with many limitations that complicate an investigation or require assumptions that cannot be explicitly tested. In the theories from the previous section, it is assumed that job offers are only accepted if the salary and working conditions in the job

offer match preferences. With available labor market data from surveys or administrative data, it is difficult to isolate and examine preferences. In most cases, sample selection is problematic since people in the labor market do not form a random sample but a selective group for whom the jobs offered match their preferences.

In order to distinguish effects between subgroups, information is needed about all job offers available, whether accepted or rejected. Only in this way can different preferences between social groups (such as gender or class) be identified. If, as in most cases, only information on realized job changes is available, only statements about access to job offers are possible, but not about preferences. This aspect also applies to job characteristics, such as flexible working conditions. Due to market imperfections, it can be assumed that only a (selective) portion of the labor force can realize their preferences (Campbell & van Wanrooy, 2013). For these and other reasons, it is difficult to estimate the willingness to pay for non-monetary job characteristics, such as a high degree of working time flexibility; econometric analyses show that fallacies can lead to incorrect signs of coefficients (Flabbi & Moro, 2012; Hwang et al., 1998). In addition, there is the problem that preferences expressed in direct item queries may only represent post-hoc adjustments to factual circumstances that arise from a lack of opportunities in the labor market or economic constraints in the household (Stone, 2007).

So far, there have been isolated studies for the USA, but even fewer for Germany, which show that the realization of ideals for the division of labor in couples is strongly related to income and education levels (Gerstel & Clawson, 2014).

This lack of suitable data also limits previous research on partnership decision-making processes and sharing work and family responsibilities in partnerships and families. It is also difficult to separate different explanatory approaches. It is impossible to differentiate between the effects of bargaining theory and the influence of gender roles. In bargaining theory (Ott, 1992), it is assumed that gender-specific decisions are made because women have less attractive employment prospects. The gender role approach (Brines, 1994; Fenstermaker, 2002; West & Zimmerman, 2002), on the other hand, assumes that men prefer male careers because of gender-specific norms. These are two different explanatory mechanisms, but as a result of the realized job changes, they cannot be separated.

Since labor market data from surveys or administrative data offer limited possibilities for answering the research question, this study combines survey data and experimental design. For this reason, an experimental *factorial survey module* (FS) on job acceptance preferences is used as the basis for analysis. “The motivation behind the FS method is to present survey respondents with stimuli that resemble real-world evaluations and to force them to make trade-offs between

several dimensions." (Auspurg & Hinz, 2015, p. 1) Respondents are asked to judge vignettes describing hypothetical situations, objects, or individuals with various attributes (dimensions). The dimensions are varied between the vignettes to estimate how different levels impact respondents' judgments. See (Auspurg & Hinz, 2015; Mutz, 2011; Wallander, 2009) for an overview of the FS method. This approach allows for a clearer understanding of the judgment principles that inform evaluations, in contrast to single-item questions, by using a multidimensional experimental design. The FS method is becoming increasingly significant, as confirmed by its implementation in large-scale household surveys and the number of publications (Treischl & Wolbring, 2022; Wallander, 2009).

As part of my dissertation, I use two different FS, each containing hypothetical job offers. A module was included in the SOEP Innovation Sample 2013 to examine the substantive research question. This module is used in articles two and three to examine the research questions. Therefore, the following section describes this FS module in more detail. For the first article and the methodological investigation of the external validity of FS, I used a preliminary experiment with a similar setup since information from respondents from the following years was already available. This module is covered in more detail in Article One.

Factorial Survey Module on Job Preferences and Conditions of Labor Market Participation

A factorial survey is used to evaluate the influence of gender, household structures, and working conditions on inequalities in labor market participation and work-family conflicts. The FS was designed to assess job acceptance preferences concerning various institutional framework conditions and factors such as employment security or couple constellations (Auspurg & Hinz, 2022).

The module was implemented in the third wave (2013) of the SOEP Innovation Sample (SOEP-IS) (Richter & Schupp, 2012).[4] The SOEP-IS, an extension of the GSOEP, allows researchers to include question modules in a Germany-wide survey. As part of the SOEP-IS, all adult household members are comprehensively surveyed on their employment history and a wide range of information on the household. By being integrated into a general population sample, the FS module combines the advantages of an experimental design with the benefits of a broad, reliable sample. This means there are also enough cases from special groups, and it is possible to compare subgroups. The FS module was presented to all persons between the ages of 18 and 55 who were available to the labor market at the time of the survey. The module was embedded

[4] The FS module was designed by Katrin Auspurg and Thomas Hinz and implemented in SOEP-IS in a competitive peer-review process (Auspurg & Hinz, 2022). For more information on the data set used, see (Schupp et al., 2013).

in a block of questions on the respondents' occupational status, working hours, and earnings. The module thus was well integrated thematically, and further important information on the participation of the participants in the labor market is available.

As part of the FS, respondents were presented with five different job offers. These job offers were hypothetical scenarios in which different job characteristics were varied experimentally. In total, up to nine dimensions were experimentally varied between the vignettes. Table 1.1 provides an overview of the dimensions and characteristics used. With the help of these dimensions, we aimed to create a job offer that is as realistic as possible and contains all relevant information. The most important job characteristics in the vignettes for my dissertation are the displayed salary, available working time flexibility, and childcare. The reservation wage (gross) for a full-time position was queried in advance for the salary displayed in the vignettes. This reservation wage served as the basis for calculation and was then varied experimentally for the vignettes by adding increases between 0 and 80 percent.

Table 1.1: Overview of Dimensions and Levels Used in the Hypothetical Job Offers

	Dimensions	**Levels**			**Total**
1	Gross salary: Expected salary[a] plus X [%]	0% | 20% | 40% | 50% | 60% | 80%			6
2	Contract duration	unlimited	1-yr contract	3-yr contract	3
3	Career prospects	no	some	many	3
4	Mandatory overtime	no	sometimes	frequently	3
5	Flexible working hours (flexi-time)	no	some	much	3
6	Child care provided by employer	no	part-time	full-time	3
7	Minimum working hours per week	20 hours	30 hours	40 hours	3
8	Commuting distance – single way	1 hour	2 hours	4 hours	3
9	Partner's chance of finding a job at new location [b]	worse	similar	better	3
∑	**Vignette universe (6*3*3*3*3*3*3*3*3)**				**39,366**

[a] Amount of pay respondents considered as being realistic for themselves when starting a (new) employment.
[b] Dimension will be presented only to respondents actually living in a partnership.

Respondents were asked to rate each job offer using three response scales. First, they were asked to rate the attractiveness of the job offer, which allows us to estimate preferences for specific job characteristics. Next, they were asked to indicate the likelihood of accepting the

job. In addition, they were to assess their willingness to relocate.[5] An 11-point Likert scale was used for all three questions. [6]

The weighting of the individual dimensions can be determined from the assessments. This characteristic can also determine gender- and class-specific willingness to concede individual characteristics, such as available flexibility and childcare. The importance of individual dimensions can be analyzed individually, and group differences can be considered. This is a decisive advantage for the application to the investigation of my research question.

A crucial point for the analyses of the second article on negotiation in partnerships is the *mirror-inverted* structure of the FS in the couple context. In couple households, the partner receives the job offer and should evaluate it for him-/herself. The corresponding partner received the same job characteristics, but the job offers referred to the partner. This partner was asked to rate the offer's attractiveness for their partner, themselves, and the likelihood of moving together. The respondents were randomly divided into movers and tied-movers (Mincer, 1978). This created a situation that was as realistic as possible, in which one partner receives a job offer and has to decide for themselves and the household as a whole whether to accept the job. The FS module thus indicates a *decision-making dilemma* that can arise when two careers have to be coordinated within the household (Abraham et al., 2010). This enables a theory-based implementation of negotiation theory models, including focusing on factors of (temporal) compatibility of two careers in the household. Models at both the individual and couple levels are therefore possible.

[5] It was possible to query the probability of relocation as all job offers were at least one hour's one-way commute from the current place of residence.

[6] For the first question on the attractiveness of the job offer, an 11-point Likert scale from 0 = *very unattractive* to 10 = *very attractive* was used. For the second and third questions on the likelihood of acceptance and relocation, an 11-point Likert scale from 0 = *very unlikely* to 10 = *very likely* was used.

Figure 1.1: Sample Job Offer for *Mover*
(English translation, varied factors are underlined)

The offered monthly gross salary is 4,300 Euros[a]. The job is limited to one year and it offers you some career prospects. The employer frequently requires overtime hours. He provides no flexibility in working times (e.g. flexi-time), and also no child-care.

There is always the possibility to reduce the contracted working hours per week to a minimum of 20 hours. The one-way trip from your current place of residence to the location of the job is approximately two hours.

The chances of your partner to find a job at the new location are at the same level compared to your actual place of living.

How attractive is the job offer for you?

(Respondents were asked to report on an 11-point scale, reaching from 0 (*very unattractive*) to 10 (*very attractive*).

How likely is it that you would accept the offer?

(Respondents were asked to report on an 11-point scale, reaching from 0 (*very unlikely*) to 10 (*very likely*).

How likely would you move together with your partner to the new location?

(Respondents were asked to report on an 11-point scale, reaching from 0 (*very unlikely*) to 10 (*very likely*).

[a] The salary in the job offer always represents a percentage increase (increase by 0 up to 80%) of the earnings levels respondents indicated they would expect in case they were searching for a new full-time employment.

Figure 1.2: Sample Job Offer for *Tied-Mover*
(English translation, varied factors are underlined)

The offered monthly gross salary for your partner is 4,300 Euros[a]. The job is limited to one year and it offers some career prospects. The employer frequently requires overtime hours. He provides no flexibility in working times (e.g. flexi-time), and also no child-care.

There is always the possibility to reduce the contracted working hours per week to a minimum of 20 hours. The one-way trip from your current place of residence to the location of the job is approximately two hours.

You own chance of finding a job at the new location are similar to those at your current place of residence.

How attractive do you think is the job offer for your partner?

(Respondents were asked to report on an 11-point scale, reaching from 0 (*very unattractive*) to 10 (*very attractive*).

How attractive would the situation at the new location be for you personally?

(Respondents were asked to report on an 11-point scale, reaching from 0 (*very unattractive*) to 10 (*very attractive*).

How likely would you move together with your partner to the new location?

(Respondents were asked to report on an 11-point scale, reaching from 0 (*very unlikely*) to 10 (*very likely*).

[a] The salary in the job offer always represents a percentage increase (increase by 0 up to 80%) of the earnings levels respondents indicated they would expect in case they were searching for a new full-time employment.

The nine dimensions and the associated characteristics result in a vignette universe[7] of 36,366 possible vignettes. 400 different vignettes were drawn using a D-efficient design from this vignette universe.[8] These 400 vignettes were divided into 80 different questionnaire versions (decks), each with five vignettes.[9] The allocation of people to one of the 80 decks was randomized. Within couple households with two persons available to the labor market, the same deck was used, and the partners were randomly allocated to movers and tied movers. The order of the five vignettes within the deck was also randomized per person.[10]

The realized vignette sample was also tested as part of the data preparation and testing. It was found that the orthogonality of the vignette sample was also successful here. The maximum correlation between the individual vignette dimensions is very low at $|r| = 0.04$. The individual characteristics of the dimensions are also evenly distributed in the realized sample. This makes it possible to estimate the effects of the individual dimensions on the responses with maximum precision (Auspurg & Hinz, 2015). The randomized allocation of the treatment to the respondents also worked well; no substantial correlation was found between the vignette dimensions and the characteristics of the respondents. The FS module thus provides a reasonable data basis for the analyses in the dissertation.

The existing research design makes it possible to abstract from the demand side in the analyses and focus on the supply side and, thus, the employees and their preferences. The randomized allocation to job offers enables unbiased estimates of job acceptance preferences independent of the labor market's selection processes by the supply side. The selection process of the labor market is overcome, and not only specific subgroups have access to attractive job offers.

[7] The vignette universe includes all possible combinations of dimensions and characteristics (full factorial).

[8] The D-efficient design ensures that the sample of vignettes represents the universe as well as possible. A D-efficiency of 92.0 was achieved here. A D-efficient design combines minimal correlations between individual factors and at the same time maximum variance of the characteristics. This ensures that all possible effects can be identified (Dülmer, 2007).

[9] The distribution of the vignettes on decks was also based on maximum D-efficiency.

[10] By randomizing the order of the vignettes within the deck, possible sequence or *carry-over* effects should be prevented (Auspurg & Jäckle, 2017).

2
Article 1:
Is it worth studying hypothetical decisions?
A validation study of a factorial survey
on job-related migration

2.1 Introduction

In many social sciences research areas, cause and effect identification are crucial. However, causal analyses are often not possible or are only possible to a limited extent due to the available data. An important solution here is the use of experiments. Through the deliberate manipulation of treatment and randomization, the effect of the treatment can be directly inferred in experiments without controlling for other factors. As a result, experiments have a high internal validity. However, the main critique is the external validity, as experiments are often conducted in unique settings and with selected samples. Survey experiments combine the advantages of experiments and survey data to reduce the disadvantages. Factorial surveys (FS) are an established instrument of survey experiments in which respondents evaluate hypothetical scenarios, so-called vignettes, within surveys (Auspurg & Hinz, 2015; Mutz, 2011; Rossi et al., 1974). The descriptions in the FS contain various dimensions that the researcher manipulates. The combination of experimental design and representative samples offers valuable insights, particularly regarding complex issues such as analyzing migration decisions or accepting job offers.

Given these advantages, FS has significantly increased in the last few years and is now a common tool in many research fields (Treischl & Wolbring, 2022). The number of studies incorporating FS is on the rise, as is the methodological research on FS. Several method books and articles now deal with FS's structure and design, keeping researchers abreast of the latest developments (Auspurg & Hinz, 2015). However, a central point of criticism of FS, which relates to the external validity and, thus, the generalizability of the results, has not yet been resolved. While internal validity is often high due to the controlled presentation of the scenarios, it remains unclear whether and to what extent the intentions expressed in vignettes match actual behavior.

To date, only a few studies have examined the external validity of FS. The studies' results contradict each other and, in some cases, show limitations in their procedures. In addition to the original attitude analysis, studies are increasingly using FS to draw conclusions about the participants' behavior, a promising application that is gaining traction. In these studies, external validity is crucial, and many criticize using FS for analyzing behavioral effects. Through the evaluation of hypothetical scenarios, the respondents only state intentions. The question is whether these intentions and stated preferences are similar to realized behavior, a fascinating study area ripe for exploration.

In order to analyze the question of the generalizability of stated preferences in FS, this study uses an FS on job-related mobility decisions integrated into a large-scale Germany-wide panel

survey (*Panel Study Labour Market and Social Security* PASS). In this FS, the participants received fictitious job offers in which essential characteristics such as income and time flexibility were varied. All job offers require relocation or a longer commute. The participants evaluate these job offers in terms of the likelihood of relocation. Using the panel study and administrative employment data, we examine how the hypothetically expressed willingness to relocate for a job corresponds to actual relocation behavior in the following years. The combined data structure of panel and administrative data attempts to minimize possible sources of error. This individual link between the FS and the validation data offers a big advantage. Most previous studies compared the aggregate of the given answers in the FS with the combined results of an experiment or survey data. They only had the opportunity to compare the results on an aggregate level. It was not sure if the accordance was due to individual accordance. With the data available in this study, it is possible to analyze the individual answer in the vignette module with the actual behavior of the respondent. The study aims to contribute to the debate on the external validity of factorial surveys.

2.2 Theoretical Background

Experiments are mainly used because they allow the researcher to stimulate the treatment directly and produce high-quality data. However, this is only the case if the three quality criteria, objectivity, reliability, and validity, are satisfied. Population-based survey experiments, like FS, have a high potential to gain valid results as they combine the advantages of experiments and surveys (Auspurg & Hinz, 2015; Mutz, 2011). Through the experimental varied stimulus, they are assumed to have high internal validity, while their implementation in large probability samples raises the external validity concerning the participants.

One prominent critique of FS is the supposed lack of external validity, which refers to how the effects and underlying process could be generalized to other settings, samples, measurement methods, or experimental treatments (Groves et al., 2009; Mutz, 2011). Looking at external validity differentiating between the generalization *to* other settings, times, or persons and the generalization *across* types of settings, times, or persons is necessary (Cook & Campbell, 1979; Lucas, 2003). Three aspects are showing high external validity of the results of a study. First, the study's design has to meet the scope of the theory under test. Second, the results should support the propositions of the theory and tests. Third, the theory has been supported in diverse tests, situations, and settings. The large samples of population surveys enable the variation of treatment and outcome measures. However, the problem with FS's external validity is the lack of information about the factors enhancing external validity. There is always a big obstacle

when looking at FS's external validity because FSs only measure intentions. However, in most cases, research focuses on actual behavior, and often, the intentions stated in the FS have been used as a proxy for the revealed behavior.

Behavior that is neither habitual nor routine is usually a form of goal-directed behavior. This is also a fundamental assumption in the theoretical framework of the *Theory of Planned Behavior* (TPB) by Icek Ajzen (1985, 1991, 2005, 2011)[11], where intentions directly drive the behavior. There is a strong relationship between intentions and behavior. The intention to perform a behavior is the most crucial influence on the actual behavior, and intentions are assumed to be the immediate antecedent of the realized behavior. It is known that people are willing to try to be successful in behaving in such a way. Consequently, the stronger the intentions for a particular behavior are, the more likely the intentions will lead to the actual behavior. So, if the intentions change, the behavior will change as well. However, intentions only measure a person's attempt to perform a behavior. *Perceived behavioral control* is an additional important factor that can moderate and restrict the direct influence of the intention on the actual behavior. This factor applies "to people´s perception of the ease or difficulty of performing the behavior of interest" (Ajzen, 1991: 183). Suppose the behavior and situation of interest are under complete control of the person, and the person also perceives control; intentions will be sufficient to predict the actual behavior. An essential aspect of perceived behavioral control is that it varies between situations or actions and is influenced by the context of the situation. The "performance of a behavior is a joint function of intentions and perceived behavioral control" (Ajzen, 1991: 185). This means a particular behavior will likely occur with increased perceived behavioral control if the corresponding intentions are held constant. In many cases, the perceived behavioral control could be substituted for the actual control.

Three conceptually independent determinants explain intentions. Firstly, the attitude towards the behavior. The attitude towards the behavior describes how favorable the person's evaluation of the interested behavior is. Secondly, intentions are influenced by the subjective norms of the person. This refers to the perceived social pressure to perform this particular behavior. Thirdly, the perceived behavioral control also directly influences the intention to act. On the one hand, it reflects experience, but on the other hand, it also covers anticipated impediments and obstacles. In general, the more affirmative the attitudes and subjective norms are and the greater the perceived control, the more the intentions increase to perform the behavior. However, these

[11] TPB is a derivative of the former "Theory of Reasoned Action" (TRA) (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975). The new model of the TPB is very similar to TRA, but Ajzen added the "perceived behavioral control" as an additional influential factor which affects the intentions, but also has a direct effect on the actual behavior. Through this extension the model is not reduced to behaviors with complete volitional control.

determinants of intentions are driven by salient beliefs that are relevant to the behavior of interest. Three salient beliefs correspond to the determinants: behavioral, normative, and control beliefs.

Taken together, the framework of the TPB is a simple model that explains how behavior can be explained.

> "Attitudes toward the behavior, subjective norms with respect to the behavior, and perceived control over the behavior are usually found to predict behavioral intentions with a high degree of accuracy. In turn, these intentions, in combination with perceived behavioral control, can account for a considerable proportion of variance in behavior." (Ajzen, 1991: 206).

The TPB has become one of the most influential models for predicting human social behavior and explaining its formation (Ajzen, 2011). Many different empirical studies found strong support for the TPB and its mechanisms (see for some meta-analysis e.g. McEachan et al., 2011; Schulze & Wittmann, 2003; Sheeran, 2002). The study by Ajzen, Brown, and Carvajal (2004) also tested the TPB on account of the *Hypothetical Bias* in willingness to pay for experiments. In this study, a strong correlation between the intentions and the hypothetical behavior was found. The results also correlate with actual behavior, which is weaker than within the hypothetical situation. They show that the hypothetical and actual contexts are perceived in different ways. The results also confirm an overestimation of the likelihood of engaging in socially desirable behavior. The authors conclude it is only justified to use intentions as a proxy for actual behavior if the context of the hypothetical situation could be assumed to be like the one for the real behavior.

To ensure that the TPB model also applies in practice, the following three points should apply to the empirical application of the model (Ajzen, 1991, p.: 185). First, the measured intentions and perceived behavioral controls must be compatible with the predicted behavior. Secondly, intentions and perceived behavioral control must remain stable over the observational time. Both could change over time and, therefore, lead to another behavior. If intentions are not stable over time, this could reduce validity for predicting behavior (see e.g. Conner et al., 2000; Sheeran et al., 1999). Thus, the external validity of FS could be small due to the time between the measured intentions and behavior. Thirdly, the perceived behavioral control should also reflect the actual control of the person over an action.

For the analysis of the validity of FS, these factors should be controlled as well as possible. In addition, it should be considered when interpreting results from a validation study. These aspects can lead to deviations between intentions measured with an FS and the actual behavior. For this reason, the deviation in a validation study can result from factors other than low external validity. One possible cause could be differences across respondents in their perceived behavioral control. In our data, for example, the respondents differed in their access to job offers

in an actual situation. In the FS, all participants have the same access to reasonable job offers. This choice is made consciously to overcome the selectivity connected to the labor market and to have the opportunity to analyze the preferences on job offers of persons who can decide freely on their preferences. This is a great advantage and opportunity of FS.

Taking the assumptions of the TPB as a starting point leads to the following research assumptions.

1. The causal mechanisms influencing the intentions given in the FS should be the same as the actual behavior.
2. If there is a direct link between the intentions and the behavior, like in the TPB, there should be a connection between the stated preferences in the FS and the revealed preferences.
3. The causal effects that influence the intentions mentioned in the FS should be the same as the actual behavior. However, this only applies if there are no differences in the perceived behavioral control between the hypothetical situation in the FS and the actual behavior.

For the actual study of accepting a job offer, this leads to the following supposition: the higher the individuals' stated likelihood to accept a job offer in the FS module, the more likely they should start a new employment. In case the main assumption of the TPB works, there should be a correspondence between the predictors of intentions in the FS module (stated preferences) and predictors of the actual behavior (revealed preferences). Besides, there should be a correspondence between the willingness to accept unfavorable job characteristics in the FS module and actual behavior.

2.3 State of Research

There are two ways to measure the extent of the validity of results (Groves et al., 2009). The first way is to use multiple indicators of the same construct. Cumulative research on the same theoretical construct with varied dimensions of the research designs can help to attend to external validity. For example, FS could be easily tested on other populations or geographical locations. This way is called the silver bullet for external validity (Brewer & Crano, 2014). The second way to measure the validity is to use external data to compare the results gained with the experimental data.

While much methodological research has been conducted on FS's internal and construct validity (for an overview, see Auspurg & Hinz, 2015), the same cannot be said for its external validity. Little is known about the extent to which the results gained with vignettes can be generalized to other settings, locations, samples, measurements, or treatments.

For the group of stated preference experiments to which FS belongs, there are some studies concerning the keyword *Hypothetical Bias* (for an overview, see Fifer et al., 2014; List & Gallet, 2001; Loomis, 2011; Loomis, 2014; Louviere et al., 2000; Louviere & Timmermans, 1992; Mitani & Flores, 2014; Murphy et al., 2005). Most of the studies used Conjoint Analysis or Choice Experiments as experimental design. These studies refer to the main criticism of the hypothetical situation of stated choice experiments and, thus, the lack of external validity. Many results of this research show a high correspondence between the effect size gained from multifactorial experimental data and the effect size based on non-experimental data on various topics. That means they find a high level of agreement between the stated and the revealed decisions, especially concerning measuring the causal effects of the dimensions under study.
Nevertheless, there is also evidence to overestimate the likelihood of socially desirable actions. The analyzed methods used for most of these studies differ in their response task and presentation style from FS. Therefore, it remains unclear to what extent these results can be transferred to consider the external validity of FS.
Only a few studies directly address FS's external validity. Most focus on the consistency between FS's behavioral intentions and the corresponding *actual behavior measured* by observational studies, field experiments, or population surveys. Studies on deviant behavior show apparent differences between the behavior rate for jaywalking or lost letters in FS and observational studies (Eifler, 2007, 2010). Results gained with vignettes differ from those from observational or experimental studies, which seem more realistic. FS shows the tendency for more socially desirable answers, but not for all investigated situations. As a result, Eifler summarizes that FSs evoke scripts other than real situations and, therefore, lead to other responses or behaviors and could not be seen as a valid method. However, the problem with this study is the comparison of frequencies and rates. As mentioned before, FS cannot be used to estimate prevalence rates or likelihood of behavior. Vignette studies aim to test causal effects. A study on similar behavior also shows differences in the behavior rate (Groß & Börensen, 2009), but for the comparison of influential effects on the behavior, there are only a few differences in the direction of the impact. This result is also confirmed by comparing an FS and a field experiment on misdirected email (Petzold & Wolbring, 2019). The incidence rate of highlighted misdirections in the field experiment, in which they sent emails to the wrong sender, differs significantly from the FS. Nevertheless, the findings about the treatment effect's direction, relative strength, and statistical significance are similar. Another study by Natascha Nisic and Katrin Auspurg (2009) confirms these results and shows evidence for the validity of FS, too. The results are nearly identical for a vignette module on hypothetical movements

compared to actual moves stated in a German national survey. As they used different samples, they could only compare the effects' direction and significance level. However, for those, the hypothetical dimension of the FS seems to have no significant influence on the statements. So, both data sources lead to the same causal effects and mechanisms. However, the experimental design makes more research and theoretical considerations possible within the FS. Like the study of Nisic and Auspurg, Drasch's (2019) study about mothers' return decisions on the labor market found that the stated intention in an FS and the realized decisions within respondents are closely related and a high external validity of vignette studies. If mothers stated a higher willingness to pay for favorable jobs in the vignettes, the higher the likelihood to re-enter the labor market afterward and the more likely they are to take up jobs with less favorable characteristics. Personal traits, instead, do not matter for intentions or behavior in this case.

In a labor market study on the willingness to hire blacks or ex-offenders for an entry-level position, Devah Pager and Lincoln Quillian (2005) compared the results of a vignette module with results gained from an experimental audit study. As a main result on the aggregate level, the authors compromised that the two methods lead to totally different outcomes that are not comparable. Conclusions drawn from the two methods are entirely different. With the results of the vignette module, the available barriers for blacks and ex-offenders are highly understated. Consistent with aggregate data, the actual behavior and the stated preferences in the FS on the individual level also have little in common. In summary, this study does not find a strong connection between attitudes and behavior. Although the hypothetical and actual situations differ, as in the FS, employers had to note their hiring preferences for one person. In reality, several people apply for a job, and the employer has to decide between several people. Another critical issue is the social desirability bias, which is present in telephone surveys. For these reasons, the authors conclude that the best way to gain decisive results is by combining an FS and an experimental design to test the external validity of the key findings.

Also, another study on employer hiring decisions found a low correlation between intentions in an FS and actual behavior (Forster & Neugebauer, 2024). In this case, results from a field experiment in which they sent out applications for actual vacancies in Germany do not correspond to an FS on evaluating applicant profiles within the same persons. The findings also suggest that the accordance between the FS and the field experiment is regardless of the aspects of the survey or the respondent (like the sensitivity of the topic, respondents' tendency for socially desirable answers, or the effort the respondent put into the process of answering).

In contrast to these findings, other comparisons between FS and external references find high accordance. A study about a ballot naturalization referendum in Switzerland used the same

subsample of persons for the FS and the control group (Hainmueller et al., 2015). The comparison data comes from non-reactive data. They used a referendum to discuss the naturalization application of immigrants in Switzerland. In this referendum, in some municipalities, everyone got a small description of the person applying for Swiss citizenship, and the people could vote for or against it. The data are very similar to those of a real-world vignette experiment, so the authors used it as a behavioral benchmark compared to different variations of stated preference experiments. Although there are slight differences between the varied experimental designs, their results show a high correspondence between the causal effects on the stated preferences and the actual behavior. Surprisingly, the paired conjoint design reaches the best results as the vignette variation is closest to the actual situation. This result contrasts the concept of *psychological realism*, which advises using experimental designs mainly similar to the actual situation. As an explanation, Hainmueller et al. assume that respondents who get the paired conjoint design are more engaged and, therefore, less prone to satisficing than within the single vignette design. As mentioned before, FSs are experiments and, therefore, only usable to predict causal effects but not for prevalence rates. As in former studies, this is also visible in the study by Hainmueller et al., where the stated preference experiments lead to a much lower rejection rate due to social desirability. Another essential methodological aspect that influences the result is the analyzed sample. The results of the control group of students performed very poorly. Consequently, using a sample as similar as possible to the population of interest is vital.

So far, the results of the studies on the external validity of FS do not show a uniform picture. With the information from those studies, it is impossible to consistently state the external validity of FS. Another problem is that most of the studies lack one or more methodological aspects. Therefore, they cannot accurately state the generalizability of FSs. For this reason, this study tries to solve a part of the riddle of the external validity of FSs.

2.4 Data and Method

We use the results of a factorial survey module on job-related mobility decisions to analyze the external validation of FS. This vignette module was embedded in a large-scale panel study in Germany. The corresponding realized behavior of the respondents in the following time serves as an external reference for the comparison. Two different data sources are used as external measures of actual behavior. The first one uses the information from the longitudinal structure of the survey. The second data source is administrative data on the employment history of the

participants. Validation with two independent data sources helps maximize the reliability of the validation results and reduces possible errors associated with data sources.

2.4.1 Experimental Design

The FS addresses the analysis of job-related mobility decisions. In the FS, hypothetical job offers were presented to the respondents, who had to judge their attractiveness, willingness to accept, and willingness to move to another city for the job offer.

The theoretical idea behind the vignette module is that a higher willingness to move to other locations leads to a higher and more stable income in the long run. However, many people show a low desire to move to new areas – even in areas with a weak labor market compared to other areas. These constraints for relocation raise the question of why unemployed people are especially unwilling to move to different places to increase their chances of getting a job. However, as it is associated with traditional survey methods, it is impossible to differentiate if it is due to a lack of supraregional job offers or a low willingness to move. Therefore, the selectivity associated with the labor market is essential to the topic. Persons with good opportunities in the labor market are a particular group of people who are often highly educated. It is unclear to what extent the low willingness to move is due to a shortage of suitable job offers. The FS was already used for several studies and gained fruitful insight into job-related mobility decisions (see e.g. Abraham et al., 2013; Abraham et al., 2019; Auspurg et al., 2014; Auspurg & Gundert, 2015).

To obtain a comprehensive sample for the FS, the vignette module was included in the fifth wave (2011) of the panel study *Labor Market and Social Security* (PASS), a large-scale longitudinal household study conducted in Germany. All respondents in the 2011 sample, who were available to the labor market and at the age of 15 – 58, received the vignette module (Frodermann et al., 2013). Altogether, 4,813 persons participated in the FS, leading to 24,065 evaluated job offers.

Due to the complexity of the FS, it was only implemented in the CAPI version (computer-assisted personal interviews) and had to be filled in by the respondents themselves. Each respondent got five hypothetical job offers (vignettes), including eight job characteristics (dimensions), which are varied systematically. The dimensions and corresponding levels were selected by theoretical and former empirical evidence. The experimental dimensions contain information on income gain, working time, requirements, career prospects, contract type of the

new job, duration to the place of work[12], and the labor market and housing market situation at the new location. Additionally, there was a unique dimension for a 50% split of respondents with a partner in the same household, which gives additional information about the chance of getting a job at the new location for the belonging partner. Figure 2.1 shows an exemplary vignette without the extra dimensions for the labor market situation for the partner.

Figure 2.1: Example of a vignette (English translation, varied dimensions highlighted)

If you accept the offered job, your **net household income will rise to 3,510 euros**.
The **working hours** are approximately **20 hours** per week, and the **job requirements** are **significantly below** your professional skills.
The job offers **many opportunities for internal promotion** and is **limited to 3 years**.
The **one-way trip** from your current place of residence to the location of the job is approximately **6 hours**.
The **labor market at the new location** is **worse** than at your current residence.
Finding appropriate housing there will require **considerable effort**.

a) **How attractive** is the job offer **to you**?

Very unattractive	○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○	Very attractive

b) **How likely** would you be to **accept the offer?**

Very unlikely	○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○	Very likely

c) **How likely** would you be to **completely move to the new location?**

Very unlikely	○ ○ ○ ○ ○ ○ ○ ○ ○ ○ ○	Very likely

All vignette dimensions have three levels in which they differ except the gain of household income, which was an increase of the actual household (indicated in the questionnaire) with five levels, with a plus from zero to 80 percent. Overall, there is a vignette universe of 32.805 combinations. A sample of 500 vignettes was taken from this whole vignette universe, designed to be orthogonal and level-balanced[13]. A few implausible combinations were excluded from the vignette sample to avoid irritations through combinations that are not possible. It was controlled for sufficient variation in the attractiveness and, hence, respondents' willingness to accept a job offer. On the one hand, the number of levels was chosen to be balanced and as small as possible to ensure a high statistical power to identify causal relations. On the other hand, the number of levels still enables the estimation of non-linear relations of the dependent variable and the

[12] The dimension for the duration of the place of work is at least one hour away from the actual residential place. This minimum distance was used to reflect considerations between the advantages of the new employment and the costs of the realization of the change.
[13] A fractional design was used for the vignette sample, which reached a high D-efficiency of 94.5. This enables high statistical power to predict the influence of the dimensions.

vignette dimensions. Correlations between the dimensions are minimized, allowing for estimating their impact with maximum precision.[14]

An important methodological aspect of this FS is the random allocation of vignettes to interviewed persons. All respondents were presented with similar job offers with the same distribution of characteristics. This equalization helps overcome the selectivity of actual labor market data, where different groups, like employed and unemployed, differ in their access to attractive job offers. In this way, a comparison of influences on accepting job offers could be analyzed independently of the restrictions affiliated with the labor market. The randomization of the dimensions, which are the experimental stimuli, worked very well.

Based on the hypothetical job offers, the respondents were asked to evaluate these job offers on three different dimensions. First, they should indicate the attractiveness of the job offer. Second, they should state their willingness to accept the job. Finally, the third question concerns the willingness to move to a new location[15]. For each question, an 11-point rating scale existed. For the first question, the answer scale varies from *very unattractive* to *very attractive*. The scale ranges from *very unlikely* to *very likely* for the second and third questions. The distribution of the three dimensions shows that the respondents used the whole range for all answer scales. There is an overall tendency towards a rejection of the job offers. However, there exists a differentiation between the three dimensions. While rating the job offers relatively attractive, the willingness to accept the job and especially the willingness to move to a new area for the job were rated much lower. So, the respondents differentiated between the three dimensions.

2.4.2 Respondent Sample

The survey itself gives the first data source to validate the results gained with the FS. The longitudinal Panel Study *Labor Market and Social Security* (PASS) is a large-scale German panel study designed for research on the labor market and poverty in Germany (Trappmann et al., 2013).[16] It is carried out by the German *Institute for Employment Research* (IAB). The first data collection occurred in 2006/2007 and was repeated yearly within the same households. All people aged 15 years or older in the household receive a questionnaire to get a complete insight into the household structure. The applied design of the survey is a two-stage random sample

[14] All correlations (Spearman's rank correlation) between the vignette dimensions in the vignette sample were close to zero ($|r|<0.04$) except the correlation between the gain of income and the working time, which was intended by the design.

[15] The wording of the third question was adjusted for the split of people with the additional dimension for the labor market situation of the partner.

[16] For more details on the settings and methodological aspect of the PASS see (Berg et al., 2014; Jesske & Schulz, 2014)

taken from two different samples. The primary sample is drawn from the unemployment register of the Federal Employment Agency and consists of households with at least one person who receives social services. The second sample is a general population sample, which oversamples low-income households. Regular refreshment samples are used to hold the number of respondents at a high level and to secure cross-sectional representativeness. The questionnaire consists of annually recurring topics and is expanded by different subject-specific emphases. The survey's central part comprises different household and individual levels of information, including socio-demographics, economic and social situation, unemployment and benefit receipt, and questions on behavior and attitudes. In 2011, one additional thematic focus was on regional mobility concerning the employment search, which contains the FS used for this analysis.

A significant refreshment sample was used in 2011, and there is a large sample available of 10,235 households and 15,607 persons (Berg et al., 2012). Data gathering in 2011 was a mixed-mode design, which joined CAPI (computer-assisted personal interview) and CATI (computer-assisted telephone interviews). However, because of the complexity of the FS, it is only applied in the CAPI-split, as the vignette text was not usable in an acoustic presentation. Further, the respondents should fill in the FS, which is only possible in the CATI-Split. However, through the experimental design of the FS, it is not urgent to have a random sample to make causal statements. Altogether, 4,813 persons received and filled out the FS module in 2011.

With the PASS, it is possible to match the statements in the FS in 2011 with the answers provided by the same respondents in the following two years. This panel structure enables the direct comparison of the stated preferences given in the FS with the revealed preferences shown in the following two years. This individual link between the FS and the validation data offers a significant advantage in this study on the external validation of FS, as many previous studies only compared effects on the aggregate level.

2.4.3 Process Data

With the *Integrated Employment Biographies* (IEB), a second database is available to validate the FS. This dataset contains information from different data sources about the employment history, which are collected by the German *Federal Employment Agency* (FEA) for administrative purposes (Dorner et al., 2010; Jacobebbinghaus & Seth, 2007; Oberschachtsiek et al., 2009). The Institute for Employment Research (IAB) edits and combines four different data sources to get as much information about participation in the labor market as possible, including data about the (un-)employment, search, and support history of the persons. Through

the editing by the IAB, it is possible to match this data with the information gained through the PASS survey and receive a combined anonymous dataset containing both information. Given this extensive information on an individual level about the labor market history biographies, it is possible to use this external source of information to verify the FS's answers against the respondents' actual behavior.

This data source is highly reliable as most of this information is collected to determine the fees and social security benefits, not for statistical analysis. People are highly interested in stating the truth, as it is for administrative purposes. There is also the risk of paying a fine if the information pointed out to be wrong. However, as it combines different data sources, there are inconsistencies, but to a much smaller extent than in survey data (which suffer from aspects like panel mortality or measurement error). Altogether, the IEB data is highly reliable, especially for information not only collected for statistical purposes (Jacobebbinghaus & Seth, 2007: 337).

2.4.4 Comparability of the Datasets

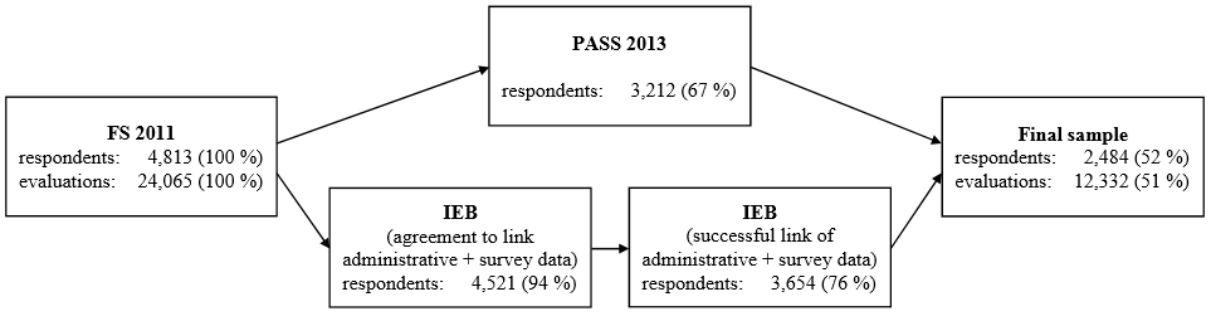
To compare the results of the FS with the two external data sources and get insight into the external validity of FS, the data sources were matched together. A comparison is only possible for respondents with information from all three sources. Only respondents with available information in the FS and validation data sources were used to achieve a consistent sample. We use the employment history, after the FS was conducted to compare it with the stated preferences in the FS. A period of two years following the FS was determined to capture potential changes in employment, which still correlates with the intention of the FS. Because of this, only respondents who took part in the PASS in 2013 and for whom information in the IEB is available are in the sample for the analysis. This direct link between the intention and the henceforth-realized behavior within a person enables us to see if they match. This aspect is a significant advantage compared to former studies concerning the external validity of FS.

Of the 4,813 respondents who completed the FS in 2011, 3,212 persons took part in 2013 (67 %). Theoretically, the information given in the IEB is available for all persons who are in the register of the social insurance agency or receiving unemployment benefits or searching for a job over the FEA. However, to secure data protection, the respondents must consent to matching individual survey and administrative data. Fortunately, the agreement is very high. Among the persons of interest who participated in the FS in 2011, 4,521 (93.9%) out of the 4,812 respondents consented to link both data sources. Unfortunately, due to problems in combining the four different data sets of which the IEB exists and the process of identifying the survey

respondents within the administrative data, 3.654 persons with valid information remain, which is 75.9% of all respondents who take part in the FS.[17]

By combining the three datasets, 2,484 persons (51,6 %) remain for the analyses who completed the FS 2011, took part in the PASS in 2013, and have available information in the IEB. For those respondents, 12,332 valid vignette evaluations are available.

Figure 2.2: Overview of datasets and number of cases

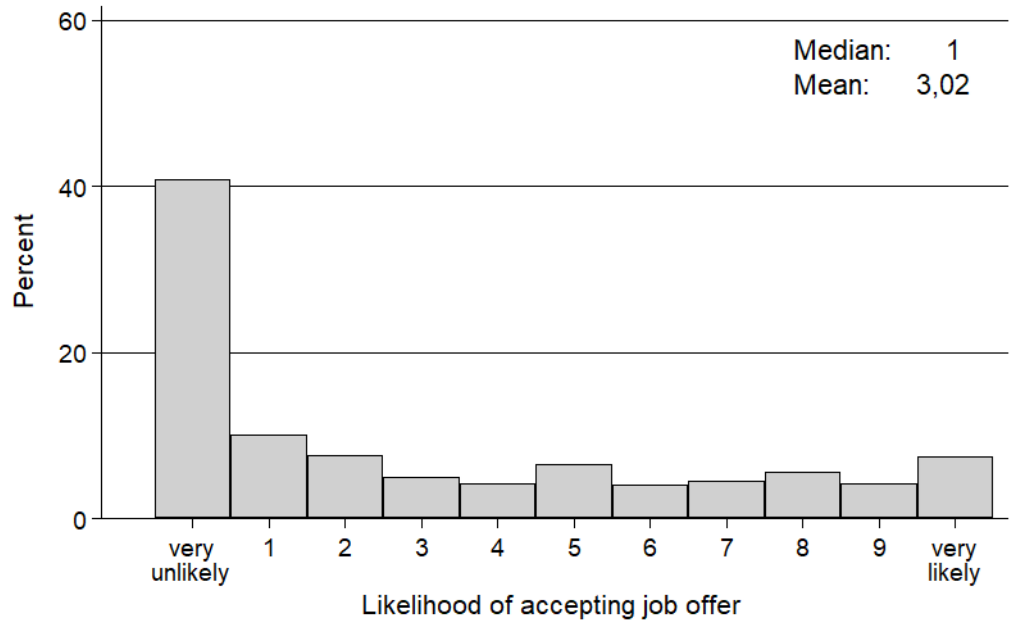


As no external information is available about the subjective evaluation of the attractiveness of job offers, we use the second question in the FS about the willingness to accept the hypothetical job offer to validate the FS and the given answers. This dimension gives the best opportunities to compare the stated preferences with the revealed preferences shown in the respondents' actual behavior.

Figure 2.3 shows the distribution of the given answers for the willingness to accept the job offers in the FS. The respondents used the whole range of the answer scale. However, there is an intense concentration on the category *very unlikely*, with about 40 percent. This positively skewed distribution is also visible by a mean of 3.02 and a median of one. This distribution corresponds to previous empirical findings for changing employment.

[17] In a study by (2011) Regarding potential selectivity bias, no significant differences were found because of the acquired consent to link register data to interview data and the technical realization of linkage.

Figure 2.3: Distribution of the willingness to accept the job offer in the FS



Note: n = 2,484 respondents and n = 12,332 evaluations.

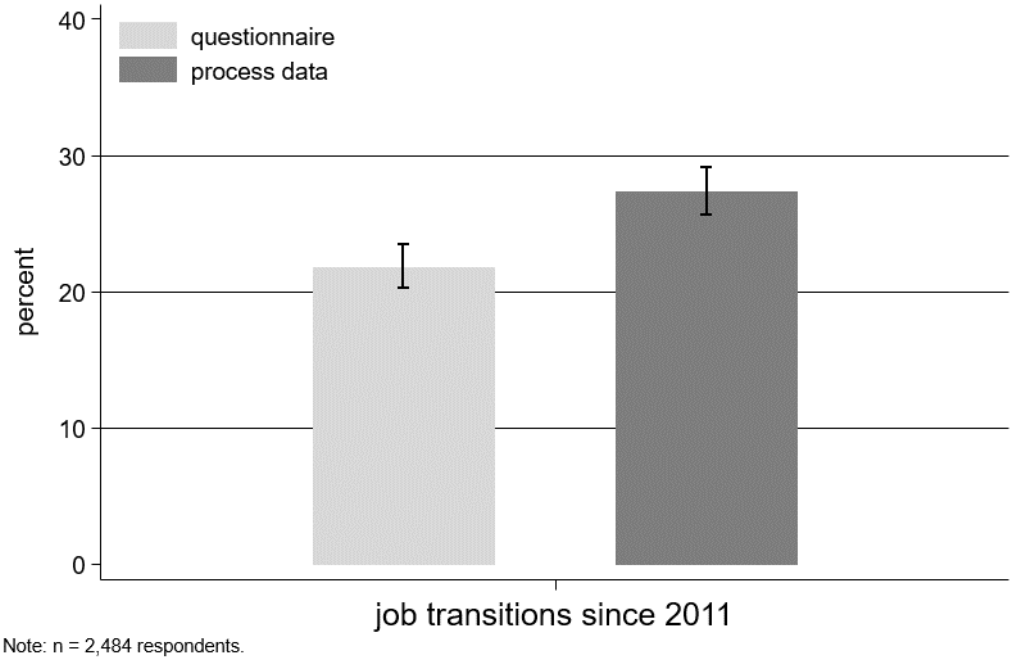
In the PASS, the longitudinal design and the retrospective query of the employment history, which cover the period between the last questioning, allow us to observe the respondents' behavior over about two years (2011-2013) after they completed the FS. The answers in the employment biography were used to determine if the respondents had started new employment during this period. All activities and changes concerning the respondent's employment since the last interview were recorded in this period. Employments with an income less than 400 Euro (or 450 Euro since 2013) are excluded, as those are deduction-free in Germany. Only new employments are counted, which started after the personal interview in 2011, including the FS module, to ensure high comparability for the validation. As new employment could change the aspects involved in assembling the intentions leading to the behavior, only the first new employment will be analyzed. Therefore, the context influencing the intentions leading to the response in the FS and the intentions leading to the behavior to start a new employment should be very similar. Overall, 541 persons out of the 2,484 persons for whom information is available started new employment, which fits the criteria (21.8 %).

Like in the survey data, the dependent variable is the information about whether a new employment has been started. The information on whether the respondent started new employment is a benchmark for comparison with the stated preferences in the FS. The basis is the compulsory reports about all employees, which have to be done by each company in Germany. In the IEB data, that information is connected to single persons and combined with

additional information from the FEA. Further, all employment reports are connected to an identification number of the person's company. With this detail, it is possible to identify new employment within respondents. In this study, if a new company number occurs within a person, it is rated as new employment. Only new employments are counted, which are subject to social insurance and have an income of at least 400 € per month, to be close to the setting in the FS. Further, the period is limited from the interview date till the end of 2013. The restriction on new employment, which took place after the interview in wave 5, is to make sure the situational context is as concurrent as possible to the one in the FS. Only if the attitudes, subjective norms, and perceived behavioral control are the same intentions and the actual behavior will match in the theory of planned behavior. Therefore, about two years afterward is covered, as this period is long enough to show behavioral decisions connected with the labor market, but the context will remain the same. To recognize a change of the actual job, the identification numbers of the companies serve as the basis.[18] If, for a person, a new company identification number occurs within the relevant period with the matching criteria, it is counted as the start of new employment. In the final sample, 679 persons (27 %) of the 2,484 people started new employment with the appropriate characteristics.

[18] To avoid detecting new company identification numbers due to modifications of the identification number of companies or several identification numbers per establishment, a new method of linking firm-level and establishment-level together is used (Schäffler, 2014) This combined dataset makes it possible to identify firms by their name.

Figure 2.4: Proportion of new employment in administrative and survey data



2.4.5 Methods

The FS results will be compared with the realized behavior given in the survey and the administrative data to test whether the stated preferences and the revealed preferences correspond. In order to gain reliable insight into the external validity of FS, we use three different approaches, which guide the methodological procedure. The first approach concerns the direct link between the stated preferences in the FS overall and whether they match the revealed preferences. The second one is if the causal mechanisms behind the preferences correspond as well. The third attempt looks at the influence of the single dimensions used in the FS and if their effect is the same as that of the realized behavior.

The first step focuses on the direct link between the stated intentions and the actual behavior. If there is external validity, the general preferences stated in the FS should be the same as those driving the actual behavior. In this case, the preferences for accepting a new job offer should be identical in the FS and the comparative data. In the *theory of planned behavior*, the behavior is driven by the intention towards this behavior. If this applies, the intention and the actual behavior should match. The distribution of the willingness to accept the job offer in the FS is used to test this link between intention and behavior. Respondents with new employment in the aftermath of the FS are compared with those respondents without new employment. However, the given willingness to accept the job offer in the FS depends on the combination of displayed vignette dimensions. Therefore, it is impossible to compare the FS answers between people

directly. To compare the stated preference in the FS and the revealed preferences, a measurement of the subjective willingness to accept a job offer is needed, independent of the dimensions shown in the FS. Therefore, a fixed effects model for the willingness to accept the hypothetical job offer is used, which includes all vignette dimensions as explanatory variables. There are five valued vignettes per person, so estimating an unobserved effect model $y_{ij} = x_{ij}\beta + c_j + u_{ij}$ for every respondent *j* and each vignette dimension *i* (Wooldridge, 2010: 300-315) is possible. This model divides the error term into an individual effect c_j and an idiosyncratic error term u_{ij}. This enables the extraction of the personal component of the given answer, which is independent of the dimensions of the FS. The individual effect c_j comprises each respondent's base level of acceptance of a job offer. Thus, it is possible to compare the respondents' willingness to accept a job offer. To standardize the base level of each respondent, the effect of a standardized vignette constellation[19], with the same level of dimensions for all respondents, is added to the individual effect. This leads to the expression $x_i\beta + c_j$ with the standardized effect of the fixed vignette dimensions $x_i\beta$ and the individual effect c_j. The remaining difference between respondents is due to the individual base level to accept the job offer.

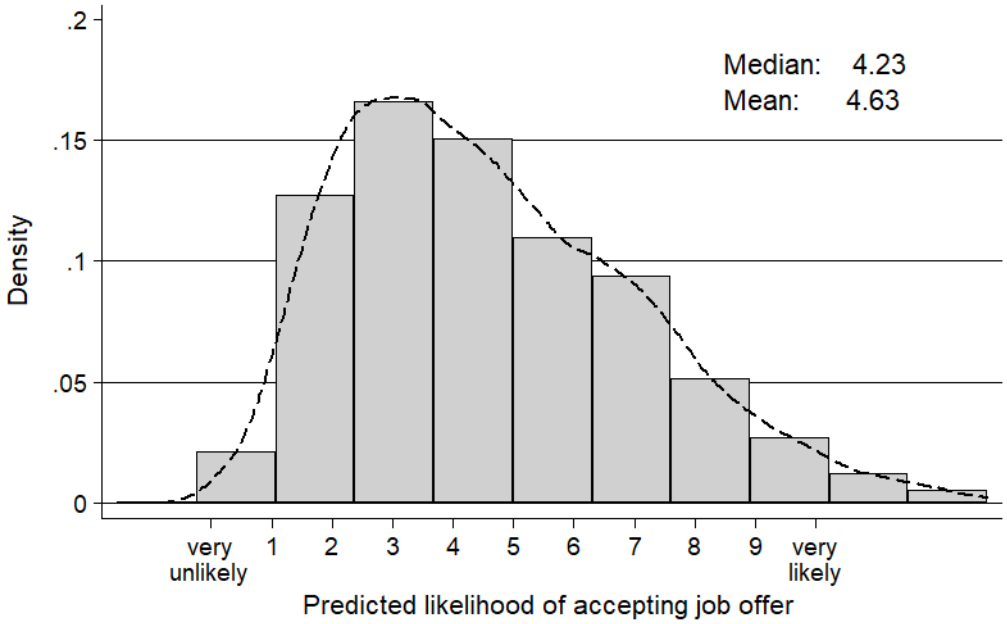
Figure 2.5 shows the distribution of the predicted base level of the willingness to accept a job in the FS. The distribution of the individual effect shows a negative skew, which points out a tendency to a low stated willingness to accept a job offer in the FS. This indicates a slight overall dislike of accepting new employment by the majority, regardless of the characteristics of the job. This pattern matches with other findings on flexibility and mobility in work-life, which show stability in career mobility to a high extent (Mayer et al., 2010).

We use the measured intentions as an explanatory variable for the realized behavior to start a new employment to analyze the link between the predicted willingness to accept job offers and the actual behavior. Initially, the distribution of the stated preferences is compared between respondents who stated new employment in the survey data and respondents without new employment. If there is a link between the intentions and the behavior, as expected in the theory of planned behavior, persons with new employment should have higher base levels in the FS. To test if the differences are substantial, a logistic regression is estimated with the dependent variable in case a new employment was started in the following two years after the FS. With

[19] In the standardized vignette, the hypothetical job is characterized by an increase of 20% of the net income of the household, 40 hours per week, no over-qualification, few prospects of internal promotion, a permanent work contract, the one-way commuting time is about one hour, the local employment opportunities are similar to the actual residence, the same for the partner if one is available in the household and some efforts are needed to find an adequate housing at the new location.

Kaplan-Meier survival curves and a Cox regression, it is possible to test whether changes occur over time in the link between stated and realized preferences. For the graphical visualization in the Kaplan-Meier curves, the predicted base level for accepting job offers is dichotomous by a median split.

Figure 2.5: Distribution of the predicted likelihood of accepting a job offer



Note: n = 2,484 respondents and 12,420evaluations.

The causal mechanisms are at the center of attention in the second step. Only if the causal mechanism behind the stated and the revealed preferences are the same the results of FSs will be useful in gaining statements about the behavior of the respondents. To compare if the same causal mechanisms behind a job transition work for the stated and the revealed preferences, the same explanatory model is used for all three data sources. The only difference between the models is the dependent variable, which is based on the information about the job transition given in each data source. For the FS, the rating of the acceptance of the hypothetical job offers is used. However, the survey and administrative data contain no continuous information about the willingness to accept special job offers. Therefore, in this data source, the dependent variable is whether the respondents have started a new employment two years after the FS. Thinking about a continuous decision to accept a job offer by the respondents, the visible decision to start new employment is made if a certain threshold in the latent variable behind it is exceeded. As the observable information is dichotomous, we use a logistic regression for the administrative and survey data to explain the behavior. An eleven-point scale was used in the

FS, from *very likely* to *very unlikely*. Therefore, it is not directly comparable to the dichotomous information in the external data. We use a structural equation model for the FS instead of a logistic regression model to resolve these difficulties. Within the structural equation model, the measurement model consists of the five judgments per person in the FS, which arise from the latent variable of the willingness to accept job offers. The same independent variable now explains those vignette judgments as in the IEB and PASS data logistic regression. As the dependent variables have different levels of measurement, the coefficients are not directly comparable between the different data sources. However, the coefficients can be standardized on the variance of the latent variables underlying all three models. By this, the coefficients of the regression and structural equation model are comparable and enable contrasting influences of the causal mechanisms in all three datasets.
The survey data contain the most information about the respondents and, therefore, the most possible explanatory power. The independent variable in all three models is based on the respondents' statements in the PASS in 2011.

In an FS, it is less critical if the base level of the preferences matches the actual ones, but the effect of the interesting dimensions of interest should be the same in the FS as in the actual situation. The primary motivation for an applied FS is to explain the outcome with the implemented dimensions. For example, can the duration of the work contract influence the decision to accept a job offer? Therefore, in the third step, the influence of a single vignette dimension is in focus. The acceptance of different working conditions is compared to the characteristics of the actual new employment to analyze the external validity of the measured effects of a dimension. Consequently, people who are more willing to accept job offers with lousy working conditions in the FS should also be more likely to start new employment, given the same characteristics.
Random coefficients are necessary to compare the effects of a single dimension to the characteristics of an actual new job on an individual level. For this reason, a linear mixed model for the FS is calculated. The dependent variable is the willingness to accept a job offer in the FS. As explanatory variables, all vignette dimensions are included. The random person-specific slope for one vignette dimension is also entered (Rabe-Hesketh & Anders, 2012: 196). This model identifies an individual effect for a dimension of interest for each respondent, which is predicted afterward to gain respondent-specific effects. The distribution of the interesting random slope is compared with the actual feature of the new employment. Because the FS is about the context of accepting new job offers, the sample is reduced to those respondents who

started new employment after the interview, including the FS. Since there are deviations between the survey and administrative data concerning the prevalence rate, the PASS presets the limitation. More information about the new employment is available in the survey data. Only a few details are known in the register data. Further, the sample was reduced to respondents who stated a positive willingness to accept a job offer at least once. This means people who said it is *very unlikely* to accept the displayed job offer in all five vignettes are excluded.

The two vignette dimensions, *contract duration* and *weekly working hours* are used for the comparison. In both cases, the assumption is that a higher tolerance against the less favorable characteristics leads to a higher acceptance of those working conditions and, therefore, to start new employment with those properties. Looking at the contract duration, there are 603 respondents for whom information about the limitation of their new employment is available. 52 person gave no information about the contract duration. From the valid 603 new employments, 315 (52 %) are unlimited, and 288 (48 %) are fixed-term work contracts. Only 507 persons are available with new employment for which the weekly working hours are specified. The hours are summed up into three groups to make it comparable to the levels of the vignette dimension. In the first group, all employment comprising less than 25 hours per week are 90 persons (18 %). Only 63 respondents (12 %) started new employment with 25 or more but less than 35 hours per week. With 35 persons (70 %), most new employments have at least 35 hours per week.

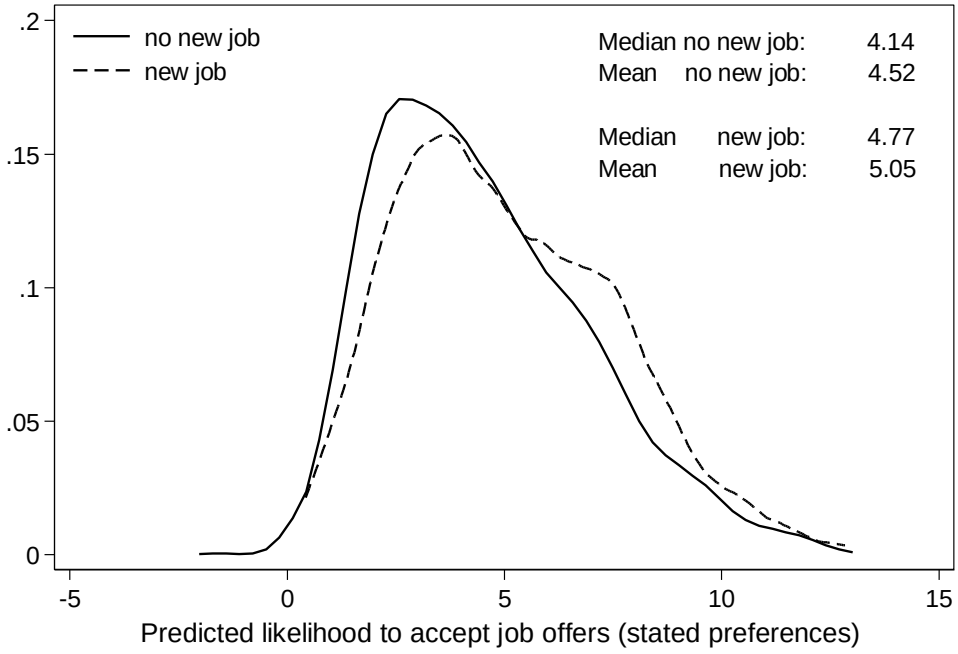
2.5 Results

2.5.1 Link between Stated Preferences and Revealed Preferences

The main statement of the theory of planned behavior presumes that the attitude, the subjective norms, and the perceived behavioral control towards a particular behavior form the intentions toward this behavior. If a person assumes complete control over their behavior, these intentions are the only aspects influencing the actual behavior. Transferred toward the situation of the FS, this indicates a direct link between the preferences stated in the FS and the actual behavior of the respondents. The measured intentions and the actual behavior should match if the perceived behavioral control does not impose the realization of the intentions. Applied to the FS used here, there should be a direct link between the personal overall willingness to accept job offers in the vignette module and the observed behavior of starting (new) employment. If the results of FS are externally valid, there should be high overlapping.

However, this does not mean the prevalence rates match. FS was not conceived to calculate prevalence rates. The link is not on the aggregate level but on the individual one. Therefore, it is essential to compare intentions and behavior on the micro-level with individual data.
Translated to our available data, there must be a connection between the individual base level to accept job offers in the FS and the probability of starting new employment. Respondents with a higher tendency to accept job offers state higher intentions to start new employment. Figure 2.6 presents the distribution of the individual effect in the FS. This effect expresses the personal willingness to start new employment and, therefore, the intention towards this behavior.

Figure 2.6: Distribution of the willingness to accept a job offer



The distribution shows a low overall willingness to accept a job offer. Accordingly, Respondents tend to state a low willingness to accept the offered job in the FS, independent of the characteristics of the job. These findings fit the low proportion of 22 percent in the PASS and 27 percent in the IEB who started new employment. The distribution is separated for respondents who started new employment in the following two years and respondents without to compare whether this intention is linked to the actual behavior. For this differentiation, we use the information from the survey. Comparing the subgroups reveals the expected distinction. The distribution of respondents with new employment shows a shift to the right compared to respondents without new jobs. This shift indicates a tendency for a higher willingness to accept

the job offer in the FS in this subgroup. The distributions differ significantly.[20] In accordance with the theory of planned behavior, the stated preferences in the FS match with the recorded actual behavior afterward. Respondents without a new employment state a lower willingness to accept job offers. With a mean of about 0.6 larger for people with new employment, this seems to be a slight difference. However, there is a statistically significant difference between the subgroups (a one-tailed t-test on the equality of means reveals t = -4.63; p = 0.000).

A logistic regression is estimated to test if the stated preferences enable predictions of the revealed preferences, which is one of the main reasons to use an FS. If there is a direct link between intentions and actual behavior, intentions should have explanatory power over actual behavior. The trend apparent in the distributions of the willingness to accept a job offer is also available in the logistic regression for the actual behavior of starting a new employment. Stated preferences in the FS allow us to predict the actual behavior. A higher willingness to accept a job offer in the FS is accompanied by higher odds of actually starting a new employment. With each additional point on the predicted willingness to accept a job offer, the odds of starting a new employment increase by nine percent.

Table 2.1: Odds Ratio of Starting New employment since 2011

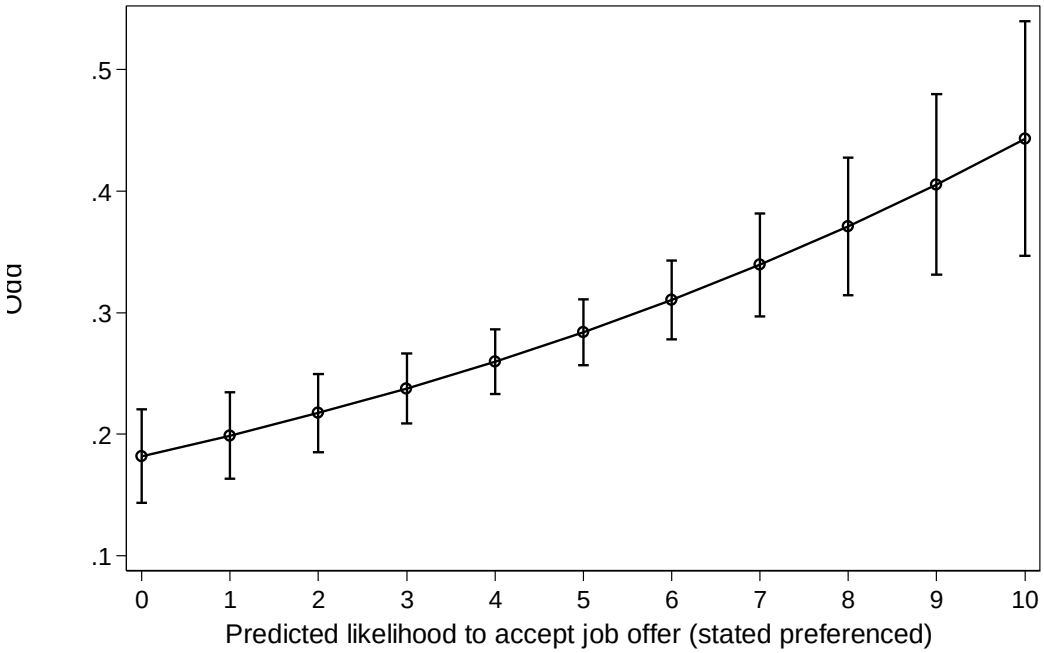
Predicted likelihood	1.093***
to accept job offers	(0.2144)
Constant	0.182***
	(0.1968)
Pseudo R^2	0.0078
Chi2	20.40
Observations	2,484

Exponentiated coefficients; Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

This link between the stated and revealed preferences is visible in Figure 2.7, which shows the predicted probability of starting a new employment dependent on the stated willingness to accept a job offer in the FS. The odds of starting new employment are low for respondents with a low base level for accepting a job offer in the FS of zero (0.18). In contrast, respondents with a maximal value of 10 yields an odd of 0.44. The higher the willingness in the FS is, the higher the odds of starting a new employment in the following two years after the FS took part.

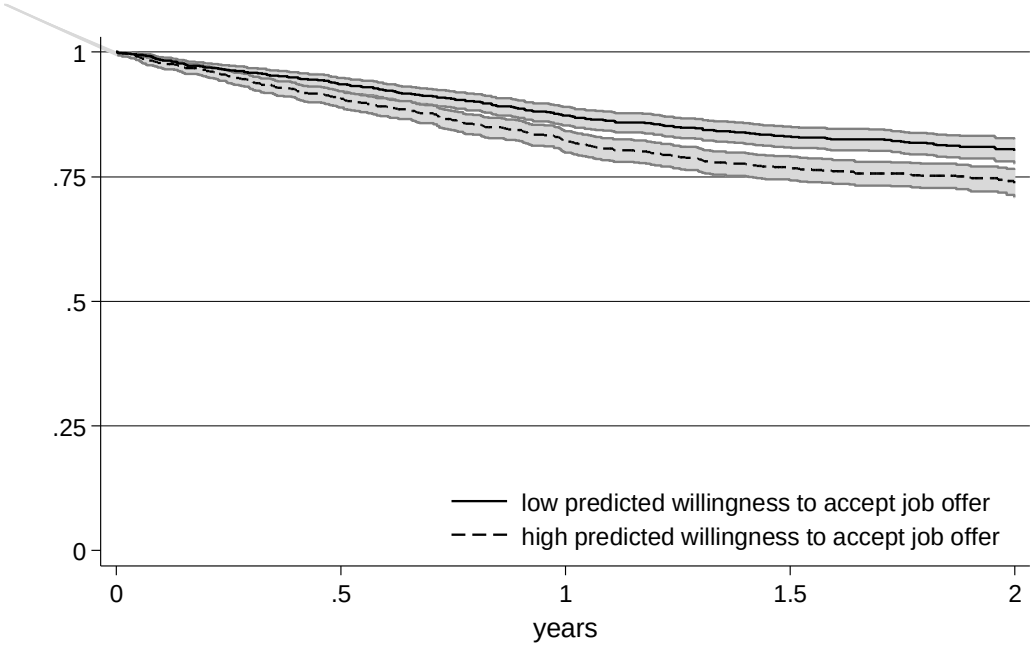
[20] A Kolmogorov-Smirnov test for respondents without new employment having smaller values reveals D = 0.0983; p = 0.000.

Figure 2.7: Odds to start new employment in dependency of the stated preferences with 95 % CI



We try to get a better overview of the ongoing process over the given period with survival analysis. With survival analysis, it is possible to identify changes in the underlying process over time. Figure 2.8 shows the Kaplan-Meier survival curves for the two years after the FS, from the interview in 2011 till the interview in 2013. The respondents have been divided into two subgroups corresponding to their base level to accept job offers in the FS, as distinction serves a median split of the predicted likelihood to accept a job offer.

Figure 2.8: Kaplan-Meier survival curves to start new employment with 95 % CI



Note: willingness to accept job offer estimated with FE model (categorized by median-split).

The main effect is the same as in the previous analysis. The proportion of respondents who started new employment is higher within respondents with a high predicted likelihood in the FS. This pattern is consistent over the whole period. However, the effect seems more distinctive in the first year after the interview with the vignette module. In the first year, the curves differ increasingly. This differentiation is getting smaller in the second year. The proportion of people starting new employment further increases, but in both subgroups to a similar extent. However, in the first year, there is a steeper increase for respondents with a higher willingness to accept job offers. This small differentiation is an indication of the external validity of the results in the FS. The closer the event is to the interview, the closer the situational context is to the one in the FS. The more time passes after the interview, the more can happen and change the context and, therefore, the intentions. A Cox regression confirms the results of the Kaplan-Meier curves. With a higher predicted willingness in the FS, the hazard ratio rises about eight percent point per increase of one point on the individual base level. This effect is also stable under the control of the age, gender, school education, and unemployment status of the respondent.

These results on the link between the stated and revealed preferences provide the first indications for the external validity of the FS. The predicted likelihood to accept a job offer, which is predicted based on the given answers in the FS, serves as a good proxy for the actual behavior of the respondents starting new employment. The link between the revealed and the

stated preferences is not completely consistent. However, through the operationalization in the PASS, it is not possible to establish total similarity between the FS and the actual behavior. The FS intended to create a situation where all respondents had the same opportunities and got the same job offer. With this, the selectivity connected to the labor market should be overcome. This leads to a change in the perception of the situation and determines the perceived behavioral control. However, even as the context and the perceived behavioral control are not identical in both situations, the vignette module leads to good predictions for the behavior on an individual level and, therefore, high external validity.

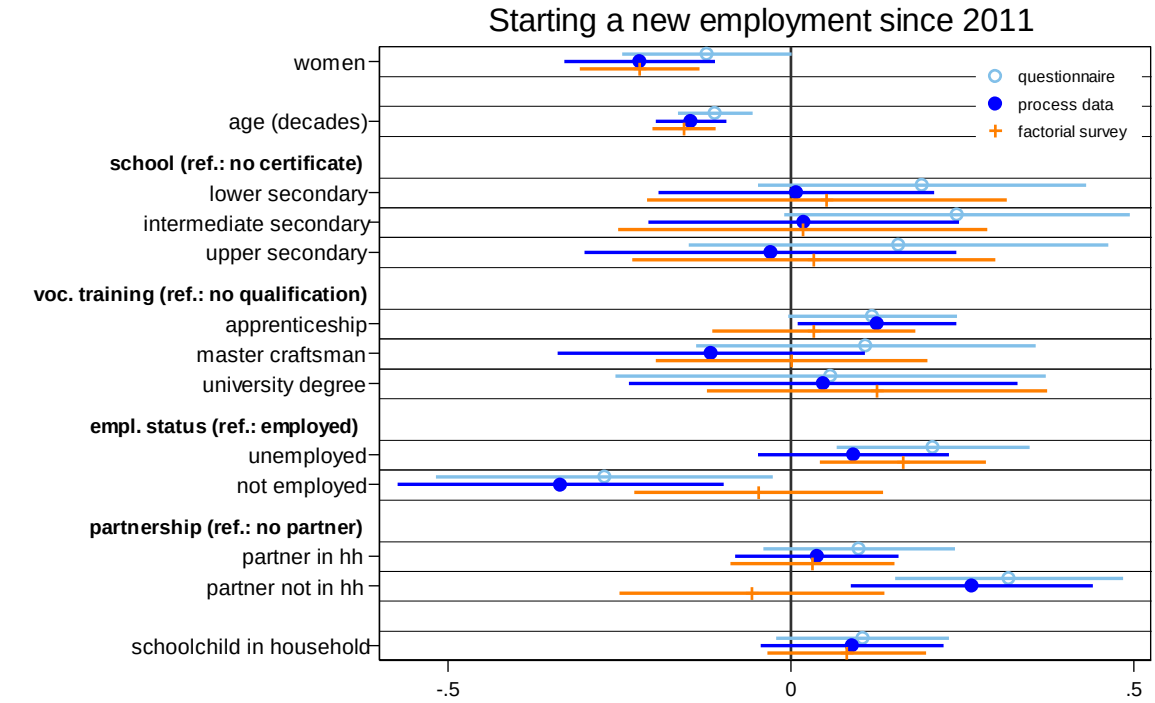
2.5.2 Comparison of Causal Mechanism Explaining Stated and Revealed Preferences

A second important aspect of the external validity of FS is causal mechanisms forming the intentions toward a particular behavior analyzed with a vignette module. One of the main reasons for using FS is the possibility of discovering the impact of different dimensions on the behavior of interest. Therefore, it is decisive that the causal mechanism forming the answer in the FS matches the causal mechanism driving the actual behavior. Only if the causal mechanisms of the stated and the revealed preferences are in accordance, the results obtained with FS yield external validity. Contrary to single-item questions, FS makes it possible to test different conceivable influences simultaneously and discover influential connections between the tested mechanisms. The discovered influence of the single mechanisms and their interaction must be the same for the action carried out. The theory of planned behavior presumes that there is only an indirect effect of the causal mechanisms on the actual behavior over the intentions driving the behavior. Therefore, the mechanisms should be the same. The aim is to test if the same causal mechanism, which helps to predict revealed preferences, also works for the stated preferences in the FS. Are the factors relevant to starting new employment also crucial for the given evaluations in the FS?

Applied to the data in this study, the causal mechanisms responsible for the individual baseline of the willingness to accept a job in the FS and the realized behavior referred to starting new employment should match. To examine if this applies, we use the same model to explain the start of a new job for each data source. This model tries to explain the behavior of the respondents in the PASS and IEB as well as the stated intentions in the FS. The explanatory variables are the same for each piece of data. Only the dependent variable differs. As a dependent variable in the PASS and IEB, the information on whether the respondents started a new employment is applied. For the FS, the stated likelihood of accepting the job offer is used. Due to different levels of measurement, distinct models are necessary. A regression is estimated

for the dichotomous information in the survey and administrative data. On the other hand, a structural equation model is predicted for the FS. Afterward, the coefficients are standardized on y to make them comparable between the models. The information for the independent variables in all three cases is taken from the PASS in 2013 to achieve a common explanatory model.

Figure 2.9: Causal mechanisms explaining the decision to start new employment with 95 % CI



Note: a) questionnaire: logistic regression; b) process data: logistic regression; c) FS: structural equation model; y-standardized coefficients; n = 2,355 respondents and n = 11,695 evaluations; additional control variables: hh-income, property ownership, duration living at the same place of residence and unemployment rate (region).

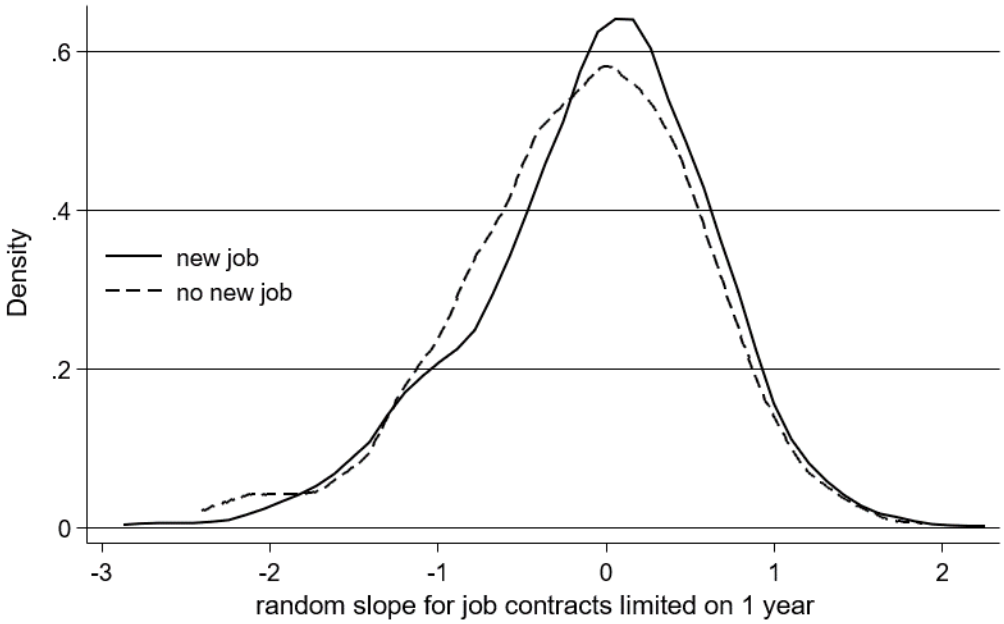
The coefficients in Figure 2.9 show a high accordance between the three data sources. With few exceptions, the independent variables have similar effects. The results show that women start new employment less often. Besides, the number of people starting a new job decreases with age. Both education and vocational training have almost no significant effect on the decision to start a new job. Having one school-age child or more in the household also has no significant effect. There are no substantial differences between those characteristics in the administrative, survey, and vignette data. However, there are deviations in the respondents' employment status and whether they are in a partnership. In the PASS and IEB, there is a negative effect on persons who are not employed. They tend to start new employment to a lesser degree than those employed. This effect is not available in the FS. For those people, the perceived situation in the FS is probably not the same as in the actual labor market. Another deviation of the FS from the PASS and IEB occurs for respondents with a partner who does not live in the same household.

After the link between the stated and the revealed preferences, the causal mechanisms also show a high degree of accordance between the FS and the administrative and survey data.
What is also visible in Figure 2.9 are the deviations between the effects in the PASS and the IEB. For some variables, the effect is only significant in one dataset, for example, unemployed people. In other cases, the effect size or orientation differs between those. This conveys the importance of the used data for external validity. Using two datasets in these analyses strengthens the reliability of the results.

2.5.3 Explanatory Effects in FS and Realized Behavior

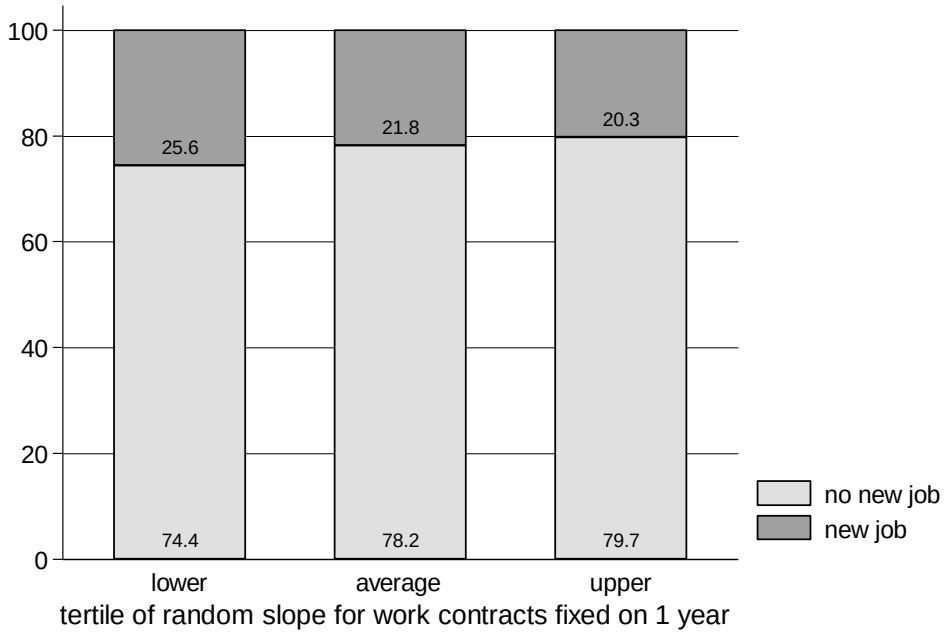
In the last step, the external validity of single coefficients is the focus, as these effects are mostly the point of interest in an FS. When using a vignette module, the main interest is the dimensions and their explanatory power on the dependent variable. This is the main duty of a vignette study. Therefore, it is very important for the effects of the dimensions to be valid in real situations. The effects should be the same for intentions and actual behavior.
In the FS of this study, the aspects relevant to the decision to accept a new job offer are tested. Several dimensions influence the respondents' decision, such as contract duration. The hypothetical job offers in the vignettes distinguish between jobs that are, on the one hand, *limited for one* or *three years* or, on the other hand, are *unlimited*. The duration of the work contract is an indicator of employment safety. The measured effect should be the same as the influence on the decision to accept a job offer and to start a new employment. We compare the willingness to accept job offers with fixed-term work contracts with the distribution of fixed-term work contracts among the actual new employment in order to test whether this assumption fits. With a mixed model, it is possible to estimate an individual effect of this dimension for each respondent. Thus it is possible to compare the individual willingness to accept less favorable job offers that are limited in duration with the actual status of the new employment. As the effect is the strongest for job offers limited to one year, those random slopes are used for the comparison.
At first, Figure 2.10 shows the distribution of the random slope for work contracts limited to one year, separated for respondents who started new employment after the FS and those who did not. There are no big differences, but there is a shift towards higher values on the random slope for those who started new employment. The mean is significantly higher than that for respondents without a new job. If the respondents have shown a higher willingness to accept a job for one year, they also have a higher probability of starting a new one.

Figure 2.10: Distribution of the random slope to accept job offers limited to one year – new employment



Note: only persons with a positive likelihood to accept job offers in FS and a new employment; n=1,835

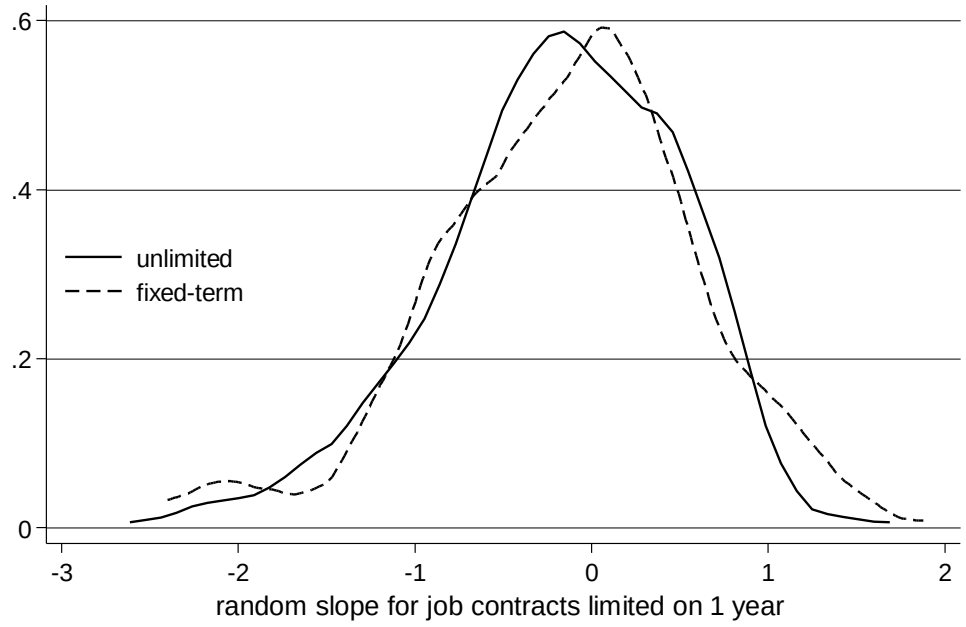
Figure 2.11: Tertile of the random slope to accept job offers limited to one year – new employment



Note: only persons with a positive likelihood to accept job offer in FS and new employment; n = 1,835.

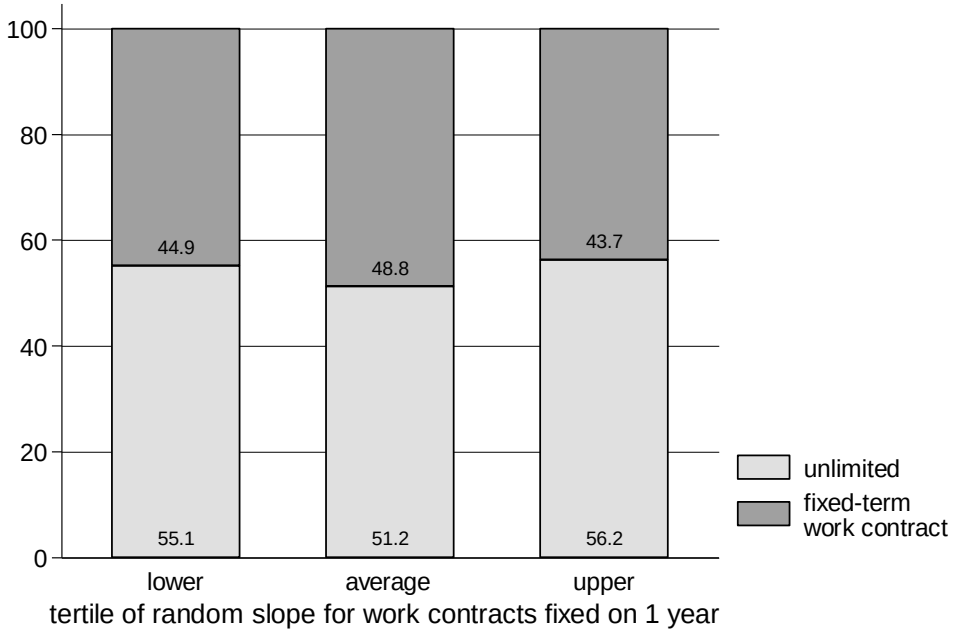
In contrast to the link between the random slope on the dimension for the contract duration of the job offer and whether the respondent actually started a new job, there is no connection between the random slope and the characteristics of employment. Figure 2.12 shows the distribution only for persons who started a new job. The distribution is separated for contract characteristics. There are only a few deviations in the distribution between respondents with a fixed term and those with an unlimited work contract. Even the means are not significantly different. Just as in the Kolmogorov test, there are no significant differences. The stated preferences towards the contract duration have no effect on the actual one of the new employment.

Figure 2.12: Distribution of the random slope to accept job offers limited to one year – contract duration



Note: only persons with a positive likelihood to accept job offers in FS and a new employment; n=393

Figure 2.13: Tertile of the random slope to accept job offers limited to one year – contract duration



Note: only persons with a positive likelihood to accept job offer in FS and new employment; n = 393.

Taken together, the stated preferences towards fixed-term work contracts affect the decision to start a new job, but there is only a small link between these preferences and the actual characteristics of those new jobs. The same pattern exists when looking at weekly working hours. There is no substantial effect of the willingness to accept jobs with lower hours per week on the actual hours worked per week in a new job.

2.6 Conclusion

This study contributes significantly to the discussion on the external validity of factorial surveys (FS), especially regarding work-related mobility decisions. The results show a clear correspondence between the preferences expressed in the FS and the actual behavior of the respondents, indicating a high external validity. Respondents who indicated a higher willingness to accept hypothetical job offers were more likely to actually start a new job within two years after the survey had been conducted. This is consistent with the theory of planned behavior, which states that intentions are direct predictors of behavior unless perceived behavioral control hinders the execution.

Analyzing the causal mechanisms behind expressed preferences and actual behavior also shows high agreement. This is particularly relevant as an advantage of FS is the ability to examine different dimensions influencing decisions simultaneously. The results confirm that the

mechanisms affecting the decision to accept a new job are consistent in the FS and the actual behavioral data (PASS and IEB). This consistency strengthens confidence in FS's ability to explain complex decision-making processes and generalize the results.

The most important innovation of this article lies in the linking of a factorial survey with two external, independent data sources: the Panel *Labor Market and Social Security* (PASS) and the administrative employment biographies (IEB). This unique combination of data makes it possible to compare the hypothetical preferences in the FS with the actual behavior of respondents in the following years at the individual level. Previous studies were often limited to aggregate comparisons, which means that individual discrepancies between expressed preferences and actual behavior could not be captured. The method used here, on the other hand, makes it possible to understand individually whether the hypothetical statements on job acceptance correlate with the actual behavior of the same respondent.

Another achievement of this study is the detailed investigation of the causal mechanisms behind the expressed intentions in the FS and the actual behavior. By using the same models for both data sources - FS and actual behavioral data - it could be shown that the factors influencing job acceptance are essentially identical in both cases. This strengthens the validity of the results and provides valuable methodological insights into the validation of FS.

Despite the positive results, some limitations must be considered. Firstly, the preferences expressed in the FS are hypothetical decisions that do not always correspond perfectly with actual behavior. This is particularly evident in predicting the effect of specific job characteristics, such as the duration of employment contracts or weekly working hours. While the willingness to accept fixed-term contracts correlated with the actual decision to accept a new job, there was no significant correlation between the expressed preferences and the exact characteristics of the new job.

Another limiting factor is the bias due to perceived behavioral control. In the FS, respondents are presented with an idealized scenario in which they all have equal access to job offers. In real life, however, external factors such as the regional labor market or individual social obligations influence the actual opportunities, limiting FS predictive power. However, this characteristic of FS is also the strength of the method, as it enables analyses and insights that are impossible with other data.

Future research should investigate the correspondence between hypothetical decisions and behavior in different contexts. It would also be interesting to analyze the effects of changes in perceived behavioral control in more detail.

In addition, linking FS with experimental or quasi-experimental approaches could help to strengthen external validity further. By combining FS with real-life decision-making situations, researchers can better understand how and when hypothetical decisions accurately predict actual behavior.

Finally, methodological adjustments within FS should be considered to reflect perceived behavioral control more realistically. For example, integrating realistic constraints and uncertainties in hypothetical scenarios could help reduce the discrepancy between expressed preferences and actual behavior.

In summary, this study shows that FS is useful for investigating decision-making processes, especially in the context of the labor market. The external validity results support the assumption that FS can provide good predictors of actual behavior under certain conditions. However, predicting specific characteristics of behavior and the temporal stability of intentions is challenging. Future research should focus on exploring these aspects to improve the validity and reliability of FS in different application contexts.

3
Article 2:
Job-based couple relocations:
Do men and women negotiate on an equal footing?

3.1 Introduction

With the educational expansion also came a higher participation rate of women in higher education. However, this equalization effect between genders is not reflected to the same extent in the labor market. Women still have a higher proportion of marginal or part-time employment (Wanger, 2020), and there are persisting gender inequalities in the labor market. These gender differences are particularly distinct in partnerships and families (Hipp & Leuze, 2015). Labor participation of women differs very strongly depending on their family context (Lietzmann & Wenzig, 2017).

An essential aspect of finding a suitable job is the willingness to relocate. Regional mobility offers good chances and access to a broader job market. For women, this can help to overcome inequalities in the labor market. People's mobility decreases when entering a relationship, and the probability of spatial mobility for families is lower, especially for women. Singles and persons without children are more mobile.

Partners have to combine their interests with the common interests of the household. Suppose one of the partners receives a job offer at another place. In that case, the partners have to negotiate about the decision to migrate and, if they relocate, about the arrangements following the migration. Persons living in a double-career partnership must link two careers with each other, and relocating the whole household becomes more unlikely (Erickson & Kim, 2021). Previous power structures within the partnership have both an impact on the decision and an impact on the power structures created by the decision. Agreeing on a place of residence within a partnership is often not an improvement for both partners. Usually, this decision reduces income and job opportunities for the other partner (Mincer, 1978).

Because of the higher educational level of women, the employment rate of women rises as well, and households with both partners working are getting default. These changing employment patterns affect couples as the division of labor and housework is becoming more complex compared to the traditional male breadwinner model. Partnerships where both are working permanently have to make decisions about their work and family lives. This raises the question of how exactly the negotiation processes within partnerships work. With the increasing standard of the dual-earner couple, the decision within couples about the prioritization of gainful employment of one partner or equal treatment is becoming increasingly important. Former studies show that work-related outcomes are often connected with negotiation processes within the partnership (Livingston, 2014). Nevertheless, how are these determined? What determines which employment the partners give priority to?

A dominant explanatory approach to explaining these processes is the bargaining theory. Through the partnership, the necessity occurs to coordinate two careers in time and space. Decisions concerning families or partnerships are not only a single choice; both partners must negotiate with each other. Bargaining theory implies a gender-neutral mechanism. In contrast, approaches of doing gender emphasize the (re)producing effect of gender. Gendered preferences are decisive in the negotiation process between partners.

With traditional survey data, it is only possible to look at the realized migration. However, this only reflects the result of the bargaining and gives no opportunity to analyze the decision-making process that leads to this. In most cases, no information is available about rejected job offers and the employment opportunities of the respondents. However, this information is necessary to assess the negotiating power and position within the partnership. Data from both partners is required to analyze the bargaining process itself. Furthermore, it needs to be clarified if gender-specific preferences characterize the bargaining process or if the negotiation is only affected by gender-neutral external factors. To disentangle those factors, it is necessary to have information about the gender roles of the respondents.

This article uses data from an experimental factorial survey (FS) design. The FS was included in the Innovation Sample of the SOEP (SOEP-IS), a general population survey in Germany. Respondents received five hypothetical job offers in distant locations with varying wage offers and non-monetary characteristics. They had to indicate their willingness to relocate for this job offer. Respondents living with their partner in one household received identical job offers. However, only one of the partners received the job offer. The other one was in the position of the tied-mover. Additionally, both received information about the employment prospects at the new location for the partner without the job offer. The tied-mover also had to state their willingness to move to the new location with their partner. This multi-factorial survey experiment gives the chance to gain insights into the negotiation process within partnerships. In the migration processes for employment, the decisions are broad and strongly impact the whole household and the individuals within.

3.2 Theoretical Background and Empirical Evidence

Many studies have emphasized the effect of job mobility on inequalities connected with the labor market (Blau & Duncan, 1967; Mouw & Kalleberg, 2010). High mobility leads to higher matches of job offers to employees, which affects the possible income. Essential factors affecting job-related mobility besides education and occupational qualifications are the gender and the family status of individuals (Meil, 2010).

A job-related movement of two partners or a whole family due to one partner's [new] job has far-reaching consequences for all members. In most cases of household migration, only one partner comes up with an improvement of the occupational situation. Usually, the other partner cannot find better or similar conditions at the same location. Improving the working conditions to the same extent for both partners at a new location is very unusual. Hence, Mincer (1978) used the terminology *mover* for the partner who receives the job offer and *tied-mover* for the partner who will experience individual disadvantages of a common move, even if the move is favorable for the household. However, how does a joint decision for or against a collective household relocation for a new job come about between two partners?

3.2.1 Bargaining Theory

Various approaches explain division and allocation within families and partnerships. A frequently used one is the economic approach of bargaining theory (Lundberg & Pollak, 2003; Ott, 1992, 1998). It is a further development of the New Home Economics[21]. In the bargaining models, the central ideas of classical game theoretical theories are applied to the intra-family allocation between partners.

Partnerships are a form of exchange relationship (as they are maintained if there is no better external alternative) where values such as financial resources or housework, love, or emotional care are exchanged. In modern societies, earning, income possibilities, and human capital for the labor market are crucial for partnership negotiation processes. As a result of using individual preferences and utility functions, absolute cooperation between family members is not required. Accordingly, the personal preferences of family members do not necessarily go together. The interests of persons can even be contrary to each other and can, therefore, lead to conflicts and non-cooperative behavior. Consequently, situations of a decision-finding process between household members can end in social dilemmas.

A unique feature of bargaining models is the flexible threat point at which individuals terminate the cooperation with their partners and end the relationship. Threat points are not preset and fixed throughout a relationship. They are dynamic and a part of the negotiation process. The decisive advantage of these bargaining models is the consideration of adverse effects for the

[21] The basic idea of the New Home economics (Becker, 1965)is that households seek to maximize their common utility function (Mincer & Polachek, 1974)An essential assumption therefore is the unconditional cooperation between the individuals within a household. Every person in the household specializes in the sense that the entire household benefits from the decisions and behavior patterns. About the allocation of labor market work and housework, a process of specialization begins, as soon as one partner becomes more productive in the labor market and earns more money (Blau et al., 2001). The partner with the lower income specializes in domestic work, while the other concentrates on participation in the labor market.

individual, regardless of the household's benefit following a change. Hence, the individual does not accept all shifts in the allocations of labor market work or homework if this shift ends up in a change for the worse of their situation. In this case, the individual with the worsening setting vetoes. Therefore, all family members must consider the consequences for their counterparts to achieve a successful negotiation result.

Household moves often go hand in hand with a shift of the actual bargaining balance because of the one-sided enhancement of their career. The job offer is a new outside option, which improves this person's bargaining power. An increased income due to the new job means the mover has a better position vis-à-vis his partner in future negotiations. The salary increase shifts the negotiating power in favor of the mover. This fact is also considered by the tied-mover in the decision-making process, which can lead to the tied-mover rejecting a move, even if the relocation improves the entire household. This conflict leads to negotiations about how each partner's career is promoted (Livingston, 2014).

The considerations of bargaining theory lead to the following hypotheses for a joint household move of partners:

H1: The probability of moving is strongly influenced by the individual's prospects in the new location. For the mover, this is primarily the individual income of the new job. The tied-mover pays particular attention to his employment prospects.

H2: As one's employment situation improves (shift in bargaining power within the partnership), the partner's employment situation is also given more significant consideration.

One problem that causes conflicts based on bargaining power shifts is the uncertainty of enduring relationships. A joint move can put the entire household in a better position due to the individual income gain of the mover. Suppose the situation of the tied-mover deteriorates as a result of the move. In that case, this deterioration is no longer compensated for by the movers' income gain in the event of a separation. This anticipated danger is included in the decision-making process. Several facets of a partnership help decrease this risk through a mechanism that allows securing the stability of a partnership (Lundberg & Pollak, 2003). Mainly, relation-specific investment that increases mutual dependency helps solving the cooperation problem created by a unilateral bargaining power increase. Strategies for risk minimization and growing trust in partnerships are of crucial importance. These include the duration of partnership, marriage, children, or joint investments like home ownership. Studies that analyze the effect of

institutional frames show an influence of other factors like commuting time, number of working hours, or job security on preferred job offers besides monetary utility maximization (Auspurg & Gundert, 2015; Blau, 1991). Necessary for coordinating two careers in a partnership are aspects that enhance flexibility in the labor market (Kelly et al., 2011).

Some studies with experimental data investigate the negotiation process in families in the context of allocating domestic and labor work between male and female partners. A study of the future configuration of the partnership, which experimentally varied institutional activities and the availability of private options to combine labor work and family, reveals that more options increase preferences for an egalitarian arrangement (Pedulla & Thébaud, 2015)[22]. Women are especially prone to institutional circumstances, so these results indicate the importance of available institutional options. Auspurg et al. (2017) presented respondents with different arrangements for sharing the housework between partners. Their main finding is that men and women favor an equal distribution. Even so, equity is an essential factor in the valuation of the allocation arrangements. The results differ slightly by gender, but no critical effect explains the gender division in the labor market.

Furthermore, some studies use multidimensional, experimental factorial surveys (FS) with hypothetical nationwide job offers for the respondents. One study used an FS to provide students with information about hypothetical job offers including additional information about a hypothetical partner(ship) (Auspurg & Abraham, 2007). The respondents had to rate their own and fictitious partners' willingness to move. Another study with a broader sample presented hypothetical job offers and compared the effects of advantages of the respondents with factors providing an improvement for the partner (Auspurg et al., 2014). Until now, only two studies have referred to a mutual willingness to move, within samples of dual-career couples or couples working in the science (Abraham et al., 2010; Abraham & Nisic, 2012; Auspurg et al., 2013). Using a mirror-inverted design in which one partner is the mover and the other is the tied-mover, it is possible to determine factors increasing the conflict potential in families. The results of these studies confirm the existence of bargaining models. Individuals value their employment characteristics more than their partners' chances. The respondents do not want to deteriorate the actual balance to their disadvantage. However, individuals also consider their partners' employment prospects in the decision-making process independently of the maximization of the household income. Another result is the positive effect of commitment

[22] Unfortunately, the study used a "between" design, which does not allow the estimation of single effects within persons.

to the partnership, which strengthens the alliance between the partners and, therefore, helps to reduce the differences between the respondents and, as such, helps to find joint decisions.

An essential aspect of bargaining models in this field of application is the assumption of the underlying mechanisms being gender neutral. That means that the negotiation process mechanisms should work the same for women and men. Individuals with higher economic prospects should have more bargaining power. Any differences in the negotiation process only derive from different income options in the labor market. If the external options are controlled for, no further differences are assumed. Moreover, only structural factors in the labor market should be decisive for the persisting gender inequalities. In many cases, this applies to the situation in the partnership. Women are in the position of secondary earners (Blau & Kahn, 2003), which means men can achieve higher incomes and consequently have more bargaining power. Gender differences can be ascribed to inequalities in the labor market but not to inequalities within the family.

In many cases, women living in partnerships cannot enforce household moves to a new location that will benefit their own career or income perspective (Cooke, 2008b; Crane, 2007; Hipp & Leuze, 2015).[23] In many families, the male partner is older, more educated, less likely to work part-time, and earns more money than the female partner. This corresponds to the theoretical assumptions of economic theories, which trace the difference between genders back to inequalities in the labor market.

3.2.2 Gender Roles and Norms

Contradictory to the gender-neutral assumption of the bargaining theory, several studies have shown that there are still gender differences if the external factors are controlled (Bielby & Bielby, 1992; Jürges, 2006; Shauman, 2010). Shauman (2010) showed, with a combination of panel and census data from the U.S., that these gender asymmetries cannot explain the dominance of male characteristics in the decision to move household. Men's employment characteristics have a higher impact on their likelihood of moving, and even in households where the female partner holds a better economic position, the male career is given priority (Hook & Chalsani, 2008; Schneider, 2011). Contrary to the assumptions of bargaining models, the results of the FS provide evidence for gendered decisions, too (Auspurg et al., 2014; Auspurg et al., 2013). Male and female respondents differ in weighing their own versus their partner’s prospects, although gender norms have a minor effect than other job characteristics

[23] Young, unmarried women in contrast do not suffer from these wage differentials in the same way as women living in a partnership or being married.

and operate rather in situations with lower costs. Women, however, are more likely to reject migration if they participate in the labor market, too (Nisic & Melzer, 2016).

A widespread theoretical approach to explaining gendered preferences in the allocation of home and labor market work emphasizes the (re)producing effect of gender (doing gender or gender display) in everyday behavior (Brines, 1994; Fenstermaker, 2002; West & Zimmerman, 1987). Gender roles and norms are adjunct to typical attitudes. The male identity is described as being dominant in contrast to the female submission. This attribution of characteristics to gendered roles and norms also exists in the bargaining processes within partnerships or families. Allocation patterns of the labor market and housework are strongly connected to normative expectations of women and men (Bielby & Bielby, 1992; Jürges, 2006). In a more traditional family, the male partner holds the role of the breadwinner, and the female partner is presumed to be responsible for housework. Gender norms are internalized and reinforced through expectations confirming behavior linked to them.

Within the context of families and similarly in the division of housework, gender is constantly reproduced. This leads to a substantial asymmetry in the division of domestic work within partnerships and the bargaining process. Important aspects of the bargaining process are the external options. Gendered preferences derive from different external options (Lennon & Rosenfield, 1994). The perception of fewer external options for women also implies less power in the bargaining process against the male partner. This imbalance of power influences preferences. Through gender norms, the perception of viable alternatives modifies to an asymmetry on behalf of the male partner. Gendered norms and policies at the workplace hinder an egalitarian allocation of domestic work (Bühlmann et al., 2010; Pedulla & Thébaud, 2015). Even in an egalitarian relationship, institutional constraints prevent a balanced housework arrangement. This social structure then consequently converts into practices and shapes the gendered preferences. This constraining character of the social structure is evident after the birth of a child. Nevertheless, in many studies, it is impossible to include the preferences and norms of the individuals in the models due to their design. Because of that, it is unclear to what extent the asymmetrical distribution of domestic and labor work within partnerships is driven by the preferences and how they interact with institutional determinants (Hipp & Leuze, 2015). Akerlof and Kranton (2000) integrated the idea of identity with internalized gender norms forming behavior into an economic game-theoretic mode and combined the advantages of both models. In their model, the concept of identity assumes social differences. Individuals are associated with social categories and the corresponding attributes. Thereby, identity constrains

access to possible modes of behavior. In a more game-theoretical wording, the payoff for a special behavior is affected by the internalized norms linked to one's identity.
Looking at gender roles and norms, the following hypotheses are formulated:

H3: Within partnerships, the male career is favored (compared to the female career).

H4: In partnerships with egalitarian attitudes towards gender roles, there is less preference for male employment (compared to traditional gender roles).

There are studies concerning the negotiation process between partners. However, the main problem of most studies is the lack of adequate data for analyzing decision-making within partnerships. Usually, traditional surveys or administrative data only contain information about realized job transitions and household moves. Thus, the outcome of the negotiation process is visible, but not the preferences of the individuals. We also need information about rejected job offers to distinguish between different theories.
Another problem with survey data is sample selection, as it only contains information about employed persons. Unfortunately, there is a strong selectivity between employment prospects and gender. To overcome this selectivity, a standardization of job offers for women and men is required. Experimental designs are a solution to the labor market's selectivity and the missing information about the negotiation process. Until now, only some studies have used the advantages of experimental data to overcome the problems connected with traditional survey data.

3.3 Data and Experimental Method

3.3.1 The SOEP Innovation Sample

The experimental setup to address these open questions was implemented in the Innovation Sample of the German Socio-Economic Panel (SOEP-IS). The SOEP is a large-scale panel study of private households that is run annually by the German Institute for Economic Research (DIW) (Goebel et al., 2019; Wagner et al., 2007). It was conducted in Germany in 1984 and represents a good portrayal of the German population. The study is designed as a household survey, and all household members aged 16 years and older within the randomly sampled households are interviewed. As a longitudinal survey with a broad range of information about the respondents' living conditions, values, and household compositions, it also contains information concerning labor market participation and the income of all household members.

For this reason, it is a perfect base for the experimental setup on preferences concerning job characteristics.

Since 2011, part of the SOEP sample has been used for the Innovation Sample. It allows for testing innovative methodological and thematic questions within a longitudinal study in the German population (Richter & Schupp, 2012, 2015). To achieve high comparability to the SOEP-Core, the Innovation Sample is a composition of a part of the random sample of the core SOEP supplemented with newly sampled households. In the third wave (2013), when the factorial survey was implemented in the SOEP-IS, the sample consisted of almost 3,200 households, with more than 5,100 respondents participating. The sample includes adult persons (aged 17 to 96 years) living in a private household in Germany. The questionnaire combines the most critical questions of the SOEP-Core study[24] augmented with new content unique to SOEP-IS.

3.3.2 Experimental Design

A multi-factorial survey experiment was designed to get more information about the partnership negotiation process about job preferences, and occupational moves. In factorial surveys (FS), respondents have to rate descriptions of hypothetical situations or objects (vignettes) (Auspurg & Hinz, 2015; Jasso, 2006; Wallander, 2009). In this study, the respondents are asked to evaluate five hypothetical job offers, which consist of nine experimentally varying job characteristics (dimensions). Job characterization serves different monetary and non-monetary attributes, which are known to impact the decision to accept a job offer substantially[25]. Table 1 presents an overview of the dimensions and levels of the vignette.

All nine experimental dimensions are fully crossed, allowing us to estimate the effects for each factor independently of the other effects. This gives an entire vignette universe of more than 39,000 possible constellations. Out of this universe, a sample of 400 job offers was selected using a D-efficient sampling technique (Dülmer, 2007), split into sets of 80 questionnaire versions (containing each five vignettes). This strategy minimizes the correlation between the dimensions and maximizes the variance of the factors simultaneously (therefore assures a high

[24] „About 44% of the yearly questions in the SOEP-Core" (Richter & Schupp, 2015, p.: 390) are implemented in the core questionnaire of the SOEP-IS.

[25] The main focus for selecting the dimensions was on (dis-)amenities for employees, especially those that can evoke gender differences in the willingness to accept job offers. The shown job offers varied spatial and temporal flexibility to employees. Some of the used factors are job characteristics, which might help to reduce conflicts within partnerships due to time allocations between labor market work and family, like daily child care, which the employer provides.

level-balance, i.e., each level of the dimensions occurs approximately with the same frequency)[26]. This approach leads to high precision and statistical power in the analyses.

Table 3.1: Overview of Dimensions and Levels Used in the Hypothetical Job Offers

	Dimensions	Levels			Total
1	Gross salary: Expected salary[a] plus X [%]	0% | 20% | 40% | 50% | 60% | 80%			6
2	Contract duration	unlimited	1-yr contract	3-yr contract	3
3	Career prospects	no	some	many	3
4	Mandatory overtime	no	sometimes	frequently	3
5	Flexible working hours (flexi-time)	no	some	much	3
6	Child care provided by employer	no	part-time	full-time	3
7	Minimum working hours per week	20 hours	30 hours	40 hours	3
8	Commuting distance – single way	1 hour	2 hours	4 hours	3
9	Partner's chance of finding a job at new location [b]	worse	similar	better	3
∑	**Vignette universe (6*3*3*3*3*3*3*3*3)**				**39,366**

[a] Amount of pay respondents considered as being realistic for themselves when starting a (new) employment.
[b] Dimension will be presented only to respondents actually living in a partnership.

Couples living together in a shared household and both partners being available to the labor market receive an identical set of job offers. As in the real world, one partner receives the offer as a *mover,* and the other sees the same offer for their partner in the position of the *tied-mover*. The partners are assigned randomly. Through this division within partnerships, insights into the negotiation processes are possible.

For each of the vignettes, the respondents had to evaluate the likelihood of moving (together with the partner) to the new job's location on an 11-point scale[27]. If a couple lived together in a shared household, they got job offers with the same characteristics as their partner. Nevertheless, to adapt the FS to real situations, only one individual of the couple was asked to evaluate how attractive he or she thought the job offer was to him-/herself. The corresponding partner was presented with an identical job offer – just for the partner, though (inverse situation). In this case, they had to evaluate how likely they would move to the new location together with their partner. Therefore, the design of the FS corresponds to the realistic situation

[26] The 80 sets of questionnaire versions were randomly allocated to the participating households, with a randomized order of the five job offers for each household. The randomization of the vignettes within the questionnaire versions neutralizes possible ordering effects, like framing, learning, or carry-over effects (Auspurg & Jäckle, 2017).
[27] All job offers are located at least one hour (single way) distant from the actual place of residence of the respondents.

of one person in a partnership getting a job offer (*mover*) and the other person having to think about whether he or she wants to join (*tied-mover*). This *mirror-inverted* design allows for analyzing the process of generating decisions within households. Do both partners agree, or do they value their own benefits more? Furthermore, gender differences in weighing their own versus their partner's amenities can be explored. This article uses the last question concerning the willingness to move to analyze differences in the weighting of job amenities for oneself versus the partner. Figure 3.1 shows a translated example of a potential job offer for the partner who received the offer.

Figure 3.1: Sample Job Offer (English translation, varied factors are underlined)

The offered monthly gross salary is 4,300 Euros[a]. The job is limited to one year and it offers you some career prospects. The employer frequently requires overtime hours. He provides no flexibility in working times (e.g. flexi-time), and also no child-care.
There is always the possibility to reduce the contracted working hours per week to a minimum of 20 hours. The one-way trip from your current place of residence to the location of the job is approximately two hours.
The chances of your partner to find a job at the new location are at the same level compared to your actual place of living.
How likely would you move together with your partner to the new location?
(Respondents were asked to report on an 11-point scale, reaching from 0 (*very unlikely*) to 10 (*very likely*).

[a] The salary in the job offer always represents a percentage increase (increase by 0 up to 80%) of the earnings levels respondents indicated they would expect in case they were searching for a new full-time employment.
[b] The inverse situation for the partner in this example reads: The offered monthly gross salary for your partner is 4,300 Euro … Your own chances of finding a job … How likely would you move together with your partner to the new location?

The FS was implemented in the CAPI split and was executed as a self-completion mode, to enhance respondents understanding[28]. If the respondents can read the hypothetical job offers themselves, the evaluation is much easier for them and thus reduces potential social desirability bias.

Using an FS with the description of hypothetical job offers enables us to take advantage of the properties of an experimental design. Through the random allocation of the experimental

[28] Detailed pretests have shown that there are no essential problems by the respondents in understanding the task and the complexity of the multi-factorial design.

stimulus (dimensions), there is no selectivity or endogeneity, which biases the results. In the labor market, selectivity is often problematic, as some groups have better access to attractive job amenities (e.g. gender or family background). In this setup, all respondents are confronted with the same set of job offers, independent of their group belonging. Therefore, all remaining differences between groups are due to individuals' preferences for or against some job characteristics (e.g. gender norms). Additionally, all factors have a low correlation with the other factors and are not combined with each other (e.g. mandatory overtime is not essential to achieve good career prospects). With this characteristic of FSs, we can estimate the preferences for each factor separately from each other and compare job (dis-)amenities between different groups.

3.3.3 Respondent Sample and Descriptive Statistics

As the FS deals with hypothetical job offers, the sample was restricted to respondents being between 17 and 60 years old and currently available to the labor market when the survey took place[29]. Analyzing differences and conflicts within partnerships, we only used persons with a partner living in the same household. Like the respondent her-/himself, the partner had to be available to the labor market, too. Additionally, they were only included in the study if both partners stated valid answers in the FS module. To address the question of gender differences, only heterosexual couples were included in the sample[30]. We have 392 couples in which both partners at least stated one valid answer to their willingness to move. We have 1,920 valid evaluations in which the mover and the tied-mover have valid information[31]. Especially in models with control variables, there is possibly some non-random nonresponse. However, as the FS is an experimental design, the stimuli are given by the researcher and are not correlated with other factors. Therefore, it does not require a random sample of respondents (Mutz, 2011). Looking at the respondents' characteristics in Table 3.2, a high proportion of the couples (83%) are married, and about half of the sample lived in a shared household with children younger than 14. There are only minor gender differences related to the occupational qualification in our sample. Most of both sexes have completed vocational training, with men having slightly higher qualifications. However, there are pronounced deviations in association with job-related characteristics. While the vast majority of men are employed full-time (89%), only about one-

[29] Respondents are rated as available to the labor market if they participated in the labor market or if they were unemployed but willing to start employment in the following two years.
[30] Another reason for excluding same-sex couples is their minor appearance in the sample (only two couples).
[31] Almost all of the 784 respondents (97.7% of the mover and 98.7% of the tied-mover) submitted valid answers for all five vignettes for the evaluation of the willingness to move. For this reason, it seems like the FS evoked no greater problems for the respondents.

third (31%) of the women are working full-time. Women are considerably more often in a part-time job (40%) or not employed (18%). Considering the stated salary that the respondents expect for full-time employment, if they were looking for [a new] one, gender differences are also clearly visible. The mean expected salary of the male respondent of 4,014€ is considerably more than that of females with 2,583€. These differences between the male and female respondents reflect gender differences which are often highlighted in the literature (Zambre, 2018). A feature of the sample restriction is a high proportion of respondents who own real estate property (58%). Therefore, it is not surprising that there is a strong bond between them and the area they live in.

Table 3.2: Descriptive Statistics on Respondents

	Male respondent				Female respondent			
	N	Mean	SD	Median	*N*	Mean	SD	Median
Age	392	44.6	9.1	46	392	42.0	9.5	43
Married	392	83.4			392	82.9		
Child < 14 yrs in hh	392	45.9			392	45.9		
Education (CASMIN) (ref: low)								
medium	392	68.1			391	63.7		
high	392	26.3			391	21.7		
Employment status (ref: Full-time)								
Part-time	392	3.3			392	39.5		
Marginal	392	2.0			392	11.5		
Not employed	392	5.9			392	18.1		
Expected salary for full-time empl.	210	4014.8	2085.4	3500	172	2583.2	1283.1	2390
Expected salary for full-time empl. of the partner	168	2634.1	1239.8	2388	203	3859.1	1889.8	3500
Real estate property	392	57.7			392	57.7		
Tied to local area (ref: not at all/not much)								
much	392	48.0			391	48.3		
very much	392	33.4			391	30.4		

Table 3.3 refers to summary statistics of the dependent variable – the willingness to move. The respondents rated the hypothetical job offers on an 11-point scale, from *very unlikely* to *very likely*.

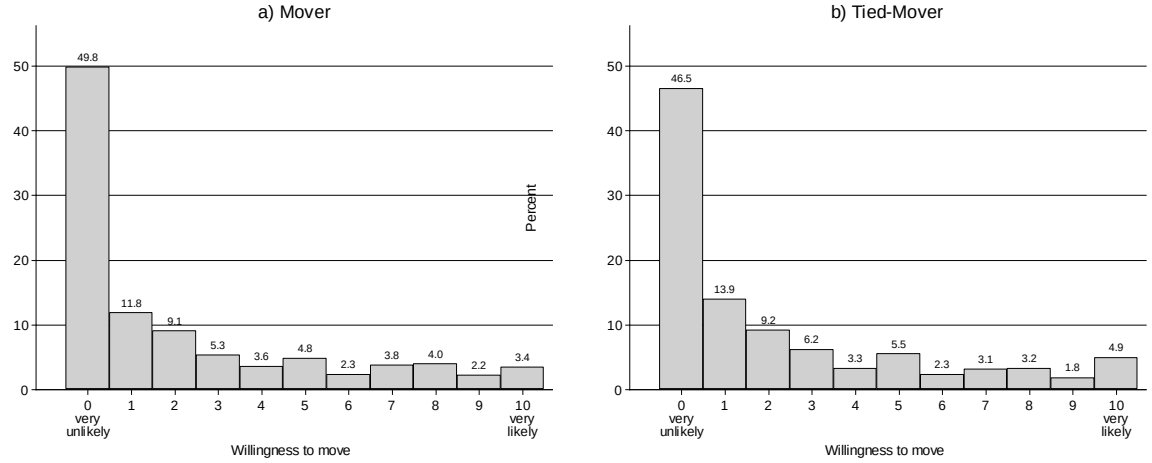
Table 3.3: Descriptive Statistics on Dependent Variable

	N	Range	Mean	SD	Median
Willingness to move					
mover	1920	0-10	2.10	2.96	1
tied-mover	1920	0-10	2.19	3.00	1

Figure 3.2 presents the distributions separately for mover and tied-mover. The distribution is strongly skewed to the left, with a concentration at the end of the scale. The respondents value almost half of the vignettes (50% of the mover; 47% of the tied-mover) as *very unlikely* to move for this job offer. This skewed distribution indeed conforms to the low willingness to move in

the German population (Huinink et al., 2014; Kalter, 1998). If the respondents are willing to move, they use the whole range. Surprisingly, there is no noticeable difference in the distribution between the mover ($mean_{mover}$=2.10; sd_{mover}=2.96) and the tied-mover ($mean_{tied\text{-}mover}$=2.19; $sd_{tied\text{-}mover}$=3.00).

Figure 3.2: Distribution of willingness to move



The random allocation of the experimental stimuli (vignette dimensions) worked well. The single levels of the applied dimensions exhibit an even allocation across the responses (Table A-3.5).

3.3.4 Analytical Model

The given distribution of willingness to move indicates a two-step decision-making process. In the first tier, the respondents determine whether relocation is a valid option at all. Only if the answer on the first tier is positive, the respondents reflect on a detailed assessment of their willingness to move. (For a detailed description of the two-stage decision-making process concerning relocation, see Kalter, 1997).

To address this two-stage decision process, we use hurdle models, which are most suitable for the given structure of our independent variable (Wooldridge, 2003, pp. 690-705). Based on the skewed distribution, the hurdle model of Cragg (1971) is the best solution. It uses a probit model on the first tier to address the first binary decision process, which distinguishes between willing to move (y>0) and not willing to move (y=0). A truncated linear regression is estimated for the second tier, given y>0.

As every respondent rated five vignettes, the evaluations are not independent of each other (Hox et al., 1991). Evaluations from one person are more similar and cluster within persons or

partnerships. We use random-intercept-models (level 1 = vignette characteristics; level 2 = individual or partnership characteristics) to correct for the clustering of vignettes in respondents. With the Chow tests (Wooldridge, 2013), it is possible to detect overall differences between subgroups and analyze gender differences in preferences. We use interaction terms in a joint model for differences in single coefficients.

To distinguish between the effects of bargaining power and the impact of gender norms on the decision-finding process, we used an additional module concerning attitudes toward gender norms. The module is part of a previous innovation module on internalized gender stereotypes, implemented in the SOEP-IS in 2011. The respondents had to state their agreement on a 5-point scale to three statements regarding the division of housework and labor market participation of women and men within a partnership. We generated an additive index of the three items on the personal level and standardized the index to range from zero (egalitarian) to one (traditional) (Figure A). Overall, there is a higher proportion of egalitarian individuals. Among female respondents, egalitarian gender norms are prevalent (mean=0.75; sd=0.23). Among male respondents, gender roles are more traditional (mean=0.66; sd=0.25).

3.4 Results

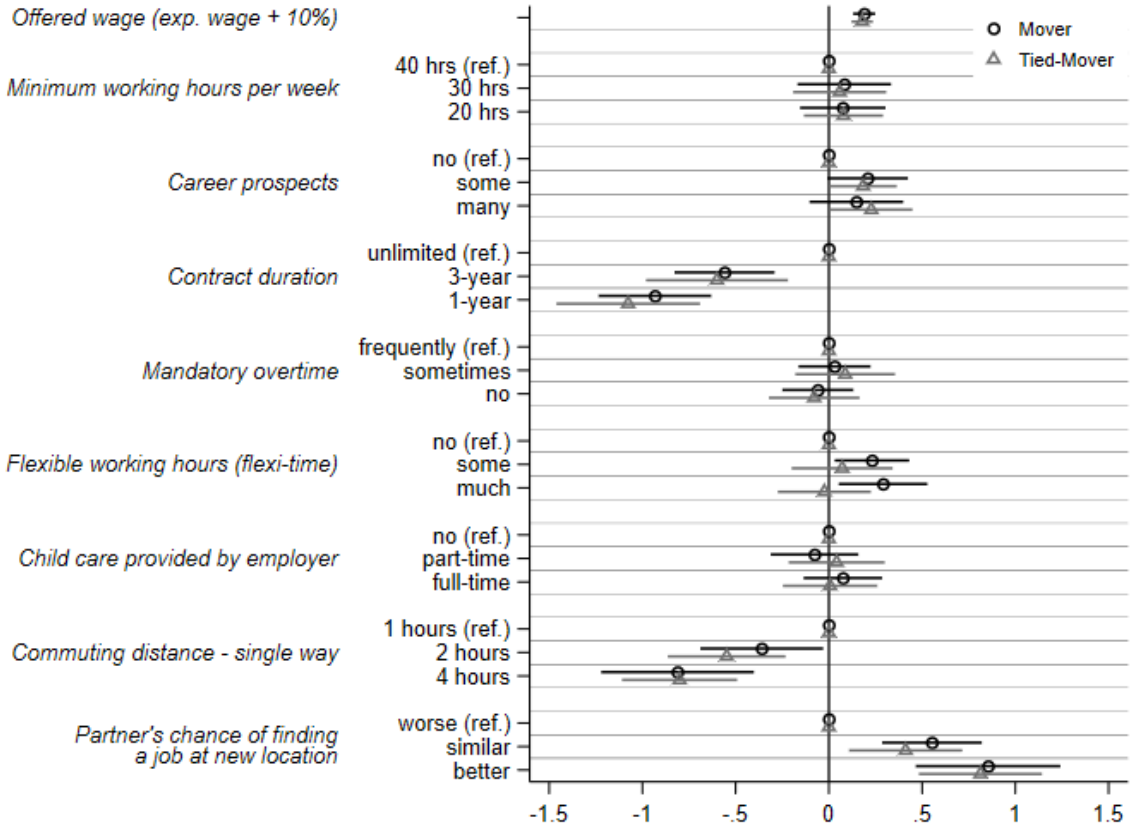
3.4.1 Job Characteristics and the Willingness to Move

In the first step, we estimate a model that includes all job characteristics shown in the vignette to explain the willingness to move. Figure 3.3 presents the effects of the experimentally varied vignette dimensions separately for mover and tied-mover.

As a first result, we can say that the effects align with the assumptions. Higher income, greater career prospects, and improved working conditions increase the likelihood of a shared move. The figure shows that this applies to the mover and the tied-mover. Besides the working conditions for the mover, the chances of finding a job at the new location for the partner are relevant for the mover and the tied-mover. The effects align with the hypotheses for the bargaining model: Firstly, the pure maximization of the household income determines the moving behavior (H1), and the partner's chances flow into the decision-finding process (H2). Both gains in income and employment prospects for the partner have a positive effect and increase the willingness. This combined influence applies, with minor deviations, to both the mover and the tied-mover. Secondly, working conditions that do not concern the tied-mover directly differ in the evaluation. Thirdly, job characteristics like flexi-time have a more substantial effect on the decision of the mover. Meanwhile, features with short prospects and a long commuting distance hinder migration. In detail, this means that relocation costs get even

higher with increasing distance and lead to a refusal of migration. A potential reason is that a household move usually leads to high monetary and non-monetary costs. It is clear that the mover's or tied-mover's connection to the private social network still exists when moving away to shorter distances, thus providing more security. In summary, the differences between the mover and tied-mover are relatively small.

Figure 3.3: Effects of the job description on the willingness to move



Another important aspect concerns the analysis of variation on the respondent level. Therefore, respondent characteristics incorporated in the model influence job-related mobility. Table 3.4 shows the most relevant results for mover and tied-mover respondents.[32] Columns for tier 1 represent coefficients from a probit regression and reflect the likelihood to move as a dichotomous decision-making process. With tier 2, the coefficients from a truncated linear regression represent the extent of the willingness to move. A positive effect means a higher willingness to move. Further, Table 3.4 contains average marginal effects (AME). They are a combination of the effects of both tiers.

[32] For a full table of the model, including all variables, see Table A-3.5 in the Appendix.

Looking at the constant, it points out a lower willingness of the tied-mover. Corresponding with individual considerations in the bargaining models, the respondent who has to follow the partner has lower incentives. The overall evaluation of the job offer is the same depending on whether the male or female respondent receives the job offer. Against the theoretical assumption, being married or having children has no significant effect. The expectation of a reduced risk due to mutual commitment and protection in case of separation does not apply. Only common home ownership and the feeling of belonging to the actual location decrease the willingness to move to a decisive extent – for both the mover and the tied-mover, as assumed in hypothesis three. According to previous studies, older persons are less willing to move; this applies only to the mover. Furthermore, there is no effect on the educational level of the respondents. Also, controlling for the employment status has no impact, except if the tied-mover is not employed. Being in line with the bargaining models, not employed tied-mover respondents only have low power in the negotiation process. Additionally, for the unemployed tied-mover, the shift in bargaining power due to the relocation is relatively small compared to the actual situation.

Table 3.4: Craggit Model of Willingness to Move

	Mover			Tied-Mover		
	Tier 1	Tier 2	AME	Tier 1	Tier 2	AME
Vignettes' characteristics						
Offered wage (exp. wage + 10%)	0.0713***	0.344***	0.192***	0.0706***	0.358***	0.195***
	(0.00938)	(0.0635)	(0.0219)	(0.00930)	(0.0635)	(0.0261)
Employment prospects partner (ref.: worse)						
similar	0.170**	1.187***	0.520***	0.174**	1.253***	0.541***
	(0.0585)	(0.359)	(0.138)	(0.0578)	(0.364)	(0.143)
better	0.350***	1.323***	0.826***	0.348***	1.401***	0.846***
	(0.0636)	(0.377)	(0.144)	(0.0626)	(0.386)	(0.176)
Respondents' characteristics						
Female respondent	-0.0719	0.460	0.0207	-0.0294	-0.799	-0.252
	(0.108)	(0.667)	(0.157)	(0.105)	(0.629)	(0.159)
HH-characteristics						
Married	-0.0904	-0.0836	-0.150	-0.0896	-0.219	-0.186
	(0.151)	(0.645)	(0.180)	(0.151)	(0.639)	(0.184)
Child < 14 yrs in hh		-0.0567	-0.0151		-0.00690	-0.00181
		(0.553)	(0.0971)		(0.561)	(0.0924)
Constant	-0.221	-2.934		-0.208	0.643	
	(1.235)	(7.600)		(1.230)	(7.452)	
σ		3.758 (0.161)			3.802 (0.170)	
N vignette		1920			1920	
N person		392			392	

Note: Cluster robust standard errors in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

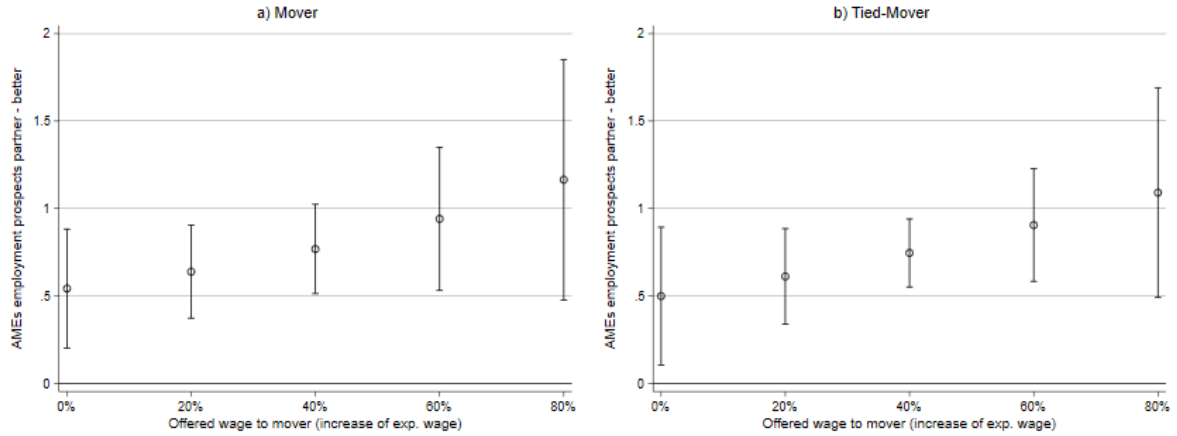
Looking separately at the decision if there is a willingness to move and the probability to move, the effect of income and partners' prospects have a positive effect on both decisions. The effects

are significant in tier 1 and tier 2. Respondents consider their advantages and the job prospects for their partner on both tiers. The employment prospects of the partner are not only relevant for the second decision. A good position for the partner also increases the willingness to move.

3.4.2 Bargaining and the Equilibrium in Negotiation Power

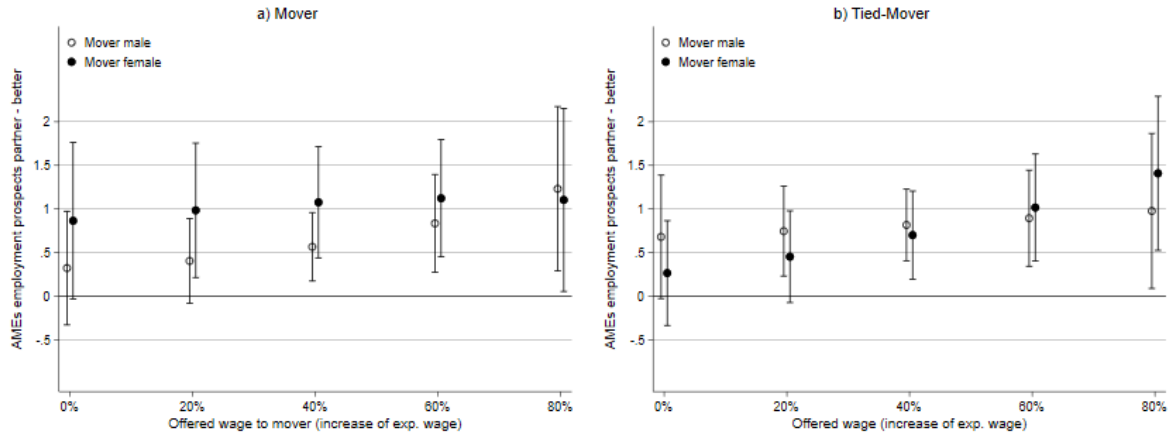
After we saw that the decision to move depends on the characteristics of the new location for oneself and the partner, the next step is to look at it in more detail. The first model shows that respondents' prospects strongly influence their probability of moving (H1). Hypothesis two (H2) assumes a greater involvement of the partners' employment situation in the decision with an increasing income. Based on the bargaining theory, respondents want to prevent shifts in the bargaining equilibrium in their partnership. We expand the model with an interaction between the two vignette dimensions offered wage and employment prospects for the partner at the new location. Figure 3.4 presents the AMEs of this interaction. The employment prospects for the partner are always important. Even with no gain in income, both partners consider the situation of the tied-mover in their decision. However, the impact of partners' employment prospects gets more critical with increased income for the mover. This pattern is evident for both the mover and the tied-mover and is in line with the assumptions from the bargaining model. Respondents try not to increase the difference between themselves and their partners. They attempt to maintain the balance of power within the relationship. Anticipated shifts of the bargaining power towards one partner are being avoided (H2). With an increase in their position, the situation of the tied-mover is taken more into account in the decision.

Figure 3.4: Employment prospects of the partner and the offered wage



If bargaining models can explain the tendency to balance the bargaining power and the rising importance of partners' job prospects, there should be no difference between male and female respondents. The bargaining model assumes a gender-neutral mechanism that applies similarly to everyone regardless of gender. To test this assumption, respondents' gender was included in the interaction. Figure 3.5 shows the gendered importance of partner options in dependence on income gain. Some differences exist in contrast to the gender-neutral assumption of the bargaining model. Female movers make no difference in the importance of their partner's prospects depending on their income gain. For them, partner options are always equally important. In contrast, male movers show the expected picture and emphasize the importance of their partner's options in the new location, depending on their income. With an increase in their income, the employment prospects for their partner are getting more important. For the tied-movers, we see the contrary picture. Male tied-movers do not assess their situation depending on the income of their female partners. The positive connection between the own situation and the job characteristics of the partner only shows up for female tied-movers. Women include their situation more strongly if it leads to a shift in the current situation and thus in bargaining power. The results show that the assumption of a gender-neutral mechanism, as assumed by bargaining theory, cannot be confirmed.

Figure 3.5: Gendered Importance of Partner's Option in Dependence of Income Gain

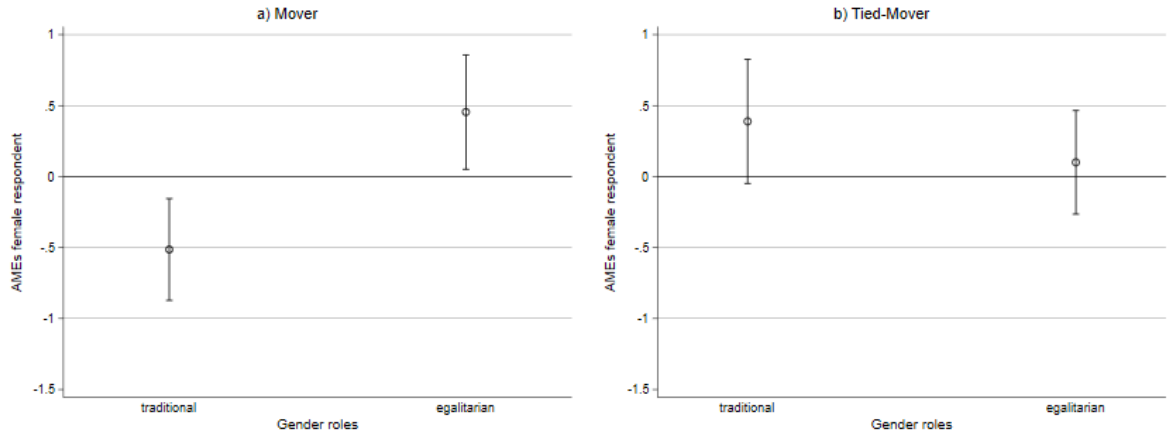


3.4.3 Gender Roles and their Impact on the Willingness to Move

As there are gender differences in the willingness to move, the next step is incorporating gender norms. The gender index expands the previous model and addresses differences in the internalized gender roles. As gender norms are strongly connected to gender, the first relevant interaction is between gender and gender roles. A median split divides the respondents into two

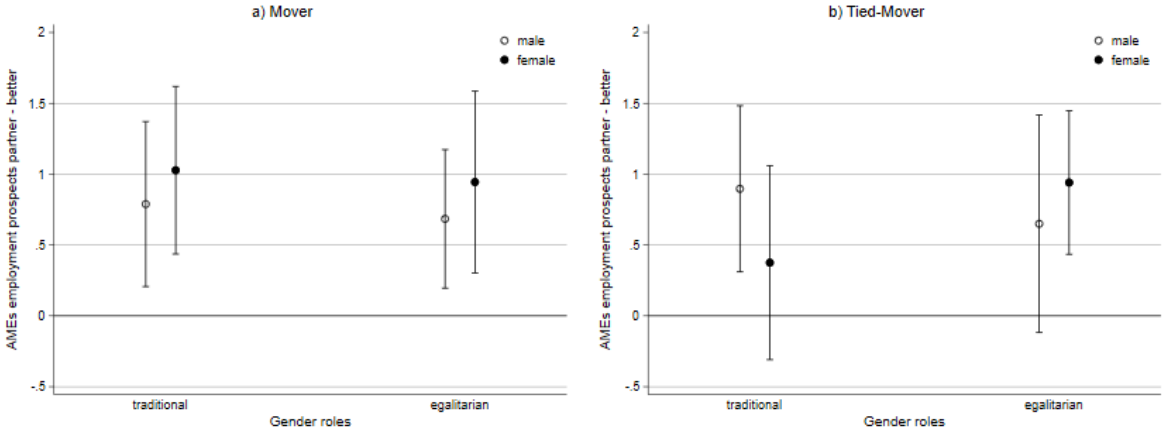
groups, with egalitarian or traditional gender norms. As shown in Figure 3.6, gender roles influence the willingness of the mover to move. For respondents who received the job offer (mover), there is a gendered effect of the gender roles in combination with the respondent's gender on their willingness to move distinguishable. Women with traditional gender roles have a significantly lower willingness than their counterparts. That implies that women with traditional gender roles are less willing to relocate for job opportunities. This effect occurs on tier one, so they are less likely to consider moving for a new job. The reverse applies for tied-mover; the effects, though, are not that clear. Women with traditional gender roles are more willing to relocate for their partner's job.

Figure 3.6: Gendered Willingness to Move and Gender Roles



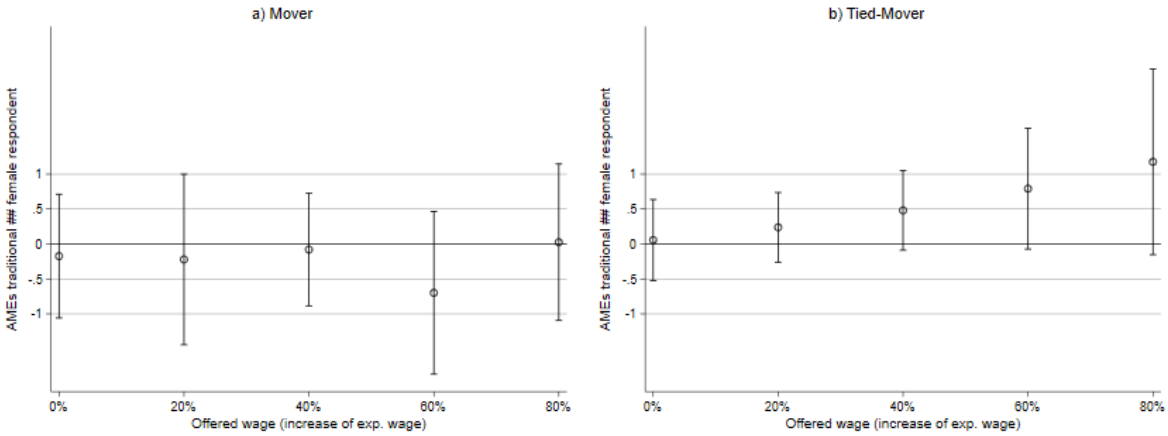
If gender roles affect the willingness to move, this should also be true for the effect of the employment prospects for the partner. For female respondents with traditional gender norms, the options for their partner should be more important for their decision compared to women with egalitarian gender roles (*Male Breadwinner* model). Figure 3.7 shows no difference between female and male respondents for the mover. Women take the situation of their partner slightly more into account. Gender and gender roles do not make an essential difference in their willingness to relocate. When looking at the tied-movers, gendered differences are visible but not significant. The distinction between traditional and egalitarian gender norms only makes a difference for females. For women with traditional gender norms, their situation is not essential for their evaluation to move. For female respondents with egalitarian gender norms, their situation in the new location determines their valuation of the vignette and willingness to move. Overall, the results for hypothesis four (H4) are ambiguous.

Figure 3.7: Gendered Importance of Partner's Employment Prospects and Gender Roles



Former literature suggests that the effect of gender roles only occurs if the decision is associated with low costs (Auspurg et al., 2014). So, in the last test, the effect of gender roles and gender are combined with the income of the offered job. If gender roles only play a role when costs are low, the effect on decision-making within partnerships should only occur for small income gains. Contradicting the assumptions of the low-cost theory, the results show no difference between different levels of income gain (Figure 3.8). The effects of gender roles on the evaluation do not depend on the possible gains or potential losses.

Figure 3.8: Gendered Willingness to Move by Income and Gender Roles



3.5 Conclusion

This study provides important insights into how couples in partnerships negotiate job-based relocations and how gendered patterns continue to play a significant role. Drawing on bargaining theory and the influence of gender roles, an experimental factorial survey design was used to examine how individual and partnership factors - such as income, career prospects, and gender norms - influence the decision to move or not.

Previous studies have already examined negotiation processes in partnerships about job-based relocation behavior. However, using a mirror-inverted design, the FS used here deliberately looks at both partners and distinguishes between movers and tied-movers in the decision-making processes. The decisions of the mover and the tied-mover are considered separately. By using the individual income for the mover, the study focuses more specifically on the distinction between the individual benefit and the benefit for the entire household.

The results clearly show that economic factors, in particular higher income and better career opportunities, play a decisive role in the relocation decisions of both partners. Both the *mover* and the *tied mover* take into account the professional opportunities of the other partner, which points to the increasing importance of dual careers in modern partnerships. In this context, the assumption is confirmed that the decision to relocate together is influenced by individual preferences and the long-term consequences for the partnership and the common household's well-being.

However, there are apparent gender-specific differences in the negotiation processes. Men tend to include the career opportunities of their partners in their decisions, especially if their income improves significantly. This could indicate that men want to secure their negotiating position within the partnership by avoiding possible shifts in the balance of bargaining power. Conversely, women show a more consistent pattern by considering their partner's opportunities regardless of their income growth. This asymmetry underlines that traditional role patterns in partnerships persist despite formal equality in the labor market. The influence of gender norms on decision-making processes is particularly revealing. Women with internalized traditional role models are less inclined to relocate for career opportunities but more willing to follow their partner's relocation. This suggests that traditional ideas about the role of women as secondary breadwinners are still rooted in the negotiation processes of many partnerships. These results contradict the assumption that negotiation patterns in partnerships are based exclusively on gender-neutral mechanisms, as assumed by bargaining theory.

Despite this study's valuable findings, some limitations should be considered when interpreting the results. The analysis is based on hypothetical job offers as part of an FS. Even though the

job descriptions in the vignettes tried to be as realistic as possible, respondents' stated intentions in the FS may still differ from their actual behavior. However, the gain in knowledge comes mainly from the fact that the experimental variation in job offers determines the existing differences in the labor market. This means that the descriptions are independent of individual employment options, which often differ according to gender. In the case of vignettes that are as close as possible to the actual situation, initial studies show a high degree of agreement between the mechanism in FS and realized behavior (Hainmueller et al., 2015; Petzold & Wolbring, 2019).

The study shows that economic factors such as income and career prospects play a central role in the decision to relocate for work, but that social norms and role models are also important. Therefore, negotiating power within the partnership is determined by structural inequalities in the labor market and internalized gender norms. The findings thus confirm previous results with a similar FS (Auspurg et al., 2014). To reduce gender inequalities in terms of job mobility and career opportunities, policy measures such as flexible working hours and the promotion of teleworking should be considered to enable couples to make more equal choices about career priorities.

Future research should more closely examine the underlying social and institutional conditions that influence partnership bargaining power. It could especially investigate how new working models, such as remote working, could change negotiation dynamics and break traditional gender norms. An in-depth analysis of these factors could help partnerships negotiate and equitably implement career opportunities.

3.6 Appendix

3.6.1 Gender Roles

Figure A-3.9: Used Gender Roles Module in the SOEP-IS

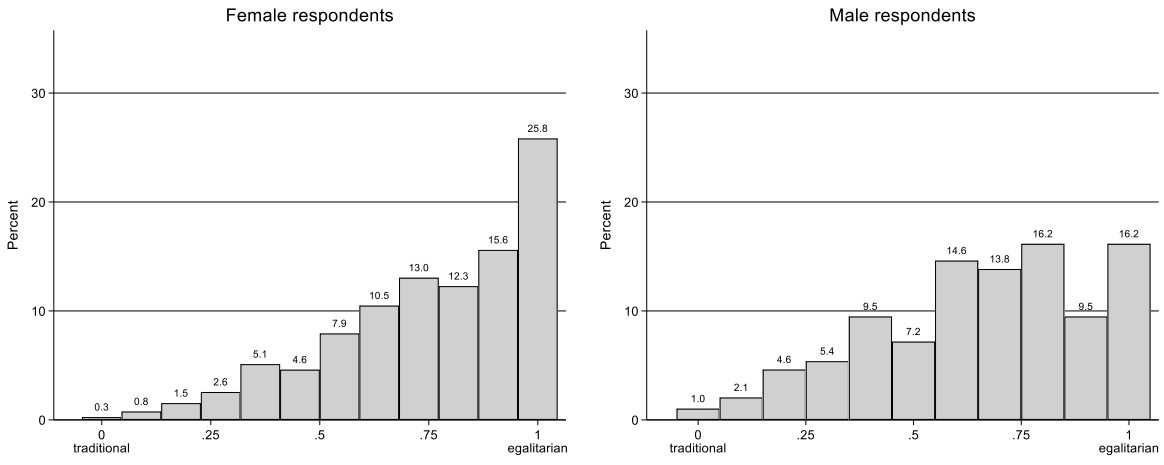
Q67 Now I will read a few statements to you. Please state whether you disagree fully, rather disagree, neither agree nor disagree, rather agree or fully agree.
Please show list 67!

	Completely disagree	Rather disagree	Neither agree nor disagree	Rather agree	Completely agree	Don't know	No Answer
It's the domain of the man to earn money, while the woman concentrates on household and family.	1	2	3	4	5	6	7
Men should take part in household activities the same like women.	1	2	3	4	5	6	7
It's the best if man and woman are nearly equal employed and if they participate similarly in household and family.	1	2	3	4	5	6	7

Source: (SOEP-IS Group, 2017, p. 21).

The three items were combined for the analyses to form a gender index. Agreement to the first item was evaluated as agreement with traditional gender norms. On the other hand, agreement with items two and three reflects egalitarian gender norms.

Figure A-3.10: Distribution of Gender Index



3.6.2 Additional Graphs and Tables

Table A-3.5: Descriptive Statistics on Dependent Variable and Vignette Dimensions

	N	Range	Mean	SD	Median
Dependent variables					
Willingness to move					
mover	1920	0-10	2.10	2.96	1
tied-mover	1920	0-10	2.19	3.00	1
Descriptive Statistics on Vignette Dimensions and Levels					
Gain of income (%)	1920	0-80	41.52	25.91	45
Contract duration (ref: unlimited)					
3-year	1920	0-1	0.34		
1-year	1920	0-1	0.33		
Career prospects (ref: none)					
some	1920	0-1	0.34		
many	1920	0-1	0.33		
Mandatory overtime (ref: frequently)					
sometimes	1920	0-1	0.33		
none	1920	0-1	0.34		
Flexible working hours (ref: none)					
part-time	1920	0-1	0.34		
full-time	1920	0-1	0.34		
Child care at employer (ref: none)					
part-time	1920	0-1	0.34		
full-time	1920	0-1	0.33		
Minimum working hours (ref: 40 hrs)					
30 hrs	1920	0-1	0.33		
20 hrs	1920	0-1	0.34		
Commuting distance (ref: 1 hour)					
2 hours	1920	0-1	0.34		
4 hours	1920	0-1	0.33		
Employment prospects partner (ref: worse)					
similar	1920	0-1	0.34		
better	1920	0-1	0.33		

Table A-3.6: Craggit Model of Willingness to Move

	Mover			Tied-Mover		
	Tier 1	Tier 2	AME	Tier 1	Tier 2	AME
Vignettes' characteristics						
Offered wage (exp. wage + 10%)	0.0713***	0.344***	0.192***	0.0706***	0.358***	0.195***
	(0.00938)	(0.0635)	(0.0219)	(0.00930)	(0.0635)	(0.0261)
Minimum working hours per week (ref.: 40 hrs)						
30 hrs		0.464	0.122		0.434	0.113
		(0.336)	(0.117)		(0.343)	(0.110)
20 hrs		0.514	0.135		0.423	0.110
		(0.365)	(0.108)		(0.369)	(0.113)
Career prospects (ref.: no)						
some		0.903*	0.239*		0.869*	0.227
		(0.389)	(0.0997)		(0.392)	(0.117)
many		0.563	0.145		0.504	0.129
		(0.383)	(0.0843)		(0.386)	(0.117)
Contract duration (ref.: unlimited)						
3-year	-0.232***	-0.818*	-0.582**	-0.229***	-0.784*	-0.570***
	(0.0590)	(0.341)	(0.209)	(0.0583)	(0.343)	(0.166)
1-year	-0.376***	-1.532***	-0.944***	-0.372***	-1.509***	-0.935***
	(0.0626)	(0.382)	(0.163)	(0.0617)	(0.387)	(0.146)
Mandatory overtime (ref.: frequently)						
sometimes		0.165	0.0444		0.0971	0.0257
		(0.359)	(0.0803)		(0.369)	(0.107)
no		-0.158	-0.0415		-0.0878	-0.0229
		(0.373)	(0.116)		(0.374)	(0.118)
Flexible working hours (ref.: none)						
some		0.878*	0.226		0.851*	0.217
		(0.353)	(0.144)		(0.358)	(0.125)
many		1.103**	0.289**		1.080**	0.279*
		(0.373)	(0.0888)		(0.379)	(0.127)
Child care at employer (ref.: none)						
part-time		-0.363	-0.0951		-0.328	-0.0847
		(0.418)	(0.132)		(0.420)	(0.107)
full-time		0.160	0.0434		0.254	0.0680
		(0.372)	(0.103)		(0.377)	(0.111)
Commuting distance (ref.: 1 hour)						
2 hours	-0.144**	-0.484	-0.351**	-0.144**	-0.510	-0.360**
	(0.0517)	(0.327)	(0.126)	(0.0510)	(0.331)	(0.132)
4 hours	-0.372***	-1.022*	-0.795***	-0.363***	-1.048*	-0.794***
	(0.0639)	(0.405)	(0.127)	(0.0634)	(0.415)	(0.126)
Employment prospects partner (ref.: worse)						
similar	0.170**	1.187***	0.520***	0.174**	1.253***	0.541***
	(0.0585)	(0.359)	(0.138)	(0.0578)	(0.364)	(0.143)
better	0.350***	1.323***	0.826***	0.348***	1.401***	0.846***
	(0.0636)	(0.377)	(0.144)	(0.0626)	(0.386)	(0.176)

	Mover Tier 1	Tied-Mover Tier 2		Mover Tier 1	Tied-Mover Tier 2	
Respondents' characteristics						
Female respondent	-0.0719	0.460	0.0207	-0.0294	-0.799	-0.252
	(0.108)	(0.667)	(0.157)	(0.105)	(0.629)	(0.159)
Age	-0.0145*	-0.0539	-0.0348***	-0.0141*	-0.0498	-0.0332***
	(0.00628)	(0.0328)	(0.00639)	(0.00614)	(0.0328)	(0.00796)
Education (CASMIN) (ref.: low)						
medium		0.111	0.0308		-0.681	-0.187
		(0.901)	(0.161)		(0.768)	(0.141)
high		-1.432	-0.359*		-1.100	-0.294
		(1.078)	(0.165)		(1.012)	(0.177)
Tied local area (ref.: not at all/not much)						
much	-0.111	-1.375*	-0.586***	0.0361	-0.814	-0.173
	(0.137)	(0.567)	(0.173)	(0.138)	(0.644)	(0.143)
very much	-0.432**	-1.465*	-1.050***	-0.123	-0.868	-0.411*
	(0.147)	(0.714)	(0.195)	(0.149)	(0.747)	(0.181)
HH-characteristics						
Married	-0.0904	-0.0836	-0.150	-0.0896	-0.219	-0.186
	(0.151)	(0.645)	(0.180)	(0.151)	(0.639)	(0.184)
Child < 14 yrs in hh		-0.0567	-0.0151		-0.00690	-0.00181
		(0.553)	(0.0971)		(0.561)	(0.0924)
Home ownership	-0.358**	-1.642**	-0.942***	-0.396***	-1.506*	-0.963***
	(0.116)	(0.588)	(0.106)	(0.117)	(0.618)	(0.138)
Living in East Germany		0.961	0.256*		1.288	0.338**
		(0.682)	(0.115)		(0.708)	(0.127)
Combination of expected wage	0.145	0.440	0.323	0.123	0.136	0.211
	(0.145)	(0.884)	(0.175)	(0.145)	(0.893)	(0.236)
Proportion of expected income		5.688*	1.512***		4.454	1.170*
		(2.588)	(0.382)		(2.662)	(0.498)
Constant	-0.221	-2.934		-0.208	0.643	
	(1.235)	(7.600)		(1.230)	(7.452)	
σ		3.758 (0.161)			3.802 (0.170)	
N vignette		1920			1920	
N person		392			392	

Note: Cluster robust standard errors in parentheses; * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

4
Article 3:
Flexible Working Conditions
in the Context of Gender and Class Conflicts

4. Flexible Working Conditions in the Context of Gender and Class Conflicts

4.1 Introduction

Analyzing the labor market, the ongoing gender gap is a well-documented issue that has been the focus of numerous studies (e.g., Goldin et al., 2017). As women's participation in the labor market increases, time allocation is a pressing issue within partnerships. Individuals' available time is inherently limited, and this challenge is particularly pronounced in families with young children. The labor force participation of both partners necessitates the coordination of careers, household tasks, and childcare. With women's growing employment, the coordination effort and the conflict between work and family responsibilities amplifies.

Looking at the emerging time and coordination problems within partnerships, the job characteristics and especially the existing flexibility are essential issues that can help to solve or reduce these problems (Fuller & Hirsh, 2019; Kelly et al., 2011). Thus, flexible working conditions are a salient topic in the labor market. However, concerning gender inequalities in the labor market, most former studies focus on the supply side, while the demand side considerably affects the inequality between women and men (Pedulla & Thébaud, 2015). Previous studies show a gender-based imbalance in the willingness to make concessions, also connected with income and educational level. This fact enhances the gender inequalities as flexible working times are often associated with a privilege for people earning high wages. Up to now, studies on the effect of flexible time arrangements are often from the US and focused on single companies (Kelly et al., 2011) or a unique sample (like mothers-to-be) (Glass & Riley, 1998).

Therefore, it is crucial to ask: Does the decision-making process regarding job offers vary based on gender and social class affiliation? This query underscores the need for more extensive research to fully comprehend the dynamics at play in the labor market.

To study the decision-making process in terms of class and gender dynamics, we rely on a factorial survey (FS) that focuses on individual preferences. The FS, conducted in 2013 as part of the SOEP Innovation Sample, consisted of five hypothetical job offers with experimentally varied job characteristics. All respondents had the same chances of being offered job characteristics. The variation was independent of the respondents' characteristics and, therefore, independent of their social class and their gender. Participants were asked to assess the job offers based on their willingness to accept them. The experimentally varied characteristics of the jobs, including the possibility for flexible working, the minimum working hours, and available childcare, make it possible to determine differences, by gender and social class, in the preference for the displayed characteristics.

Many previous studies used observational data and thus only had information on realized job changes. In contrast, the experimental design allows us to look at gender and class inequalities in preferences for job characteristics. The primary focus of the FS is on the supply side and shows differences independent of different access opportunities in the labor market and economic constraints.

4.2 Theoretical Background and State of Research

Given women's increasing educational level and thus enhanced participation in the labor market, gender inequalities and, thus, the gender gap should vanish. However, persisting gender inequalities exist in income level as well as in the positions women achieve or possess. This contradictory progress is known as a *stall in the gender revolution* (e.g., Blau & Kahn, 2006).
One important mechanism of the enduring gender inequalities is the associated time difficulty, which comes along with the rising female labor market participation. As a result, a time and coordination problem between employment and domestic work occurs. Inflexibility in the family and job often creates an imbalance between the job and the family and household. Balancing both areas is not always easily viable as work-family preferences are formed mainly in response to constraints and options given by the workplace institution (Pedulla & Thébaud, 2015).
Previous studies about working time show a mismatch between the actual number of working hours and the respondents' stated preferences. However, this divergence of preferred and actual hours per week is not uniform in all population strata. The direction of the mismatch differs based on the person's social class. Upper-class members prefer working less than their actual working time, but data shows they cannot realize their preferences. In contrast, members of the lower classes want to increase their actual working hours per week. Jacobs and Gerson (2004) call this separation by class the *time divide*, mainly known in the US context. The deviation between the preferred and the actual number of working hours per week also exists in countries with social security systems different from those in the US (e.g., for Germany Weber & Zimmert, 2018). Nevertheless, comprehensive analyses concerning the class differences in the direction of the divergence for the EU or Germany, which represent different environmental settings compared to the US, still need to be done.

4.2.1 Flexible Working Conditions

So far, an open aspect in the debate about the time divide is the importance of flexible working conditions for employees. Flexible working conditions have often been discussed as possible

solutions to address time constraints between households and the job market (Fuller & Hirsh, 2019; Kelly et al., 2011). Economic considerations are a possible mechanism for the existing time divide between social classes, as flexible working conditions often result in lower wages (Munsch et al., 2014; Williams et al., 2013). Lower-class members often lack the flexibility to shape their work schedule in an individual, preferred way. Low wages are often linked to a lower level and less control of job flexibility (Kossek & Lautsch, 2018; Watson & Swanberg, 2013). Employees usually earn less when more flexible working hours are offered. So, in short, the employees must pay for better working conditions. Persons with a low income do not have the opportunity to pay for this flexibility as they mainly depend on money. Until now, it is unclear if flexibility in the working schedule, which helps to reduce time constraints, has the same effect over all classes.

H1: Preferences for flexible working conditions differ by income.

Another critical aspect of the time coordination of job and family is the environment the employees live in, especially their household context. There is a different acceptance and willingness to pay for working conditions, such as flexible working conditions, which helps to solve or reduce coordination problems within partnerships. Persons living in a partnership often fall back on traditional family constellations, with a male breadwinner and the women having a higher share in domestic work (Bianchi et al., 2012). This gendered specialization is particularly pronounced with the birth of the first child, as a potential dilemma between childcare and employment occurs (Stadelmann-Steffen, 2007). This neotraditional segmentation is still very prevalent today. To realize this gender-separated specialization, women use family-friendly policies more often than men (Pedulla & Thébaud, 2015). Due to the different demands for flexible working conditions, men and women have different willingness to pay.

While a desire for egalitarianism often characterizes the preferred work-family allocation between women and men in a partnership, realizing these preferences is difficult (Thébaud & Pedulla, 2016). For that reason, a fallback plan is often available, which covers the external factors. Former studies show that these fallback plans differ by class background (Gerson, 2010). Working-class women use neotraditional fallback plans less frequently than middle- or upper-class members. Pedulla and Thébaud (2015) show that supportive policies for dual-earner arrangements can shape preferences towards a more egalitarian allocation, but this effect is mainly available among female respondents.

4. Flexible Working Conditions in the Context of Gender and Class Conflicts

When examining gender effects, one should remember that women are not a uniform group but have heterogeneous preferences concerning labor force participation (Hakim, 1996). Qualitative studies examining the presence and use of flexible working arrangements show a strong association between class and gender (Browne & Misra, 2003). Strong evidence exists for an *intersectionality* of gender inequalities and income and educational classes. Gender and class are not separate social categories; they perform together and simultaneously. Both dimensions, gender and class, are social constructions (Fenstermaker & West, 2002) that affect our daily lives. Our social location is an essential factor in our position in the labor market and forms inequalities. "Gender shapes the demand and desire for particular kinds of flexibility. Class, intersecting with gender, shapes the ability to win and use that flexibility." (Gerstel & Clawson, 2014: p. 397).

Using flexible working arrangements is a helpful way to dissolve time problems between the household and labor market participation. The use of these job characteristics is also connected to our social position and differs not only between women and men but also distinguishes different classes. Gender practices are not fixed; they interact and vary within class. Gerstel and Clawson (2014) used qualitative interviews in four different occupational fields of medicine to compare gender and class differences. They showed that flexible working times lead to traditional gender arrangements. Nevertheless, in lower-class occupations, the necessity of a sufficient household income counteracts a strong division of labor market participation between women and men in a traditional way.

If people work in precarious conditions, a specialization between women and men could be risky and hinder a traditional gender arrangement. Similarly, persons in a higher class and with a high-level education mostly have a high income and, therefore, are confronted with high costs in case of an exit from the labor market. They also exhibit better employment opportunities and have more accessible possibilities for re-entry.

Additionally, women with a lower level of education are often interested in preserving steady employment to save their bargaining power within the partnership (Pedulla & Thébaud, 2015). However, the reversed assumption also exists that members of lower classes prefer a specialization to imitate middle and upper-class behavior (Pedulla & Thébaud, 2015).

H2: Women with lower incomes are less willing to pay for flexible working conditions.

Besides women's income, the partner's income is also essential for women's employment (Goldin, 2014). Women living in partnerships with a male partner are often in the position of the second wage earner and, as a consequence, have lower bargaining power (Ott, 1992). Due

to this problem, women often seek flexible working conditions to manage emerging time and coordination problems. However, it is still uncertain which effect the income of the partner has on making use of special working conditions such as flexibility. On the one hand, a higher partner income enables women to be more selective about their working conditions. On the other hand, being the second earner leads to a lower bargaining position. Therefore, lower time and spatial flexibility will result in a higher willingness to pay for better working conditions.

H3: Women in a second-earner position in partnership will be more willing to pay for working conditions that simplify the coordination of domestic and labor work.

4.2.2 Childcare Supply

Another feature that can facilitate the compatibility of family and work is the availability of childcare. As with job flexibility, the effects for different classes are not apparent. Different possible mechanisms restrict the use of formal childcare. Childcare can improve female employment and reduce gender inequality in the job market. Women with children's participation in the labor force heavily rely on the accessibility of childcare facilities. Over the past few decades, there has been a significant decrease in the extent of employment among mothers, with part-time employment becoming the norm in Germany (Konietzka & Kreyenfeld, 2010).

Policies such as childcare supply can reduce time constraints. However, women still perform significantly more housework and childcare than men (Beckmannshagen & Sperling, 2024). Work volume is often low due to family-work compatibility. Unable access to affordable childcare can prevent women from working the favored number of hours.

Two aspects are relevant to using childcare supplies: costs and availability. Different mechanisms can emerge for the costs. On the one hand, lower-class members use informal support to reduce costs. On the other hand, upper-class members can afford flexible private childcare and thus do not rely on formal offers like lower or middle-class employees. It is expected that the middle class would experience the most significant impact on women's labor market participation due to childcare supply. In Germany, the state mainly finances institutional childcare, and the parents' share in costs is relatively low. In addition, the costs are often dependent on the parent's income. Therefore, the cost aspect is not decisive for the use of childcare in the German context. However, the availability of and access to the existing services is essential. The availability of formal childcare supply in Germany is relatively low compared to other European countries. The current supply is insufficient to meet the existing demand

(Bock-Famulla et al., 2023). In recent years, there has been a substantial expansion in capacity. However, there are still substantial regional differences within Germany (Zoch, 2020). Comparisons for Germany of spatial differences in childcare provision and the expansion of childcare show positive effects on part-time and full-time employment of mothers with an increase in childcare supply (Zoch, 2020). There is a strong correlation with full-time employment, especially among highly educated mothers in western Germany.[1] Regions with a substantial expansion of childcare supply experience increased actual and preferred working hours (Sikirić, 2021; Zimmert, 2023). Available childcare helps to reduce the mismatch between preferred and actual working hours. The participation of women in the workforce increases. However, the effect is more substantial for higher-educated mothers. The availability of childcare places is a limiting factor for the possible participation of mothers in the workforce; nevertheless, it is only until the actual working hours reach the preferred ones.

Education is typically a crucial factor influencing an individual's labor market participation. In recent years, female employment has increased. There appear to be differences in employment extent and scope among different educational groups, according to an analysis from Konietzka and Kreyenfeld (2010). The proportion of women in part-time employment is increasing, while the proportion of women in full-time employment is falling. Moreover, there is a trend towards increasing educational inequality among women. In addition, there is a stratification in the quality and quantity of childcare use based on education level (Stahl et al., 2018). As the capacity of childcare supply is usually lower than demand, formal rules often regulate access to childcare. In the allocation of available places, employed parents have a higher priority. Preference is given to dual-earner couples and single parents. However, education strongly affects women's employment. Women with a higher level of education are more likely to be employed and more likely to live in dual-earner couples (Goldin, 2006). For women with a higher level of education, the opportunity costs associated with unemployment are higher, and therefore, the incentive to work is also higher. This means highly qualified women are preferred when accessing childcare places.

Counteracting this effect, the norm of intensive mothering is the strongest in the middle class and hinders the use of institutional supply (Blair-Loy, 2003). The results of a study of social-political context effects in Switzerland indicate a strong group-specific impact of external parameters on women's labor force participation (Stadelmann-Steffen, 2007). Here, the most potent effect of childcare supply on women's labor market participation exists for women in the

[1] The initial situation differs in eastern Germany, as childcare availability is much higher here. There is, therefore, less of a shortage of childcare supply, and the difference between the education groups is very slight.

middle and upper classes. Women with a mid-level education mainly depend on their labor force participation in framework conditions like childcare.

In addition to the childcare services offered by the state, the childcare supply offered by the employer can help coordinate family and work. By making it easier to combine family and career, the availability of childcare by the employer can be an essential feature for accepting job offers.

H4: The effect of childcare supply offered by employers has a more significant impact on the job acceptance rate of women with a high educational level than those with lower levels of education.

In addition to availability, the household constellation can also influence the use of childcare services. Partnerships' decisions depend on available resources and their distribution (Himmelweit et al., 2013; Ott, 1992). These distribution mechanisms also affect the distribution of work and family work. The most crucial resource for negotiating distribution processes in partnerships is income. The distribution of existing income between two partners influences the extent of employment. As a result, the distribution of income within a partnership also influences the use of childcare. In households with a more balanced income distribution, i.e., a smaller income gap, mothers are more likely to be employed. In addition, households with a lower income difference use childcare more frequently (Ferragina & Magalini, 2023).

The increase in childcare level in Germany also increases the labor force participation of mothers living in a partnership. This group's actual working hours increase is higher than the desired working hours. This effect indicates that the availability of childcare allows women, who are additional breadwinners, to work as much as they want (Zimmert, 2023).

H5: The effect of childcare supply offered by the employer on the willingness to accept a job offer is stronger for women living in partnerships with a more balanced income allocation.

In summary, it is crucial to distinguish between effects due to income (economic necessity) and education (employment opportunity) to understand the mechanisms that foster the use of job characteristics facilitating the coordination of family and work, leading to a more or less gender-specific specialization within partnerships. Besides, the "intersection" of the effects of gender and class strongly depends on the constellation that is part of the interest.

4.3 Data and Experimental Method

4.3.1 The SOEP Innovation Sample

The experimental setup for this study was implemented in the Innovation Sample of the German Socio-Economic Panel (SOEP-IS). The SOEP is a large-scale panel study of private households run annually by the German Institute for Economic Research (DIW) (Goebel et al., 2019; Richter & Schupp, 2015; Wagner et al., 2007). All members aged 16 and older are interviewed within the randomly sampled households. It represents a good portrayal of the German population, including a broad range of information about respondents' living conditions, values, and household compositions. It also covers information concerning labor market participation and the income of all household members. For this reason, it is a perfect base for the experimental setup on preferences concerning job characteristics. In the third wave (2013), when the factorial survey was implemented in the SOEP-IS, the sample consisted of almost fe3,200 households, with more than 5,100 respondents participating. The sample includes adult persons (aged 17 to 96 years) living in a private household in Germany.

4.3.2 Experimental Design

In order to get more information about job preferences and the negotiation process within partnerships, a multi-factorial survey experiment was designed. In factorial surveys (FS), respondents have to form judgments about descriptions of hypothetical situations or objects (vignettes) (Auspurg & Hinz, 2015; Jasso, 2006; Wallander, 2009). In this study, the respondents had to evaluate five hypothetical job offers, which consisted of nine experimentally varying job characteristics (dimensions)[2]. Different monetary and non-monetary attributes, known to impact the decision to accept a job offer firmly, characterized the job offers[3]. Table 4.1 presents an overview of the dimensions and levels experimentally varied in the vignettes of the job descriptions.

All nine experimental dimensions are fully crossed with each other, which allows estimating effects for each factor independently of the other effects. This gives an entire vignette universe of more than 39,000 possible constellations. Out of this universe, 400 job offers were selected using a D-efficient sampling technique (Dülmer, 2007) and split into sets of 80 questionnaire

[2] The dimension of the partner's chance of finding a job is only presented if the respondent is actually living in a partnership and the partner lives in the same household.

[3] The main focus for selecting the dimensions was on (dis-)amenities for employees and especially on those which can evoke gender differences in the willingness to accept the job offers. The shown job offers varied in the spatial and temporal flexibility given to employees. Some of the used factors are job characteristics which might help to reduce conflicts within partnerships due to time allocations between labor market work and family, like daily child care which is provided by the employer.

versions (containing five vignettes each). This strategy minimizes the correlation between the dimensions and maximizes the variance of the factors simultaneously (therefore assures a high level-balance, i.e., each level of the dimensions occurs approximately with the same frequency)[4]. This approach leads to high precision and statistical power in the analyses.

Table 4.1: Overview of Dimensions and Levels in the Hypothetical Job Offers

		Levels			
	Dimensions	**1**	**2**	**3**	**Total**
1	Gross salary: Expected salary[a] plus X [%]	0% | 20% | 40% | 50% | 60% | 80%			6
2	Contract duration	unlimited	1-year contract	3-year contract	3
3	Career prospects	no	some	many	3
4	Mandatory overtime	no	sometimes	frequently	3
5	Flexible working hours (flexi-time)	no	some	much	3
6	Child care provided by employer	no	part-time	full-time	3
7	Minimum working hours per week	20 hours	30 hours	40 hours	3
8	Commuting distance – single way	1 hour	2 hours	4 hours	3
9	Partner's chance of finding a job at new location [b]	worse	similar	better	3
∑	**Vignette universe (6*3*3*3*3*3*3*3*3)**				**39,366**

[a] Amount of pay respondents considered as being realistic for themselves when starting a (new) employment.
[b] Dimension will be presented only to respondents actually living in a partnership.

For each vignette, the respondents evaluated the job offer on an 11-point scale relating to the likelihood of accepting it[5]. Figure 4.1 shows a translated example of a potential job offer.
The FS was implemented in the CAPI split and executed in self-completion mode to reduce comprehension problems[6]. If the respondents can read the hypothetical job offers themselves, the evaluation is easier for them and thus reduces potential social desirability bias.

[4] The 80 sets of questionnaire versions were randomly allocated to the participating households, with a randomized order of the five job offers for each household. Randomizing the vignettes within the questionnaire versions neutralizes possible ordering effects, like framing, learning, or carry-over effects (Auspurg & Jäckle, 2017).
[5] The attractiveness of the job offers and the likelihood of moving (together with the partner) to the new job location were also asked. All job offers are located at least one hour (single-way) away from the respondents' actual place of residence.
[6] Detailed pretests have shown that the respondents do not have essential problems understanding the task and the complexity of the multi-factorial design.

Figure 4.1: Sample Job Offer (English translation, varied factors are underlined)

The offered monthly gross salary is 4,300 Euros[a]. The job is limited to one year and it offers you some career prospects. The employer frequently requires overtime hours. He provides no flexibility in working times (e.g. flexi-time), and also no child-care. There is always the possibility to reduce the contracted working hours per week to a minimum of 20 hours. The one-way trip from your current place of residence to the location of the job is approximately two hours. How likely would you accept this job offer? (Respondents were asked to report on an 11-point scale, reaching from 0 (very unlikely) to 10 (very likely).

[a] The salary in the job offer always represents a percentage increase (increase by 0 up to 80%) of the earnings levels respondents indicated they would expect in case they were searching for a new full-time employment.

Using an FS with the description of hypothetical job offers enables us to take advantage of the properties of an experimental design. Through the random allocation of the experimental stimulus (dimensions), there is no selectivity or endogeneity, which biases the results. In the labor market, selectivity is often problematic, as some groups have better access to attractive job amenities (e.g., gender or family background). In this setup, all respondents are confronted with the same job offers, independent of their group's belonging. Therefore, all remaining differences between groups are due to individuals' preferences for or against some job characteristics (e.g., gender norms).

Additionally, all factors are uncorrelated and not combined (e.g., mandatory overtime is not essential to achieving good career prospects). Respondents can evaluate each factor by itself. With this characteristic of FS, we can estimate the preferences for each factor separately from each other and compare job (dis-)amenities between different groups.

4.3.3 Willingness to Accept Job Offers in FS

As the FS deals with hypothetical job offers, the sample only contains respondents between 17 and 60 who were available to the labor market when the survey occurred[7]. To address the question of gender differences (within partnerships), only heterosexual couples were included in the sample[8]. 1,033 respondents stated at least one valid answer of their willingness to accept

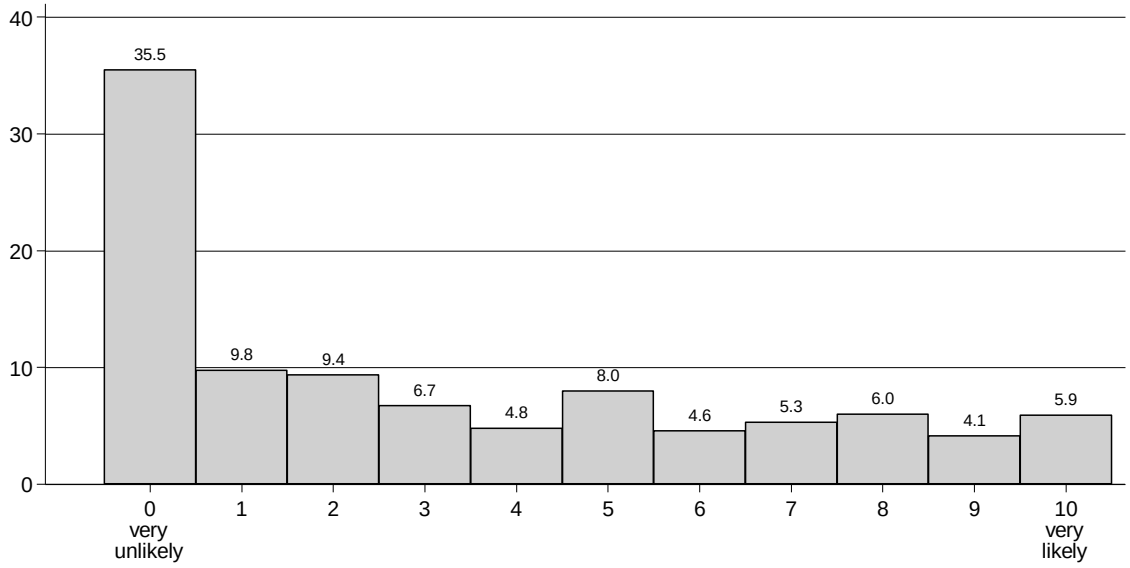
[7] Respondents are rated as available to the labor market if they participated in the labor market or were unemployed but willing to start employment in the following two years.

[8] Another reason for excluding same-sex couples is their minor appearance in the sample (only two couples).

the job offers. Overall, there are 5,131 valid evaluations[9]. Especially in models with control variables, there is possibly some non-random nonresponse. However, as the FS is an experimental design, the stimuli are given by the researcher and are not correlated with other factors.

The respondents rated the hypothetical job offers on an 11-point scale, reaching from *very unlikely* to *very likely*. The distribution of the answers is strongly skewed to the left, with a concentration at the end of the scale (Figure 4.2). The respondents value almost half of the vignettes (36%) as *very unlikely* to accept the presented job offer.[10] If the respondents are willing to accept the job offer, they used the whole range (mean=3.16; sd=3.34). The random allocation of the experimental stimuli (vignette dimensions) worked well (Table A-4.8 in the appendix). The single levels of the applied dimensions exhibit an even allocation across the responses.

Figure 4.2: Distribution of the willingness to accept the job offers



Note: N = 5,131 vignette evaluations of N = 1,033 respondents.

4.3.4 Methodological Approach

Given the skewed distribution of the dependent variable, the decision-making process of accepting the job offers follows a two-stage process. In the first step, the respondents evaluate

[9] Almost all 1,033 respondents (97.8%) submitted valid answers for all five vignettes evaluating the willingness to move. For this reason, it seems like the FS evoked no greater problems for the respondents.

[10] Skewed distribution for the willingness to accept job offer is not surprising, as all represented job offers had a minimum commuting time of an hour and therefore conform to the low willingness to move of the German population (Huinink et al., 2014; Kalter, 1998).

their willingness to accept the job offer. Only if the decision on step one is positive will they evaluate the presented job offers in detail in the second step. An appropriate solution to model this two-step process in the statistical models are hurdle models, which are based on the assumption that independent mechanisms are responsible for each decision (Wooldridge, 2010). Therefore, the following analyses are estimated using the Craggit model (Burke, 2009; Cragg, 1971). This model distinguishes between effects in two separate steps. The first step is if a respondent is potentially willing (*tier 1*), and the second is when they think about how willing they are to accept the job offer (*tier 2*). A probit model determines for tier 1 if the dependent variable is zero. A truncated linear regression in the second step estimates the effects of the willingness to accept the job offer only for respondents with a positive value for the willingness ($y > 0$). The Craggit model calculates separate coefficients to define single effects for each stage. Additionally, average marginal effects (AMEs) are reported, combining the effects of both stages into a single averaged effect.

As for every respondent, five evaluations exist; the evaluations are not independent of each other (Hox et al., 1991). Evaluations from individual respondents tend to be more similar and cluster closely within specific individuals or partnerships. We use cluster-robust standard errors to correct for the clustering of vignettes in respondents (level 1 = vignette characteristics; level 2 = individual or partnership characteristics). Chow tests (Wooldridge, 2013) make it possible to detect overall differences between subgroups and analyze differences in preferences. To examine differences in single coefficients, we use interaction terms with class or gender within a joint model.

4.3.5 Respondent Sample and Descriptive Statistics

Looking at respondents' characteristics, Table 4.2 points out that half of our respondents were female, almost half (48%) were married, and about one-third of the sample lived in a joint household with children younger than 14 years. The average mean age of our sample is around 42 years. The majority is full-time employed (61%), and only about 14% are unemployed. If the respondents were looking for a [new] job, the mean expected salary for full-time employment is about 3,107€.

Table 4.2: Descriptive Statistics on Respondents

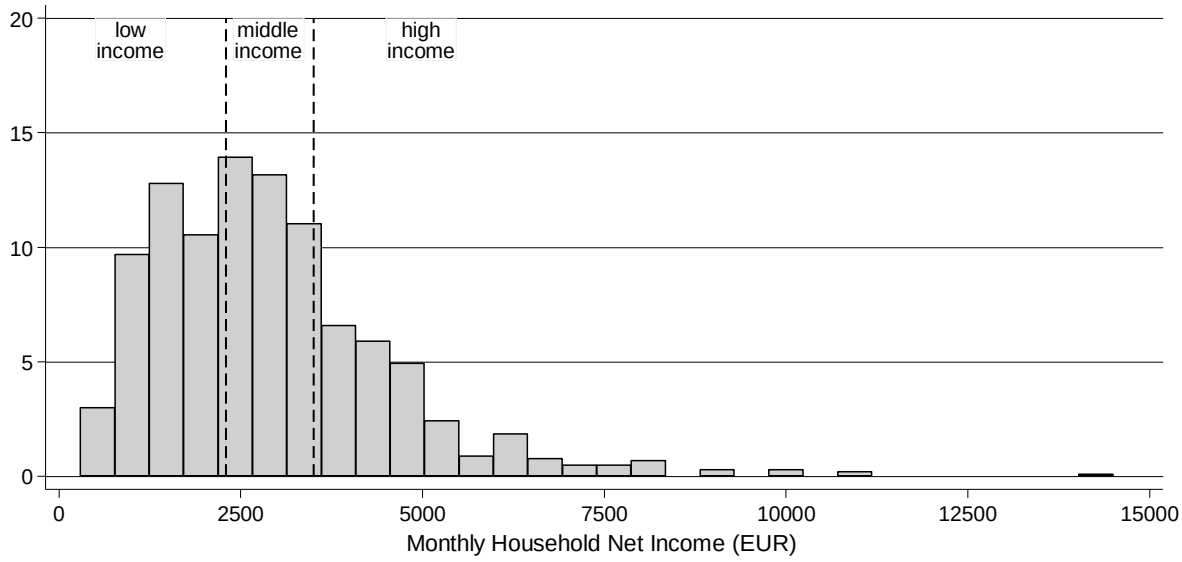
	N	Mean	SD	Median
Female	1033	0.495		
Age	1033	42.584	11.1	45
Child < 14 yrs in hh	1033	0.298		
Education (CASMIN) (ref: low)				
medium	1033	0.684		
high	1033	0.221		
Employment status (ref: Full-time)				
Part-time	1033	0.182		
Marginal	1033	0.061		
Not employed	1033	0.144		
Monthly individual net income	1011	1492.6	1339.9	1300
Expected salary for full-time empl.	1017	3107.1	1735.8	2700
Monthly household net income	1033	2918.8	1642.9	2688
Real estate property	1033	0.478		
Tied to local area (ref: not at all/not much)				
much	1032	0.456		
very much	1032	0.331		
Partnership status (ref: No partnership)				
Partnership, not living together	1033	0.150		
Partnership, living together	1033	0.105		
Married	1033	0.479		
EGP Class Category (ref: Higher Managerial and Professional Workers)				
Lower Managerial and Professional Workers	918	0.219		
Routine Clerical Work	918	0.137		
Routine Service and Sales Work	918	0.141		
Small Self-Employed With Employees	918	0.014		
Small Self-Employed Without Employees	918	0.021		
Manual Supervisors	918	0.176		
Skilled Manual Workers	918	0.127		
Semi- and Unskilled Manual Workers	918	0.021		
Agricultural Labor	918	0.007		

Notes: [a] Casmin categories 1a, 1b, 2b and 2c_general. [b] Casmin categories 1c, 2a, 2b and 2c_vocational. [c] Casmin categories 3a and 3b.

4.3.6 Operationalization

We use the respondents' monthly household net income as one proxy for social classes. Household income influences people's behavior in the labor market and enables or hinders possible changes and outcomes in terms of employment. It is, therefore, well suited for analyzing differences between social classes. The monthly household net income distribution (Figure 4.3) is widely spread with a mean of 2,2919€ (SD = 1643.9) and skewed to the right.

Figure 4.3: Distribution of monthly household net income



The distribution of household income has been divided into three equal groups using tertile classification. These three groups distinguish respondents with low, middle, and high incomes. This variable, with its three categories, is the primary predictive factor for the effect of social class on the willingness to accept job offers.

Table 4.3: Distribution of monthly household net income – grouped

	Range (€)			Mean (€)	SD (€)	Freq. respondents	Prop. respondents
Low income	297	-	2,300	1517.23	494.37	416	40.4%
Middle income	2,320	-	3,500	2920.62	358.27	337	32.7%
High income	3,550	-	14,500	5035.80	1,446.09	277	26.9%

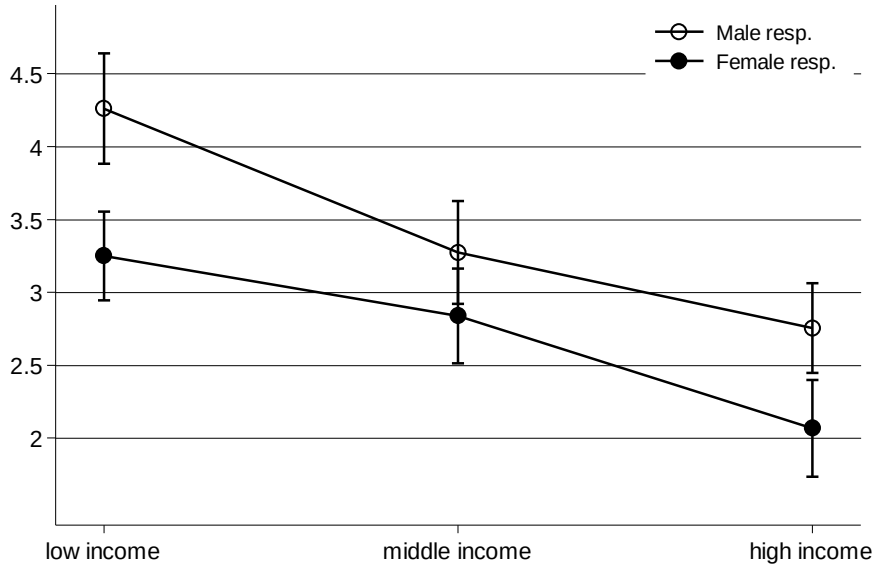
As the distribution of the acceptance of job offers in Figure 4.3 has already indicated, there is a trend of rejection among the respondents. We can observe noticeable variations among the surveyed individuals when we examine the data based on household income groups. Their willingness to accept the hypothetical job offers systematically differs due to their household income level. The mean willingness to accept a job offer decreases with a higher income within the household. The difference between the lower and upper-income groups is 1.2 points on the 11-point-rating scale, which is statistically significant. Respondents with a higher income tend to be more selective in their preferences for new employment.

Table 4.4: Willingness to accept job offers by respondents' household income level

	Mean	SD	Median
Low income	3.70	3.54	3.0
Middle income	3.06	3.23	2.0
High income	2.47	3.00	1.0

Craggit models help gaining a more precise insight into the difference in decision-making. They illustrate the decision with two separate decision stages. The differences by income class are particularly decisive at the first stage. In this first step, the decision is about whether there is an overall willingness to accept a job offer. People with a higher household income are less willing to accept a job offer. The second decision step is only relevant if the first one is positive. If it is positive, more thought is given to how strong the willingness is. The group comparison for income shows the same tendencies for the second decision-making process, although the differences are minor. Only the comparison between people from the low and high household income groups is significantly different.

Table 4.5: Willingness to accept job offers by respondents' household income level and gender



If one looks at the general willingness to accept separately according to the respondents' gender, a similar picture emerges (Figure 4.3). For both women and men, willingness declines with higher household income. Although the two genders differ in willingness to accept a job, the correlation with income is comparable in both groups. There does not appear to be a specific gender difference here.

To test hypotheses three and five, it is necessary to consider household composition and income distribution within partnerships. Income distribution is classified into two categories based on whether the respondent is the second-earner, versus earns equal to, or more income than their partner. Any differences in the distribution are evaluated if there are deviations of more than ten percent of the respondent's income. If one partner is not employed, an income of zero euros is used. If both partners are not employed, these persons are excluded from the calculation. Due to missing income and partner income information, these analyses are only possible for a subsample (N=362).

Table 4.6: Relation individual monthly net income within partnership by gender

		Freq.	Percent
Male respondent	Less income than the partner	32	15.8
	Same or more income as partner	170	84.2
Female respondent	Less income than the partner	123	76.9
	Same or more income as partner	37	23.2

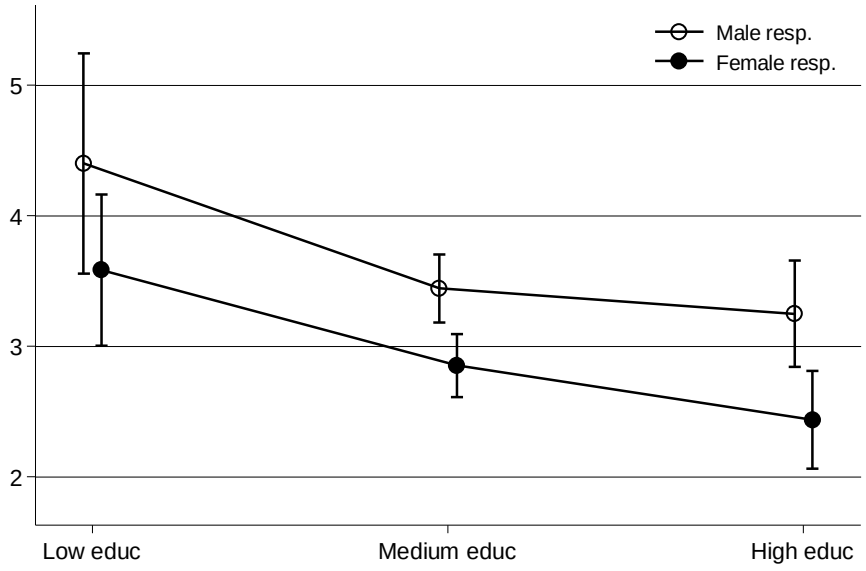
The CASMIN classification operationalizes the educational effect by grouping various education classes into three categories. People with a high level of education have a university degree. The proportion is relatively high for men and women, at over 20 percent of the sample. The majority of respondents fall into the medium education group.

Table 4.7: Education level (CASMIN classification) by gender

		Freq.	Percent
Male respondent	Low [1a, 1b, 2b, 2c_gen]	37	7.1
	Medium [1c, 2a, 2c_voc]	361	69.2
	High [3a, 3b]	124	23.8
Female respondent	Low [1a, 1b, 2b, 2c_gen]	61	11.9
	Medium [1c, 2a, 2c_voc]	346	67.7
	High [3a, 3b]	104	20.4

The dependent variable in this study shows a negative correlation with the level of education. The higher the level of education, the lower the probability of accepting a job (Figure 4.4). This correlation applies to men and women, with a slightly higher willingness among men in all education groups.

Figure 4.4: Willingness to accept job offers by respondents' educational level and gender



Note: Craggit regression only controls for educational level and gender.

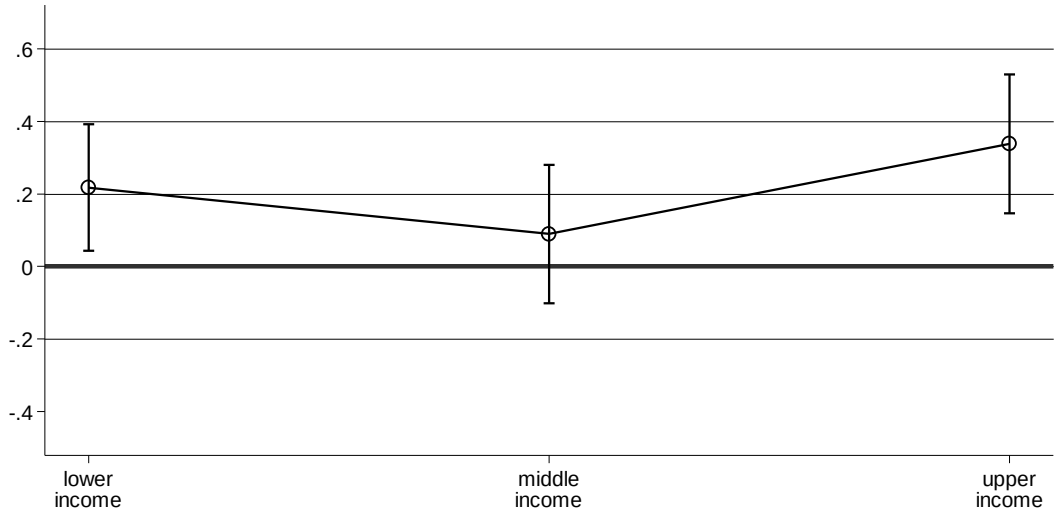
4.4 Results

4.4.1 Flexible Working Conditions

Flexible working hours can significantly impact the willingness to accept a job, particularly when balancing family and professional life. It can address the time constraints between the household and the job. In the base model, only including job characteristics from the vignette, flexible working hours increase the willingness to accept.[11] Nevertheless, this positive affection is not consistent across income groups. Figure 4.5 shows the differences in the effects of working time flexibility separately for the three household income groups. The figures contain average marginal effects (AME) to ease the interpretation of the effects. AMEs combine the effects of tier one and two of the craggit hurdle model.

[11] Figure A-4.13 in the appendix illustrates the effects of the base model, separated by household income and the differences between the income groups.

Figure 4.5: Differences by respondents' household income level in the effect of flexi-time

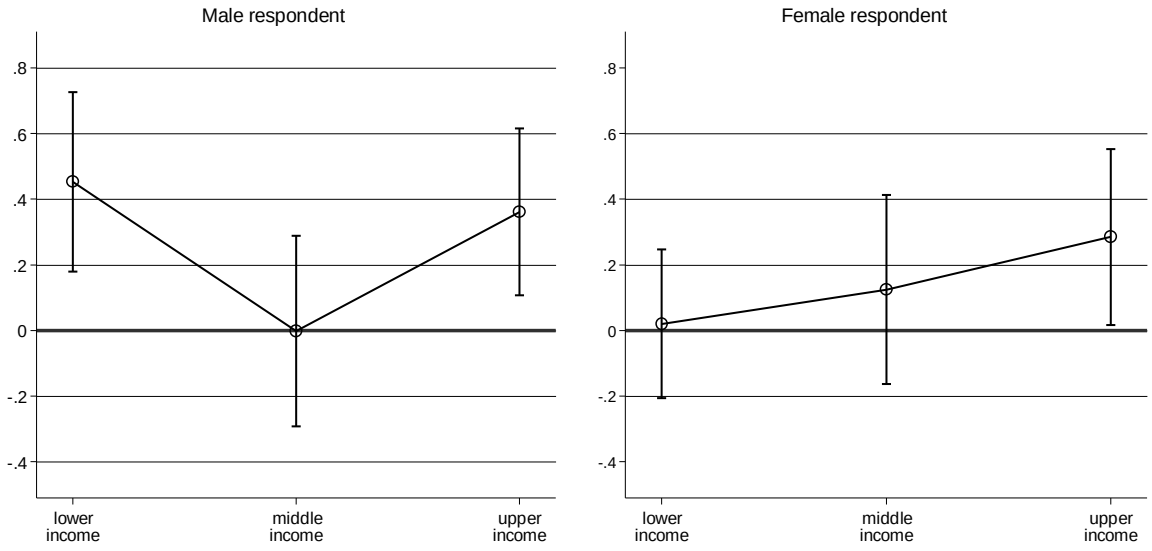


Note: Conditional effects with 95% CIs from Craggit model; base level: no flexi-time.

The effect of working time flexibility has a positive impact on all three income groups. However, the effect varies across the groups. People with a low household income react positively to an increase in the flexibility of the working hours in the job offers. The effect is even more pronounced in people with a high household income. In contrast, a positive effect is also visible in the middle-income group, but it is smaller than in the other groups and not significant. The results confirm the first hypothesis: preferences for flexible working conditions differ by household income.

Different patterns emerge if we look at the influence of flexible working hours on the willingness to accept a job separately for women and men (Figure 4.6). For male respondents, a U-shaped correlation is present, as seen before. The positive effect of working time flexibility only exists for people with a low or high household income. For men with a middle household income, on the other hand, there is no effect.

Figure 4.6: Differences by respondents' household income level and gender in the effect of flexi-time



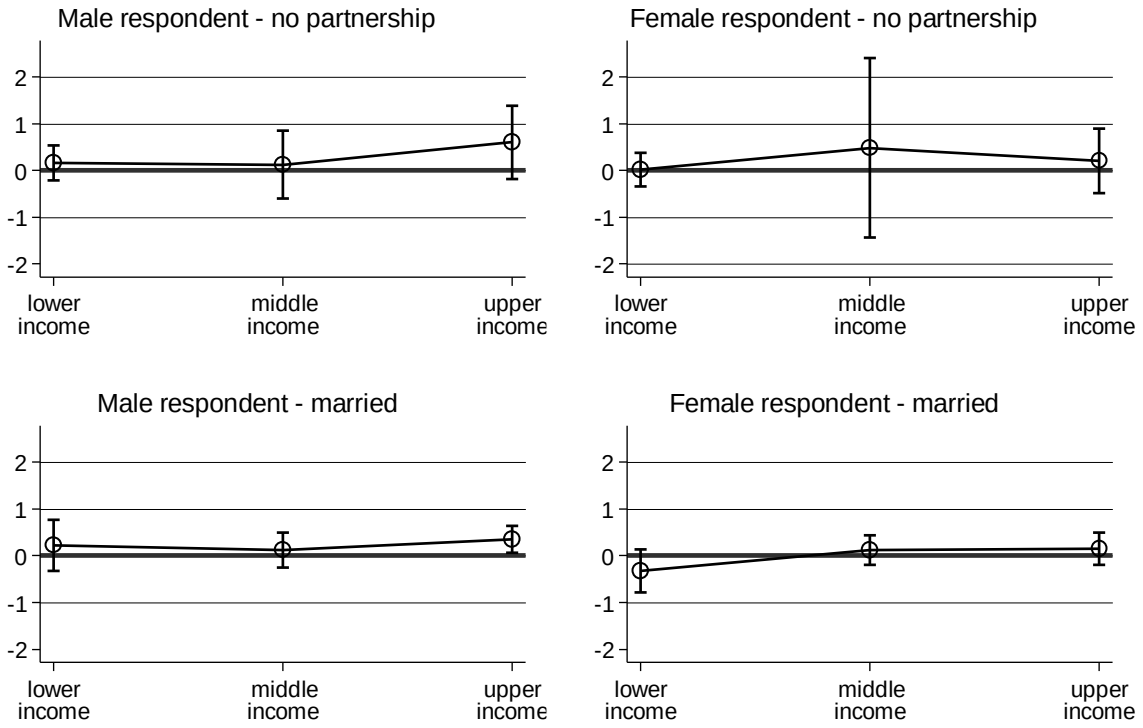
Note: Conditional effects with 95% CIs from Craggit model; base level: no flexi-time.

For women, there is more of a linear correlation. The positive effect of flexible working hours on the willingness to accept a job increases with expanding household income. Women living in low-income households are not more willing to accept a job offer with increasing flexibility. Female respondents within the high-income group respond most to available flexibility. The existing patterns for the desired flexibility in the job differ by income class and between genders. Women from low-income households rate existing flexibility in the offered jobs differently than men from the same income group. There is only a slight difference for people with a high household income. In line with the assumption of the second hypothesis, flexible working conditions have a smaller effect for women with lower incomes.
When considering the influence of working time flexibility on employment, both the financial background of the household and gender should be considered. The influence of existing flexibility on possible employment expansion for women depends on the available income.

The model is expanded to include partnership status, which may explain gender differences. Separate analyses for men in and without partnerships and women in and without partnerships enable examination of the influence of partnership. Figure 4.7 displays the findings in a visual representation. Among the male respondents, there are only minor differences in the effect size between married men and men without a partnership. Flexible working hours tend to increase job acceptance rates. However, these are relatively small to no effects.

Within female respondents, different preference patterns for flexible working hours are evident between married and single women. For women without a partnership, like men without a partnership, working time flexibility has no real effect on the willingness to accept a job. An exception is women in the middle-income group, for whom a positive effect of flexibility exists. Married women differ here according to their household income group. Women with a low income tend to react less willingly to accept the job offer with flexibility. As household income increases, the negative effect diminishes and becomes positive. However, these are only minor effects that are not significant.

Figure 4.7: Differences by respondents' household income level, gender and partner status in the effect of flexi-time



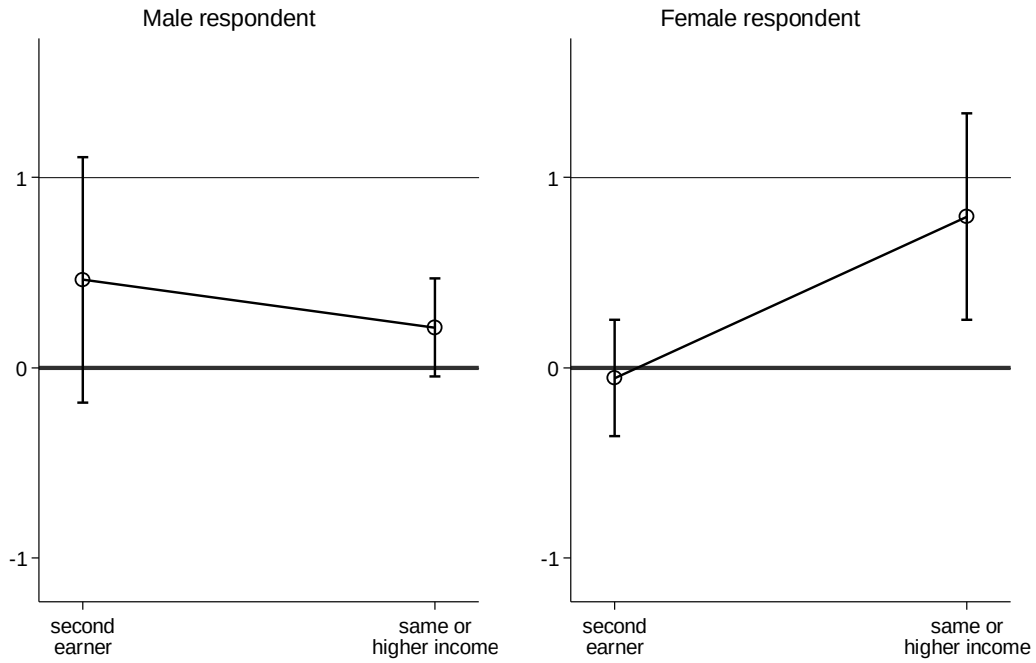
Note: Conditional effects with 95% CIs from Craggit model; base level: no flexi-time.

Additionally, regarding disposable household income, the income distribution within a relationship influences decisions that affect labor market participation. Partners with a higher household income have greater bargaining power. Figure 4.8 represents the effect of flexi-time by gender and respondents' second-earner position, which is related to the household income constellation.

Among the male respondents, there is a trend toward a stronger effect of flexi-time if the man is in the second-earner position in the household. However, this effect of the second-earner

position is small, and the group of male second-earners is relatively small. Among the female respondents, the exact opposite applies. For women in the second-earner position, flexible working time has no effect on their willingness to accept the job. However, for women with a comparable or higher income than their male partner, flexi-time increases the willingness to accept. The effect is thus exactly the opposite of that assumed in the third hypothesis.

Figure 4.8: Differences by respondents' second-earner position and gender in the effect of flexi-time

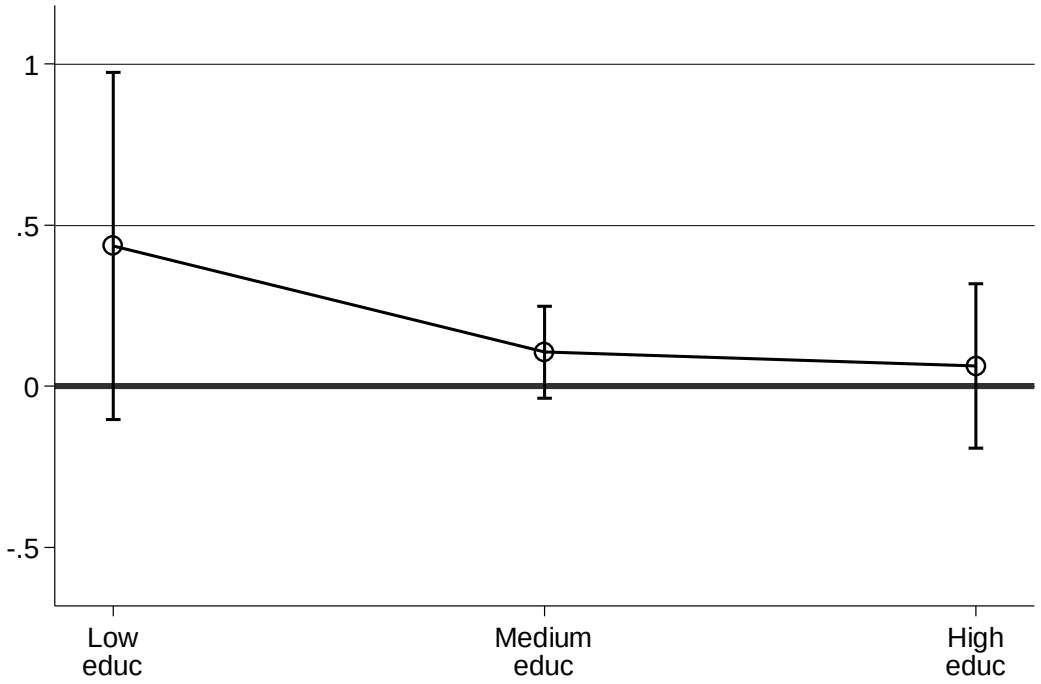


Note: Conditional effects with 95% CIs from Craggit model; base level: no flexi-time.

4.4.2 Childcare Supply

In addition to flexible working hours, childcare provided by the employer can also improve work-life balance. Supplementing the state's limited childcare services, it helps coordinate time and tasks within the family. To test for differences by social class Figure 4.9 contains the results of the interaction of childcare supply and education level. The reference category is the coefficient for the category no childcare offered by the employer.

Figure 4.9: Differences by respondents' education level in the effect of childcare



Note: Conditional effects with 95% CIs from Craggit model; base level: no childcare.

The analysis shows that the effect of childcare varies across education groups. Particularly for people with a lower level of education, the effect of childcare offered by the employer increases. The effect strength decreases with increasing education but remains positive across all groups. In the highest education group, the positive effect of part-time childcare disappears. This negative correlation with education contradicts the theoretical assumption that lower-class employees use formal childcare to a lesser extent. These initial results indicate that people with a high level of education may also be able to finance alternatives.

Based on the mechanisms of the theories described above, the expectation is that the education effect is related to the respondent's gender. A positive effect is particularly expected for highly educated women. To analyze possible gender differences in the educational effects, separate models are calculated for women and men.

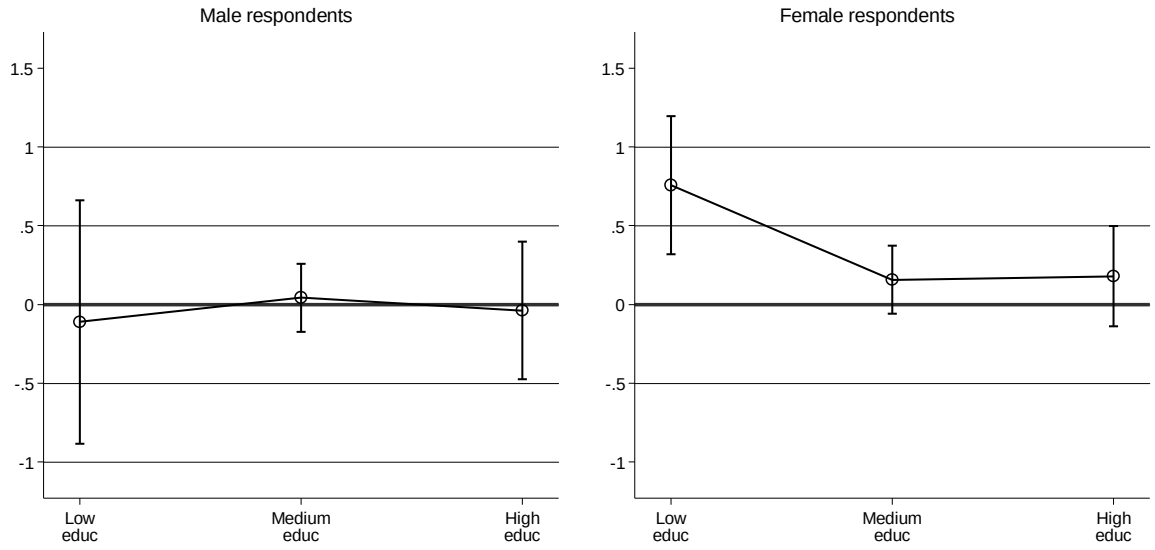
In the case of male respondents, the difference in education disappears for the effect of childcare offered. No substantial effect is recognizable here. Across all education groups, the vignette dimension of childcare does not influence the willingness to accept a job.

However, a difference is visible among the female respondents. As in the combined model, there is a recognizable difference according to the extent of childcare for mainly women with a

lower level of education. Women with a medium level of education are more likely to accept the job offer if the employer provides childcare.

The preferences regarding childcare for the hypothetical job offers in the vignettes thus point in a different direction than the results of previous studies. The expansion of formal childcare provision showed a stratification according to educational level, with highly educated women working more hours (Sikirić, 2021; Zimmert, 2023). However, the positive correlation between full-time childcare places and highly educated women aligns with former studies (Zoch, 2020). This result does not confirm the fourth hypothesis. The correlation between education and the effect of childcare is precisely the opposite.

Figure 4.10: Differences by respondents' education level and gender in the effect of childcare

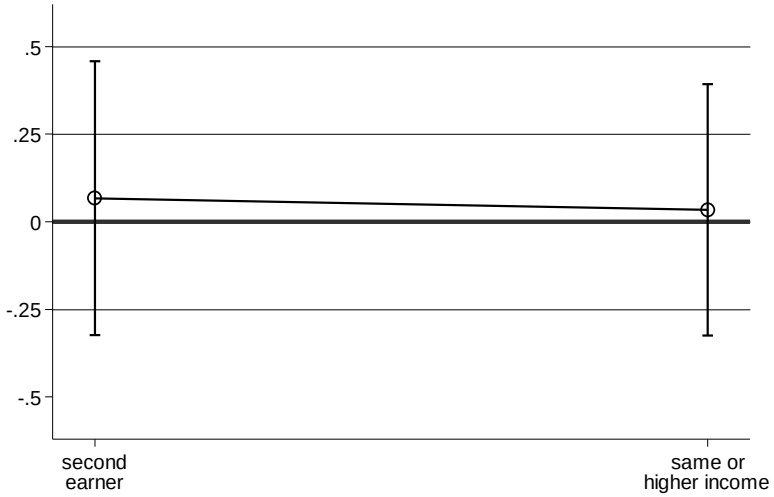


Note: Conditional effects with 95% CIs from Craggit model; base level: no childcare.

In addition to educational impacts, the household context also plays a crucial role in employment participation, especially for women in partnerships and mothers. The next step is to look at the influence of existing distribution structures within partnerships on the effect of available childcare by the employer.

As shown in Figure 4.11, there are no recognizable differences due to the partnership income relationship. The effect of available childcare via the employer on the willingness to accept a job is similar depending on whether the person themselves or their partner has a larger share in income.

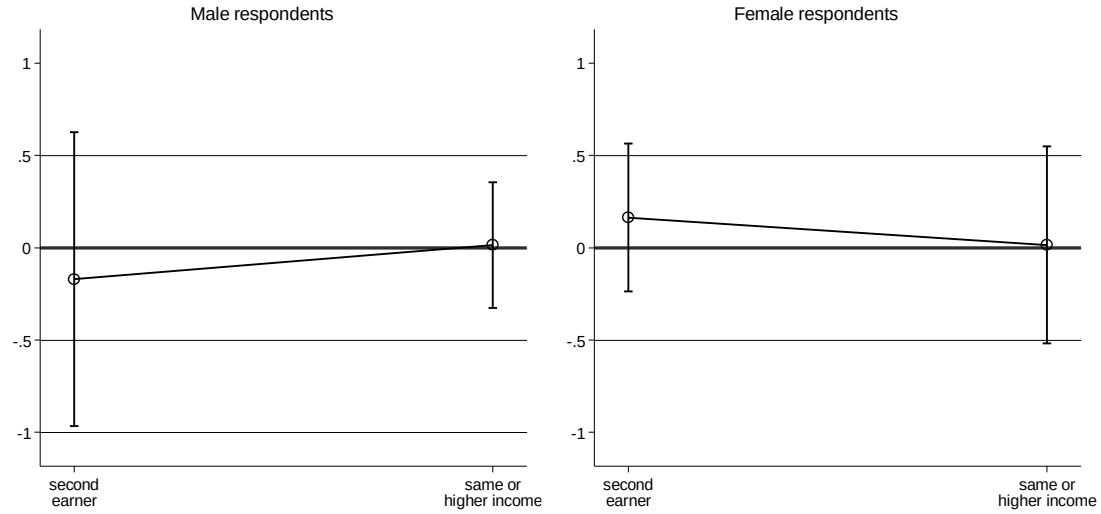
Figure 4.11: Differences by respondents' second-earner position in the effect of childcare



Note: Conditional effects with 95% CIs from Craggit model; base level: no childcare.

When examined separately, men and women exhibit an inversed mechanism, but the effects are rather small Figure 4.12. For male respondents, second-earners show a negative effect, which is not present for respondents with a similar or higher income than their partner. In the model for female respondents, second-earner women tend to rate childcare provision more positively. One possible explanation for the effect on second-earner women is that they have previously taken on a larger share of housework and childcare due to their lower bargaining power. If an employer offers childcare, outsourcing one's share is possible. The involvement of the partner is to a lesser extent.

Figure 4.12: Differences by respondents' second-earner position and gender in the effect of childcare



Note: Conditional effects with 95% CIs from Craggit model; base level: no childcare.

4.5 Conclusion

Based on whether the decision-making process regarding job offers is influenced by gender and social class, it was examined whether flexibility of working hours and available childcare are preferred differently. The focus is on the influence of flexibility and childcare on gender- and class-specific labor demand. For this purpose, an FS module was used in which the respondents evaluated hypothetical job offers. By experimentally varying the job characteristics, the respondents' preferences can be analyzed independently of the existing labor market offers. This offers the opportunity to analyze whether more flexibility leads to increased class-specific inequality or whether it can be reduced.

To examine the mechanisms of social class influence in more detail, a distinction was made between the effects of income and education. This differentiates between the respondents' economic necessity and potential for employment.

In summary, the effects of the preference for flexibility of a job offer and the available childcare differ slightly between different educational or income groups. Flexible working hours positively affect all groups, although they are the smallest for people with a medium income. However, when the effects are considered in the context of gender and income, different patterns emerge. For female respondents, the preference for flexibility increases with rising income. For men, a U-shaped relationship emerges. However, the mechanisms do not differ between married and single people. The mechanisms underlying the class differences in the preference for childcare options also differ for women and men. A gender-specific pattern can also be seen in the effect of partnership bargaining positions.

The analysis of preferences for flexible working hours shows that these influence job acceptance, but their strength and significance vary depending on the social background and gender of the respondents. Women in high-income households value flexibility more, which indicates that greater economic security leaves more room for preferences. In low-income households, men and women are willing to accept more flexible conditions, mainly due to economic necessity. The provision of childcare by employers positively influences job acceptance, especially among women with low levels of education, indicating the role of class differences in using such offers.

The available results show only minor effects, but they indicate that class effects, in many cases, have different mechanisms of action depending on the gender of the respondents.

This underlines the importance of jointly considering class- and gender-specific differences in the labor market to understand existing inequalities. This study ties in with previous research that considers the interactions between gender and social class.

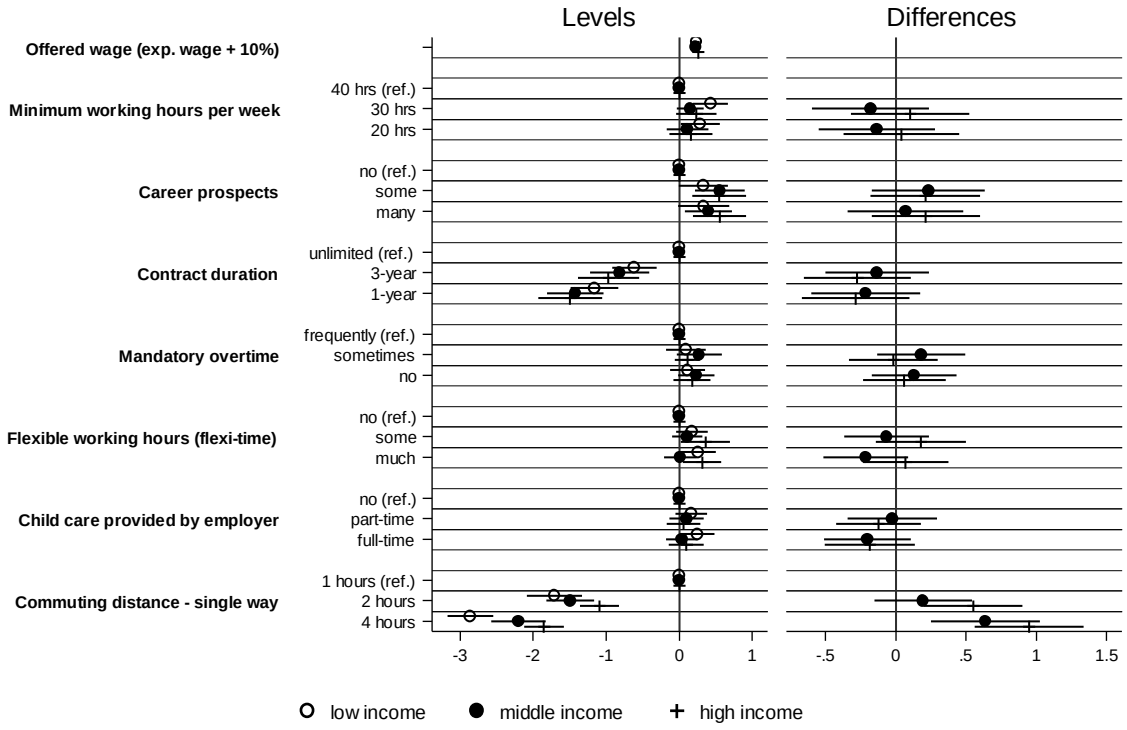
In summary, the study contributes to a deeper understanding of the interactions between social class and gender in labor market preferences. The results show that working time flexibility and workplace childcare services offer the potential to promote work-life balance. However, separate social class and gender mechanisms should be considered when implementing policy measures to avoid widening social inequality through unintended side effects.

4.6 Appendix

Table A-4.8: Descriptive Statistics on Dependent Variable and Vignette Dimensions

	N	Range	Mean	SD	Mean
Dependent variable					
Willingness to accept the job offer	5131	0-10	3.16	3.34	2
Descriptive Statistics on Vignette Dimensions and Levels					
Gain of income (%)	5131	0-80	41.26	25.98	40
Contract duration (ref: unlimited)					
3-year	5131	0-1	0.33	0.47	0
1-year	5131	0-1	0.33	0.47	0
Career prospects (ref: none)					
some	5131	0-1	0.34	0.47	0
many	5131	0-1	0.33	0.47	0
Mandatory overtime (ref: frequently)					
sometimes	5131	0-1	0.33	0.47	0
none	5131	0-1	0.35	0.48	0
Flexible working hours (ref: none)					
part-time	5131	0-1	0.34	0.47	0
full-time	5131	0-1	0.34	0.47	0
Child care at employer (ref: none)					
part-time	5131	0-1	0.34	0.47	0
full-time	5131	0-1	0.32	0.47	0
Minimum working hours (ref: 40 hrs)					
30 hrs	5131	0-1	0.33	0.47	0
20 hrs	5131	0-1	0.35	0.48	0
Commuting distance (ref: 1 hour)					
2 hours	5131	0-1	0.33	0.47	0
4 hours	5131	0-1	0.33	0.47	0

Figure A-4.13: Regression of willingness to accept job offers on job characteristics by respondents' household income (AMEs with 95%-confidence intervals)



Note: Results estimated with the Craggit models; control variables include age, being married, children under 14 in the household, education (CASMIN level), and employment status; N = 2,079 judgments of N = 426 respondents with lower household income, N = 1,673 judgments of N = 346 respondents with middle household income, and N = 1,379 judgments of N = 291 respondents with high household income.

Figure A-4.13 shows the effects of the vignette dimensions to obtain an overall picture of the influences of the vignette features. The effects are calculated separately for each of the three household income groups. The right-hand side of the graph shows the differences between the income groups. The basic model generally shows the expected effects. Overall, the effects are relatively similar between the groups. In addition to a generally different willingness to accept a job, the basic model already shows that the flexibility of working hours and the availability of childcare also have a different influence depending on the available household income.

Figure A-4.14: Mean predicted values for the willingness to accept job offers by respondents' household income level (○low income; ●middle income; ─high income) for all vignette dimensions

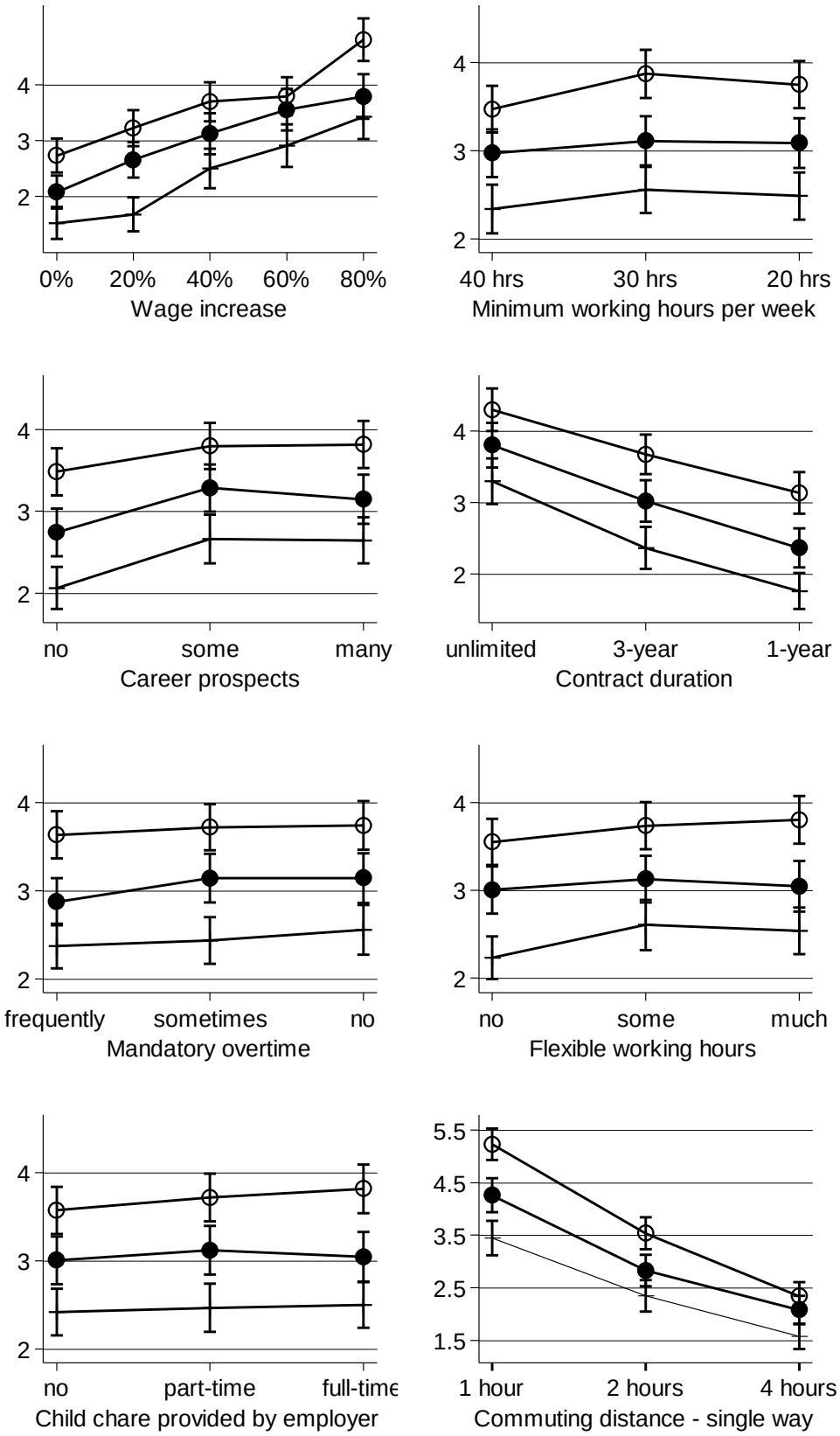


Table A-4.9: Regression of willingness to accept job offers on job characteristics by respondents' gender – low household income level

	Male Respondent			Female Respondent		
	Tier 1	Tier 2	AME	Tier 1	Tier 2	AME
Vignette Dimensions						
Offered wage (exp. wage + 10%)	0.0936***	0.313***	0.313***	0.0595***	0.174***	0.174***
	(5.84)	(7.46)	(7.45)	(4.67)	(3.40)	(4.33)
Minimum working hours per week (ref.: 40 hrs)						
30 hrs		0.410	0.251		1.141***	0.543**
		(1.58)	(1.19)		(3.98)	(2.82)
20 hrs		0.403	0.247		0.723*	0.337**
		(1.43)	(1.31)		(2.56)	(2.76)
Career prospects (ref.: no)						
some	0.126	0.0706	0.203	0.175*	0.497	0.494*
	(1.38)	(0.26)	(0.98)	(2.16)	(1.78)	(2.09)
many	0.0403	0.176	0.160	0.0871	0.798**	0.507*
	(0.43)	(0.66)	(0.78)	(1.10)	(2.89)	(2.42)
Contract duration (ref.: unlimited)						
3-year	-0.342***	-0.847***	-0.977**	-0.0847	-0.260	-0.262
	(-3.33)	(-3.40)	(-3.19)	(-1.05)	(-0.94)	(-1.09)
1-year	-0.539***	-1.135***	-1.409***	-0.375***	-0.704*	-0.912***
	(-4.83)	(-3.69)	(-5.35)	(-4.57)	(-2.43)	(-4.42)
Mandatory overtime (ref.: frequently)						
sometimes		0.117	0.0723		0.320	0.152
		(0.44)	(0.41)		(1.11)	(1.09)
no		0.0109	0.00670		0.461	0.220
		(0.05)	(0.03)		(1.68)	(1.11)
Flexible working hours (ref.: none)						
some		0.677**	0.411*		-0.0589	-0.0280
		(2.63)	(2.39)		(-0.21)	(-0.17)
many		0.824**	0.503*		0.129	0.0618
		(3.18)	(2.53)		(0.48)	(0.37)
Child care at employer (ref.: none)						
part-time		-0.0766	-0.0469		0.723*	0.343*
		(-0.30)	(-0.24)		(2.35)	(2.49)
full-time		0.158	0.0975		0.702*	0.332**
		(0.57)	(0.54)		(2.34)	(2.73)
Commuting distance (ref.: 1 hour)						
2 hours	-0.408***	-1.495***	-1.535***	-0.568***	-1.559***	-1.827***
	(-3.83)	(-5.80)	(-5.18)	(-6.34)	(-6.19)	(-6.63)
4 hours	-0.956***	-2.265***	-2.714***	-0.969***	-2.993***	-2.987***
	(-8.10)	(-7.20)	(-15.36)	(-10.30)	(-8.12)	(-14.85)

Respondents' Characteristics						
Age	-0.0313***	-0.0356	-0.0621***	-0.0222**	-0.0208	-0.0440***
	(-3.61)	(-1.73)	(-5.04)	(-2.82)	(-1.11)	(-3.99)
Married	0.225	0.615	0.668*	-0.354*	-0.392	-0.730***
	(1.01)	(1.04)	(2.20)	(-2.14)	(-0.74)	(-4.07)
Child < 14 yrs in hh	-0.308	0.870	0.140	-0.256	-0.483	-0.624*
	(-1.03)	(1.35)	(0.39)	(-1.37)	(-0.97)	(-2.57)
Occupational qualification (ref. no voc. or tertiary qualification)						
Completed vocational training	0.0387	-0.261	-0.108	-0.0649	-0.00774	-0.102
	(0.14)	(-0.43)	(-0.33)	(-0.33)	(-0.02)	(-0.38)
Tertiary education	0.275	-0.405	0.0827	-0.405	-0.583	-0.881**
	(0.82)	(-0.50)	(0.20)	(-1.53)	(-0.84)	(-3.29)
Employment status (ref. full-time)						
Part-time	0.129	-0.279	0.0137	-0.0605	-1.088	-0.579*
	(0.36)	(-0.28)	(0.03)	(-0.35)	(-1.85)	(-2.00)
marginal	0.829	0.167	1.002	-0.212	-0.129	-0.416
	(1.64)	(0.23)	(1.87)	(-0.93)	(-0.21)	(-1.50)
Not employed	0.802***	1.648**	2.097***	0.379*	0.227	0.711*
	(3.79)	(3.14)	(7.37)	(2.01)	(0.45)	(2.47)
Constant	2.176***	5.862***		1.871***	5.071***	
	(4.83)	(5.36)		(4.39)	(5.18)	
Sigma	2.982			3.048		
	(0.1057)			(0.1185)		
N vignette ratings	933			1,146		
N respondents	187			229		

Notes: Regression coefficients from Craggit models and average marginal effects; standard error in parentheses;
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table A-4.10: Regression of willingness to accept job offers on job characteristics by respondents' gender – middle household income level

	Male Respondent			Female Respondent		
	Tier 1	Tier 2	AME	Tier 1	Tier 2	AME
Vignette Dimensions						
Offered wage (exp. wage + 10%)	0.0694***	0.274***	0.218***	0.0570***	0.347***	0.223***
	(4.48)	(4.69)	(4.40)	(3.88)	(6.15)	(5.68)
Minimum working hours per week (ref.: 40 hrs)						
30 hrs		0.379	0.171		0.226	0.0966
		(0.99)	(0.82)		(0.56)	(0.62)
20 hrs		0.731	0.338		-0.206	-0.0858
		(1.87)	(1.79)		(-0.49)	(-0.43)
Career prospects (ref.: no)						
some	0.178	0.703	0.553*	0.138	0.787*	0.514*
	(1.78)	(1.86)	(2.23)	(1.49)	(2.13)	(2.04)
many	0.0972	0.547	0.372*	0.0865	0.542	0.335
	(1.05)	(1.35)	(2.23)	(0.84)	(1.37)	(1.16)
Contract duration (ref.: unlimited)						
3-year	-0.184*	-0.859**	-0.680*	-0.269**	-1.226***	-0.949***
	(-1.96)	(-2.67)	(-2.38)	(-2.76)	(-3.31)	(-4.51)
1-year	-0.460***	-1.679***	-1.386***	-0.377***	-2.105***	-1.413***
	(-4.49)	(-4.10)	(-4.91)	(-3.92)	(-5.23)	(-6.64)
Mandatory overtime (ref.: frequently)						
sometimes		0.157	0.0706		1.098**	0.468*
		(0.40)	(0.43)		(3.09)	(2.10)
no		0.761*	0.355		0.304	0.123
		(2.06)	(1.64)		(0.85)	(0.62)
Flexible working hours (ref.: none)						
some		0.00565	0.00261		0.563	0.241
		(0.02)	(0.01)		(1.62)	(1.12)
many		0.0455	0.0211		-0.0889	-0.0367
		(0.12)	(0.11)		(-0.26)	(-0.19)
Child care at employer (ref.: none)						
part-time		0.269	0.126		0.176	0.0737
		(0.68)	(0.74)		(0.49)	(0.37)
full-time		-0.200	-0.0911		0.305	0.129
		(-0.52)	(-0.55)		(0.95)	(0.79)
Commuting distance (ref.: 1 hour)						
2 hours	-0.415***	-1.387***	-1.277***	-0.583***	-1.746***	-1.656***
	(-4.10)	(-4.25)	(-4.88)	(-6.11)	(-4.51)	(-8.71)
4 hours	-0.717***	-2.387***	-2.076***	-0.986***	-2.115***	-2.334***
	(-6.78)	(-5.78)	(-7.01)	(-9.49)	(-5.09)	(-8.48)

Respondents' Characteristics						
Age	-0.00932	-0.0338	-0.0279**	-0.0287***	-0.0441	-0.0572***
	(-1.06)	(-1.20)	(-3.18)	(-3.43)	(-1.69)	(-6.61)
Married	-0.472*	-0.254	-0.738***	0.0429	-0.466	-0.139
	(-2.18)	(-0.34)	(-3.35)	(0.25)	(-0.75)	(-0.94)
Child < 14 yrs in hh	0.0666	-0.299	-0.0507	-0.380*	-0.404	-0.682**
	(0.35)	(-0.40)	(-0.21)	(-2.07)	(-0.72)	(-3.04)
Occupational qualification (ref. no voc. or tertiary qualification)						
Completed vocational training	-0.211	-0.640	-0.588	-0.407	-0.662	-0.884*
	(-0.57)	(-0.65)	(-0.91)	(-1.45)	(-0.83)	(-2.37)
Tertiary education	-0.132	-0.298	-0.322	-0.223	-1.979*	-1.184**
	(-0.33)	(-0.25)	(-0.49)	(-0.69)	(-2.17)	(-2.59)
Employment status (ref. full-time)						
Part-time	-0.109	1.096	0.367	-0.157	-0.767	-0.535*
	(-0.17)	(0.90)	(0.65)	(-0.75)	(-1.15)	(-2.09)
marginal	-1.577**	-2.314	-2.599***	0.473	-1.836	-0.296
	(-3.04)	(-1.49)	(-5.76)	(1.48)	(-1.94)	(-0.76)
Not employed	0.630*	0.0997	0.732	-0.259	0.442	-0.201
	(2.05)	(0.07)	(1.09)	(-1.03)	(0.56)	(-0.51)
Constant	1.622***	5.532***		2.457***	6.570***	
	(3.44)	(4.07)		(5.68)	(4.78)	
Sigma		3.361			3.091	
		(0.1640)			(0.1533)	
N vignette ratings		844			829	
N respondents		170			167	

Notes: Regression coefficients from Craggit models and average marginal effects; standard error in parentheses;
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

Table A-4.11: Regression of willingness to accept job offers on job characteristics by respondents' gender – high household income level

	Male Respondent			Female Respondent		
	Tier 1	Tier 2	AME	Tier 1	Tier 2	AME
Vignette Dimensions						
Offered wage (exp. wage + 10%)	0.0995***	0.372***	0.282***	0.106***	0.286**	0.218***
	(6.37)	(5.89)	(7.89)	(4.89)	(2.67)	(5.21)
Minimum working hours per week (ref.: 40 hrs)						
30 hrs		0.236	0.0987		1.493*	0.470*
		(0.65)	(0.48)		(2.47)	(2.09)
20 hrs		0.220	0.0918		0.895	0.271
		(0.54)	(0.62)		(1.64)	(1.53)
Career prospects (ref.: no)						
some	0.165	0.902*	0.568*	0.348**	0.390	0.534*
	(1.67)	(2.19)	(2.34)	(2.99)	(0.81)	(2.03)
many	0.184*	1.000**	0.637*	0.229*	0.478	0.418
	(1.98)	(2.62)	(2.47)	(2.01)	(0.92)	(1.26)
Contract duration (ref.: unlimited)						
3-year	-0.304**	-0.947**	-0.852***	-0.470***	-1.618**	-1.182***
	(-3.02)	(-2.81)	(-3.77)	(-3.60)	(-3.05)	(-3.42)
1-year	-0.559***	-2.147***	-1.605***	-0.470***	-2.325***	-1.365***
	(-5.19)	(-5.45)	(-7.73)	(-3.61)	(-3.99)	(-6.21)
Mandatory overtime (ref.: frequently)						
sometimes		-0.166	-0.0686		0.890	0.280
		(-0.43)	(-0.44)		(1.51)	(1.27)
no		0.282	0.120		0.616	0.190
		(0.79)	(0.78)		(1.19)	(1.13)
Flexible working hours (ref.: none)						
some		1.063**	0.443**		1.005	0.305
		(2.84)	(3.08)		(1.69)	(1.42)
many		0.777*	0.317*		1.349*	0.419*
		(2.25)	(1.99)		(2.30)	(2.43)
Child care at employer (ref.: none)						
part-time		0.206	0.0864		-0.111	-0.0344
		(0.58)	(0.49)		(-0.22)	(-0.15)
full-time		0.144	0.0602		0.482	0.155
		(0.38)	(0.33)		(0.85)	(0.71)
Commuting distance (ref.: 1 hour)						
2 hours	-0.343***	-1.586***	-1.212***	-0.394***	-0.839	-0.860*
	(-3.32)	(-4.45)	(-4.82)	(-3.34)	(-1.71)	(-2.56)
4 hours	-0.569***	-2.642***	-1.852***	-0.772***	-3.104***	-1.827***
	(-4.99)	(-6.34)	(-8.99)	(-5.75)	(-4.86)	(-5.28)

Respondents' Characteristics						
Age	-0.0299**	-0.0265	-0.0490***	-0.0314**	0.00473	-0.0363***
	(-3.00)	(-0.98)	(-3.58)	(-3.17)	(0.14)	(-3.94)
Married	0.107	-1.133	-0.341	0.117	-0.0160	0.136
	(0.43)	(-1.62)	(-1.13)	(0.54)	(-0.02)	(0.46)
Child < 14 yrs in hh	-0.263	-0.299	-0.458	-1.009***	-0.734	-1.446***
	(-1.31)	(-0.40)	(-1.76)	(-3.99)	(-0.85)	(-3.92)
Occupational qualification (ref. no voc. or tertiary qualification)						
Completed vocational training	0.227	0.879	0.624	0.0905	-1.311	-0.279
	(0.65)	(0.92)	(1.13)	(0.24)	(-1.08)	(-0.60)
Tertiary education	0.585	0.225	0.788	0.552	-1.549	0.175
	(1.55)	(0.20)	(1.22)	(1.39)	(-1.20)	(0.49)
Employment status (ref. full-time)						
Part-time	0.769	1.708	1.811*	-0.499*	-0.798	-0.890**
	(1.32)	(1.06)	(2.05)	(-2.28)	(-1.00)	(-2.97)
marginal	-0.204	-1.230	-0.693	-0.413	-0.319	-0.648
	(-0.31)	(-0.96)	(-0.80)	(-1.14)	(-0.50)	(-1.89)
Not employed	0.571	0.719	1.013	-0.485	-1.030	-0.935**
	(1.42)	(0.62)	(1.42)	(-1.55)	(-1.16)	(-2.87)
Constant	1.339**	3.678**		1.673***	3.205	
	(2.99)	(2.88)		(3.36)	(1.72)	
Sigma		2.998			3.015	
		(0.1382)			(0.1945)	
N vignette ratings		818			561	
N respondents		164			112	

Notes: Regression coefficients from Craggit models and average marginal effects; standard error in parentheses;
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$.

5
Conclusion

Conclusion

Based on persistent inequalities in the labor market, this dissertation examines the extent to which gender and social class influence labor market-related decision-making processes. The focus is on decision-making mechanisms within partnerships and families. This dissertation thus deals with overarching questions of social inequality at the intersection of work and family sociology and considers both substantive and methodological aspects. Various theoretical models are discussed and tested for the empirical investigation of this question. All three contributions can be assigned to a theoretical framework of rational choice theories, which assume a rationally acting person. RCT assumes subjectively rational actors who, given their preferences in social situations, choose their actions to achieve their goal as well as possible, thereby maximizing their benefit.

The first article focuses on a methodological examination of factorial surveys. External validity is concerned with the generalizability of results obtained with FS. A frequently raised objection is that these are only intentions from hypothetical situations and cannot be transferred to actual behavior or only to a limited extent. In contrast to the increasing popularity of these methods, there have only been a few studies to date. In most cases, the comparability between the FS used and the control groups is limited by differences in the setting or underlying samples, so up until now there is no uniform conclusion on the external validity of vignette studies.
This study uses a precursor module of the FS used for the second and third article to compare the resulting outcomes and mechanisms across panel and administrative data from the same sample. Thus, the test and control groups are identical, and a within-subject design can be applied, increasing the results' comparability and validity. The combination of panel and administrative data provides additional validation of the results via two independent data sources. The FS module used on job acceptance preferences and job-based relocations was included in PASS in 2011.
The results show correspondence between the hypothetical preferences expressed in the FS and the actual behavior of respondents when accepting job offers. People who are more willing to accept a hypothetical job offer in the FS also have a higher probability of accepting an actual job offer in the real world. However, differences were also found between hypothetical preferences and real-world behavior due to perceived behavioral control and social desirability. While in the vignettes, there is a controlled environment in which the same conditions prevail for all respondents, the reality is shaped by different external influences, such as regional labor market conditions. This can lead to deviations between the preferences expressed in the FS and the actual actions.

Another key finding is that the causal mechanisms that influence preferences in FS and actual behavior largely coincide. This shows that, despite their limitations, FS can provide relevant insights into decision-making processes. However, the results also show that informative value is lost if the hypothetical scenarios are not sufficiently realistic. Overall, the analyses from the first article provide evidence that FS is a valuable tool for investigating complex decision-making processes if their methodological limitations are considered.
This study refers to an FS module on job acceptance and job-based relocation preferences, which provides an important basis for the validity of the other results.

The second article examines how job characteristics interact with coordination processes in partnerships to shape job acceptance in the labor market. To this end, the prevailing family theory approaches to negotiation theory are tested. The basic assumption is that decisions within partnerships and families are always the result of a negotiation process that depends on the partners' bargaining power.
In addition, the analyses include mechanisms of gender-specific approaches. In contrast to negotiation theory, which assumes a gender-neutral mechanism, gender roles and norms are assumed, which are reproduced in social interactions and influence our actions.
An FS on job-based relocations was used for the analyses, which presented the respondents with hypothetical job offers. The FS module was implemented in the SOEP Innovation Sample in 2013. Due to the structure of the vignette module, it was possible to examine the supply side for this study. Until now, there has often been no separation between supply and demand side effects. The experimental design of the job vacancies offered means that group-specific differences in access to the labor market and the availability of job characteristics can be excluded. The respondents' preferences are recorded, and whether group-specific differences arise on the demand side is checked. Only then can the different mechanisms assumed by the theories be separated and tested. In addition, going beyond previous studies, the mirror-inverted design of the FS means that the decision-making process of tied movers is also included alongside the consideration of movers. This makes it possible to include both sides of the negotiation processes in partnerships and families.
In summary, the results show that people consider factors related to their employment situation and their partner's career opportunities when making decisions. This confirms the assumption that the decision to relocate together is influenced by individual preferences and the long-term consequences for the relationship and the joint household's well-being.

However, apparent gender-specific differences emerge in the negotiation processes. Men tend to consider their partners' career opportunities in their decisions, especially when their income improves significantly. This could indicate that men want to secure their bargaining position within the relationship by avoiding possible shifts in the balance of power. Conversely, women show a more consistent pattern, considering their partner's opportunities regardless of their income gain. This asymmetry underscores that traditional role patterns continue to exist in partnerships despite formal equality in the labor market.

Gender roles and norms also clearly influence the decision-making process. Women with internalized traditional role models are less inclined to relocate for career opportunities but more willing to follow their partner's relocation. This suggests that traditional ideas about the role of women as secondary earners are still strongly rooted in the bargaining processes of many partnerships. These results contradict the assumption that partnership bargaining patterns are based exclusively on gender-neutral mechanisms, as negotiation theory assumes.

In principle, great attention is paid to one's negotiating position in the partnership: People avoid reducing their negotiating power. The inclusion of negotiating opportunities is moderated by the individuals' existing role attitudes.

Including relevant mechanisms in the tied-mover's decision-making process provided additional insights into partnership negotiation processes. In particular, gender-related differences in assessing the partner's inclusion in decision-making show differences here.

Following this, the third article deals with partnership coordination processes and the existing moderation with income and education levels. Due to the increasing participation of women in the workforce and the associated division of time in partnerships, the coordination and harmonization of both careers are becoming increasingly important.

The focus here is on the intersection of gender and class, thus examining gender-specific differences in job acceptance preferences in connection with social class. This article also looks at preferences for flexible working hours or childcare. These job characteristics can help reduce coordination problems and the associated time divide. However, previous studies have shown that coordination problems in families and partnerships are strongly linked to income and education constellations.

This study also uses the FS module from the SOEP-IS to check whether gender-specific differences differ according to the respondents' income and education levels. Thus, the supply side is also at the center of the analysis and examined here. In this way, this article contributes

to supplementing the demand side of the labor market or qualitative studies that have often been used to date.

As hypothesized, social class and gender are strongly associated with existing preferences for flexible working hours and childcare. The results show that flexible working hours generally increase the willingness to accept a job offer. However, the effect is more pronounced in households with lower incomes and strongest among persons with highest incomes. When analyzed by gender, however, different relationships with the income level emerge. Women in higher-earning households place more value on working time flexibility than women in households with lower incomes. For men, there is a U-shaped correlation between income level and flexibility, with men from the middle-income group placing less value on flexibility. No significant differences were found in the expected correlation between income, gender, and partner status. However, the relationship between the second-earner position and flexibility also varies for women and men. For the remaining factors considered, there are no or only tendencies for different preference patterns according to gender and education.

The availability of childcare through the employer positively influences job acceptance, especially for women with a low level of education. For the remaining factors considered, there are no or only tendencies for different preference patterns according to gender and education.

In summary, the available results show the importance of considering gender differences in the context of a person's social class. Income and education-specific preferences sometimes differ significantly. However, apparent effects and patterns are not recognizable for all expected relationships. Further research is needed to better understand the gender-specific influence of education and income on preferences for job characteristics.

The three contributions presented here address existing research gaps and attempt to answer previously unanswered questions. From a methodological point of view, factorial surveys are a good way of testing questions beyond existing situations that presuppose a counterfactual situation. Only with the help of the hypothetical job offers and the experimentally varied job characteristics was it possible to abstract from the selectivity of the labor market and look at group-specific differences in preferences according to gender and social class and address the supply side. The first contribution also addresses existing criticism of the transfer of mechanisms and correlations identified by FS to actual behavior.

Regarding the influence of gender and social class, the results confirm the negotiation theories within the framework of partnerships. However, their assumption of a gender-neutral mechanism falls short and should be expanded to include gender-specific values and norms.

This is possible via the theoretical framework of rational choice, as the integration of values and norms into the cost-benefit assessment of alternative actions.

Furthermore, the contributions show that including the intersectionality of gender inequalities, income, and education can provide a further understanding of the existing inequalities in the labor market and thus also provide knowledge about decision-making mechanisms that are fundamental for effective labor market policy interventions to reduce social inequality.

Author Contributions

The present dissertation is a cumulative work consisting of three empirical research articles. I wrote all three research articles, conceptualized and conducted the empirical work, and wrote and revised the texts.

The data for the dissertation comes from two projects in which Katrin Auspurg and Thomas Hinz were involved as principal investigators. For the first article on the external validity of FS, the data for the FS module come from a joint project by Katrin Auspurg, Thomas Hinz, and Martin Abraham (2011), who designed the corresponding FS module and implemented it in PASS 2011. Research articles two and three are based on the data of an FS module designed by Katrin Auspurg and Thomas Hinz (2022) and included in SOEP-IS in 2013 after a peer review process. I was involved in the module's design by supporting the conducting of a pretest. For the final data of the FS module, I prepared and tested data in collaboration with Katrin Auspurg and compiled it in a methodological report as a working paper.

Preliminary versions of the research articles were presented and discussed at the following conferences and doctoral colloquia. The first research article was presented in the fall of 2015 at the Venice Seminar for Analytical Sociology as a poster presentation, at the 6th Conference of the European Survey Research Association (ESRA) 2015 in Reykjavik as a lecture, at the 3rd ISA Forum of Sociology 2016 in Vienna as a lecture, and at the doctoral colloquium 2015 in Konstanz and 2015 in Munich. Research articles two and three were presented in several doctoral colloquia. In addition, there was a regular exchange with the two dissertation supervisors, Thomas Hinz and Katrin Auspurg, who supported me in important theoretical and methodological considerations.

Zusammenfassung

Ausgehend von anhaltenden Ungleichheiten auf dem Arbeitsmarkt, geht diese Dissertation der Frage nach, in welchem Ausmaß Geschlecht und soziale Klasse arbeitsmarktbezogene Entscheidungsprozesse beeinflussen. Dabei liegt ein Schwerpunkt auf den Entscheidungsmechanismen innerhalb von Partnerschaften und Familien. Dazu werden faktorielle Surveys (FS) zu Stellenannahmepräferenzen und damit verbundenen Umzugswahrscheinlichkeiten analysiert.

Zunächst wird im ersten Beitrag die externe Validität von FSs untersucht, und damit auf die noch offen Frage nach der Generalisierung der in FSs erhobenen Handlungsintentionen auf realisiertes Verhalten eingegangen. Im Gegensatz zu der zunehmenden Beliebtheit dieser Methoden, gibt es zu diesem methodischen Aspekt bisher nur wenige Studien und kein einheitliches Fazit. Dazu wird ein FS aus dem PASS 2011 zu Stellenannahmepräferenzen und Umzugswahrscheinlichkeiten verwendet. Durch die Einbettung in eine deutschlandweite Längsschnittstudie und die Möglichkeit der Verknüpfung bietet dies eine perfekte Grundlage die Intentionen aus dem FS mit externen Angaben über spätere Wohnungsumzüge derselben Personen zu vergleichen. Die Ergebnisse dazu zeigen eine hohe Übereinstimmung zwischen den hypothetischen Präferenzen die im FS angegeben wurden mit dem realisierten Verhalten. Umzugsbereitere Personen in den Vignetten hatten auch eine höhere Umzugswahrscheinlichkeit in den folgenden Jahren. Auch für die kausalen Mechanismen auf die Präferenzen im FS und dem realisierten Verhalten stimmen weitest überein.

Für den zweiten Beitrag wird betrachtet, wie Stellenmerkmale im Zusammenspiel mit Abstimmungsprozessen in Partnerschaften die Stellenannahmebereitschaft im Arbeitsmarkt prägen. Dazu findet eine Testung der vorherrschenden familientheoretischen Ansätze der Verhandlungstheorie statt. Die Grundannahme ist dabei, dass Entscheidungen innerhalb von Partnerschaften und Familien immer durch einen Aushandlungsprozess entstehen, der von der Verhandlungsmacht der Partner abhängt. Zusätzlich werden Mechanismen geschlechtsspezifischer Ansätze in die Analysen einbezogen. Im Gegensatz zu Verhandlungstheorien, in denen ein geschlechtsneutraler Mechanismus unterstellt wird, wird dabei von Geschlechterrollen und -normen ausgegangen, die sich in sozialen Interaktionen reproduzieren und unser Handeln beeinflussen. Hierfür wird ein FS verwendet der 2013 im SOEP-IS enthalten war und Befragten hypothetische Stellenangebote präsentierte. Das FS-Modul war 2013 im SOEP Innovation Sample implementiert. Dies ermöglicht es den Fokus auf die Präferenzen der Arbeitnehmer zu legen und gruppenspezifische Unterschiede auf der

Nachfrageseite zu betrachten. Zusätzlich werden hierfür neben der Betrachtung von Movern auch der Entscheidungsprozess des Tied-Mover aufgenommen. Möglich wird dies durch ein spiegelbildliches Design innerhalb von Partnerschaften, wobei jeweils einem Partner ein Job angeboten wurde und der Partner dazu in die Position des Mitziehenden versetzt wurde. Zusammengefasst bestätigen die Ergebnisse verhandlungstheoretische Annahmen. Neben der eigenen Erwerbssituation werden auch die Karrierechancen des Partners in den Prozess der Entscheidungsfindung einbezogen. Zusätzlich zeigen sich aber auch geschlechtsspezifische Unterschiede in den Entscheidungen. Grundsätzlich wird stark auf die eigene Verhandlungsposition in der Partnerschaft geachtet: Es wird vermieden, seine eigene Verhandlungsmacht zu verringern. Dieser Einbezug der Verhandlungschancen wird moderiert durch die vorhandenen Rolleneinstellungen der Personen.

Daran anknüpfend beschäftigt sich der dritte Beitrag mit Abstimmungsprozessen in Partnerschaften und die dabei bestehende Moderation mit Einkommens- und Bildungsschichten. Durch die zunehmende Erwerbsbeteiligung von Frauen und die damit verknüpfte Zeitaufteilung in Partnerschaften, wird die Koordination und Abstimmung beider Karrieren zunehmen wichtiger. Im Mittelpunkt stehen dabei geschlechtsspezifische Unterschiede in der Stellenannahmepräferenz in Zusammenhang mit der sozialen Klasse. Dazu werden Präferenzen für flexiblen Arbeitszeiten oder Kinderbetreuung der Arbeitnehmenden untersucht. Diese Stellenmerkmale können helfen Koordinationsprobleme in Partnerschaften zu reduzieren. Allerdings zeigen bisherige Studien, dass die Koordinationsprobleme in Familien und Partnerschaften stark mit Einkommens- und Bildungskonstellationen zusammenhängen. Auch hierfür wird das FS-Moduls aus dem SOEP-IS verwendet und überprüft, ob geschlechtsspezifische Unterschiede sich nach Einkommen- und Bildungsschichten der Befragten unterscheiden. Wie angenommen, zeigen die Ergebnisse, dass die soziale Klasse und Geschlecht stark miteinander verknüpft sind mit den vorhandenen Präferenzen für flexible Arbeitsbedingen und Kinderbetreuungsangebote. Allgemein erhöhen vorhanden Flexibilitätsangebote in Stellenangeboten die Annahmewahrscheinlichkeit. Allerdings ist dieser Effekt stärker ausgeprägt für Person mit geringem oder hohem Einkommen. In der getrennten Analyse nach Geschlecht, zeigen sich Unterschiede im Zusammenhang mit den untersuchten Einkommensgruppen. Zusammenfassend zeigen die vorliegenden Ergebnisse, wie wichtig es ist, geschlechtsspezifische Unterschiede im Kontext der sozialen Schicht einer Person zu berücksichtigen. Einkommens- und bildungsspezifische Präferenzen unterscheiden sich teilweise erheblich. Allerdings sind nicht für alle erwarteten Zusammenhänge eindeutige Effekte und Muster erkennbar.

Eidesstattliche Versicherung gem. § 6 der Promotionsordnung der Universität Konstanz (Anlage 1 Promotionsordnung)

1. Bei der eingereichten Dissertation zu dem Thema

Determinants of Labor Market Supply
- Gender, Class and their Intersectionality

handelt es sich um meine eigenständig erbrachte Leistung.

2. ☑ Ich habe nur die angegebenen Quellen und Hilfsmittel benutzt und mich keiner unzulässigen Hilfe Dritter bedient. Insbesondere habe ich wörtlich oder sinngemäß aus anderen Werken übernommene Inhalte als solche kenntlich gemacht.

☑ Falls ich textgenerierende KI-Tools als Hilfsmittel verwendet habe, ist mir bewusst, dass ich allein für die inhaltliche Richtigkeit der KI-generierten Textpassagen und die Kennzeichnung von Formulierungen und Ideen anderer Personen gemäß den Grundsätzen der guten wissenschaftlichen Praxis verantwortlich bin. Sämtliche KI- generierten Textpassagen habe ich markiert und das verwendete KI-Tool sowie die von mir eingegebenen Prompts angegeben.

3. ☑ Die Arbeit oder Teile davon habe ich ~~wie folgt~~/bislang nicht[1] an einer Hochschule des In- oder Auslands als Bestandteil einer Prüfungs- oder Qualifikationsleistung vorgelegt.

Titel der Arbeit:

Hochschule und Jahr:

Art der Prüfungs- oder Qualifikationsleistung:

4. ☑ Die Richtigkeit der vorstehenden Erklärungen bestätige ich.

5. ☑ Die Bedeutung der eidesstattlichen Versicherung und die strafrechtlichen Folgen einer unrichtigen oder unvollständigen eidesstattlichen Versicherung sind mir bekannt.

Ich versichere an Eides statt, dass ich nach bestem Wissen die reine Wahrheit erklärt und nichts verschwiegen habe.

Konstanz, 28.10.2024

Ort und Datum **(Unterschrift)**

[1] **Nicht Zutreffendes streichen. Bei Bejahung sind anzugeben: der Titel der andernorts vorgelegten Arbeit, die Hochschule, das Jahr der Vorlage und die Art der Prüfungs- oder Qualifikationsleistung**

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